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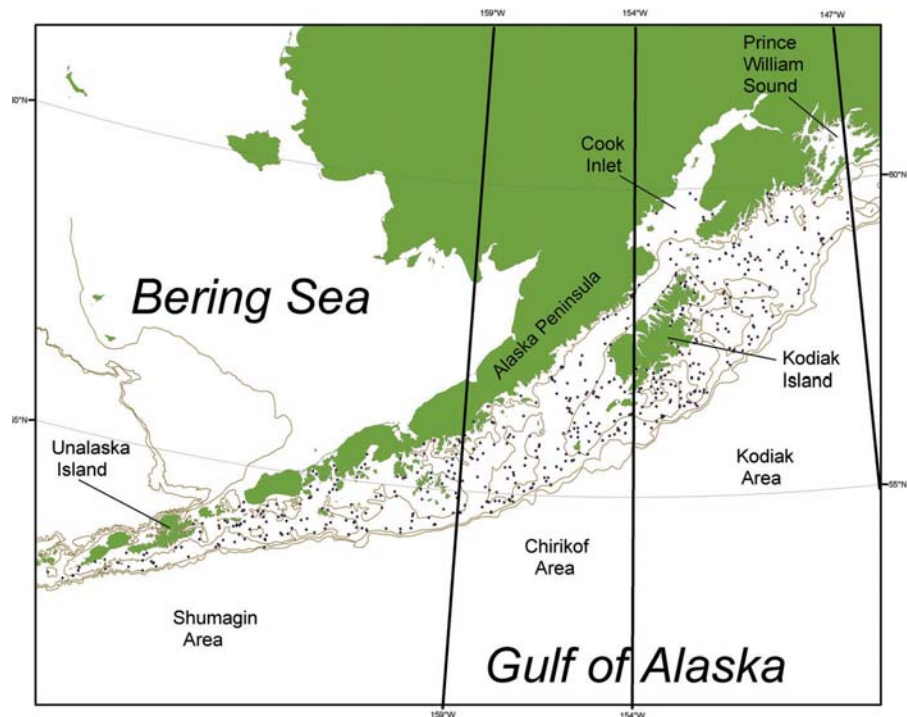
National Marine  
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U.S. DEPARTMENT OF COMMERCE

## **AFSC PROCESSED REPORT 2008-04**

### Report to Industry: Fishing Log for the 2001 Gulf of Alaska Bottom Trawl Survey

April 2008



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Raring, N. W. 2008. Report to industry: Fishing log for the 2001 Gulf of Alaska bottom trawl survey. AFSC Processed Rep. 2008-04, 129 p. Alaska Fish. Sci. Cent., NOAA, Natl. Mar. Fish. Serv., 7600 Sand Point Way NE, Seattle WA 98115.

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REPORT TO INDUSTRY: FISHING LOG FOR THE 2001 GULF OF ALASKA  
BOTTOM TRAWL SURVEY

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April 2008



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## INTRODUCTION

The seventh in a series of bottom trawl surveys of the Gulf of Alaska groundfish and invertebrate resources was completed during the summer of 2001 by the Resource Assessment and Conservation Engineering (RACE) Division, Alaska Fisheries Science Center (AFSC), National Marine Fisheries Service (NMFS). The design of the 2001 biennial groundfish survey closely followed that used for prior GOA surveys conducted in 1984, 1987, 1990, 1993, 1996, and 1999. The purpose of the surveys is to describe and monitor the distribution, abundance, and biological condition of the important groundfish stocks.

Historically, the Gulf of Alaska has been an important fishing grounds for a variety of groundfish species including Pacific ocean perch (*Sebastes alutus*), walleye pollock (*Theragra chalcogramma*), Pacific cod (*Gadus macrocephalus*), Pacific halibut (*Hippoglossus stenolepis*), sablefish (*Anoplopoma fimbria*), rockfishes (*Sebastes* spp.), arrowtooth flounder (*Atheresthes stomias*), lingcod (*Ophiodon elongatus*), Pacific herring (*Clupea pallasii*) and several invertebrate groups including crabs, scallops, and squid.

The Gulf of Alaska forms the northeastern border of the Pacific Ocean and is comprised of complex bathymetric features ranging from jagged, mountainous pinnacles to muddy gullies. The features provide a wide variety of habitats resulting in a complex ecosystem. The rugged bathymetry prevalent in many areas requires the use of a roller gear footrope for all bottom trawling operations. Unlike prior surveys, which included the entire Gulf of Alaska continental shelf, the 2001 survey was shortened for budgetary reasons. Rather than survey the entire shelf from the Islands of Four Mountains to Dixon Entrance like previous years, the 2001 survey went from the Islands of Four Mountains to the east end of Prince William Sound. Also, the shelf was surveyed only to a depth of 500 m rather than 1,000 m as had been done in 1999. The total area surveyed in 2001 was approximately 220,569 km<sup>2</sup>.

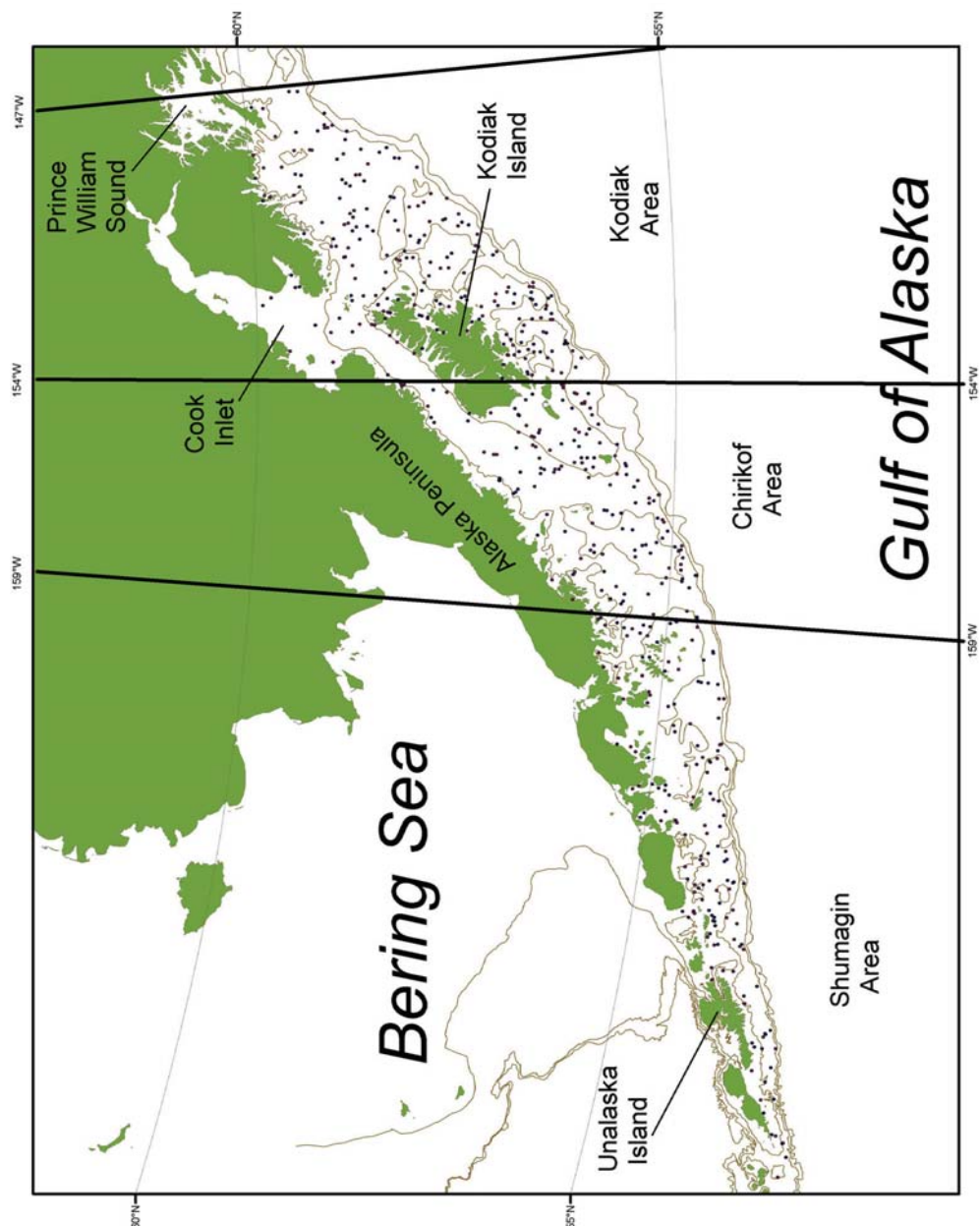
## METHODS

The survey was conducted in four legs totaling 70 days aboard each of two chartered commercial trawlers, the F/V *Morning Star* and F/V *Vesteraalen*, from 17 May to 25 July 2001. Sampling began in the area of the Islands of Four Mountains (170° W long.) and continued eastward across the Gulf of Alaska to Montague Island (147° W long.).

### VESSELS AND GEAR CHARACTERISTICS

Both chartered vessels are house-forward stern trawlers with hydraulic net reels and paired constant tension hydraulic trawl winches with 2.54 cm diameter steel cable 1,000 to 1,200 m in length. Both vessels have articulating hydraulic cranes for handling catches and gear. Each vessel has a single main diesel engine with a single nozzled propeller. The F/V *Vesteraalen* is 38 m long (LOA) with a main engine developing 1,725 continuous HP. The F/V *Morning Star* is 45 m long (LOA) with a 1,710 HP main engine. Both vessels are equipped with global positioning systems (GPS) integrated with radar, computerized plotting, and autopilots. Other essential electronics supplied by the vessels include color video fish finders, recording depth profilers, and trawl warp measuring systems. NMFS-supplied GPS receivers recorded trawling position, time, and trackline position.

Standard methods as documented in Appendix 1 of “NOAA Protocols for Groundfish Bottom Trawl Surveys of the Nation’s Fishery Resources” (Stauffer 2004) were used for this survey. The standard Poly-Nor’Eastern trawl with roller gear was used exclusively by both vessels to trawl the 490 assigned survey stations. The headrope is made of galvanized wire rope and is 27.2 m long with twenty-one 30-cm diameter plastic floats. The footrope is constructed of the same material and is 24.2 m long with sixteen 35.6-cm diameter rubber wing bobbins. The net was spread with 1.8 x 2.7 m steel V-doors weighing approximately 800 kg each.



**Figure 1.**-- Survey stations attempted during the 2001 NMFS biennial Gulf of Alaska bottom trawl survey. Meridians shown define INPFC Management Area boundaries.

A SCANMAR net mensuration system measured net width (wingtip-to-wingtip) and headrope height and communicated these measurements acoustically to a recording computer in real time. After the haul was completed, data from a footrope-mounted bottom contact sensor developed by the RACE Division was used to determine the actual time on bottom for the trawl. Depth of each tow was measured and monitored with a bathythermograph mounted on the headrope of the net.

## SURVEY DESIGN AND OPERATIONS

The 2001 survey design employed a stratified random sampling design consistent with previous surveys. The Gulf of Alaska was divided into 32 strata categorized by depth interval, type of geographical area (e.g., banks, gullies, and slopes) and International North Pacific Fisheries Commission (INPFC) statistical area boundaries (Fig. 1). Depth intervals were defined as less than 100, 101-200, 201-300 and 301-500 m. Within each stratum the sampling density was assigned based on expected catch rate variances and ex-vessel value for selected species from past surveys, with an imposed minimum of three samples per stratum. After the number of stations was allocated to each stratum, station grid cells were chosen randomly from a  $5 \times 5$  km grid laid over the survey area.

During survey operations, the first trawlable location encountered in the assigned grid cell was sampled. In choosing the exact location, only the trawlability of the bottom, as indicated by the echo sounder, was considered and not the presence or absence of fish sign. The target tow duration on the sea bottom was 15 minutes. In cases where there was not enough trawlable bottom for a full 15 minute tow, shorter tows were completed. Attempts were made to maintain constant bottom depth, trawl wingspread, and towing speed (3 knots) during each tow. However, when depths changed significantly, the trawl warp was adjusted to maintain wingspread and bottom contact. The trawl opening tended to increase horizontally and decrease vertically with depth due to the increased amount of deployed trawl cable.

Catches weighing less than approximately 1,000 kg were completely sorted to species, weighed, and counted. Larger catches were completely sorted also, however weights and numbers of the most abundant species were determined either by weighing with a load cell or by using volumetric calculations and extrapolation. Biological data and specimens collected included fish lengths and weights, age structures, sexual maturities and special collections of stomachs, tissues, whole fish and invertebrates. Individual fish weight data were collected using a Marel<sup>1</sup> motion compensated electronic scale.

Water temperature profiles were collected at each station using a headrope mounted bathythermograph data logger and additional sea surface temperatures were measured using calibrated bucket thermometers. A more detailed account of survey sampling methodology, list of species names, relative abundance and biomass estimates of the major groundfish species will appear in a future NOAA Technical Memorandum.

## RESULTS

Sampling proceeded east from the Islands of Four Mountains along the shelf to approximately 147° W long. in depths ranging from 20 to 448 m. Successful hauls were completed for 489 of the 528 attempted tows. The average net opening was 15.8 m wide by 6.9 m high. Survey tow duration averaged 16.40 minutes, distance fished averaged 1.51 km and towing speed averaged 5.6 km (3.0 nautical miles) per hour over the bottom.

Catches included more than 138 species of fish and 304 species of invertebrates. The dominant fish species are ranked by mean catch per unit effort in Table 1, expressed as kilograms of catch per hectare (10,000 m<sup>2</sup>) of bottom area within each of the three sampled INPFC statistical areas. The species highest in total catch abundance (by weight) over the entire survey area were arrowtooth flounder (61.69 kg/ha), Pacific ocean

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

perch (30.52 kg/ha), Pacific halibut (15.65 kg/ha) and northern rockfish (15.58 kg/ha). Catch rates were generally highest in the Shumagin INPFC area (170° W long. to 159° W long.) followed by the Kodiak area (154° W long. to 147° W long.) and lowest in the Chirikof area (159° W long. to 154° W long.). The Shumagin area had the highest catch rate of walleye pollock (14.17 kg/ha) and Pacific cod (21.74 kg/ha) as well as northern and southern rock sole (6.08 and 9.68 kg/ha, respectively), while the Chirikof area had the highest concentration of arrowtooth flounder (98.54 kg/ha) and Pacific halibut (17.06 kg/ha). Estimates of invertebrate catch rates are probably conservative as a consequence of using roller gear footropes on the trawls. Deepwater species occurring in catches along the continental slope included the grenadier family, sablefish, shortspine thornyhead (*Sebastolobus alascanus*), longspine thornyhead (*Sebastolobus altivelis*), and shortraker rockfish (*Sebastes borealis*).

The biological data collected to determine length frequency distributions included measurements of over 56,340 fish representing 58 species. Specimen data were collected from 33 species including 8 rockfish, 9 flatfish, 5 skates, 2 salmonids, 2 gadids, and 2 sharks. The specimen data collection included 4,102 age structures and 13,178 individual weight measurements. Additionally, over 5,244 stomach samples were collected from forty different species for Resource Ecology and Fisheries Management Division trophic interaction studies.

Oceanographic data included sea temperature measurements and bottom type classification. Sea surface temperatures were collected at 523 survey stations and averaged 9.26°C with a range of 4.1°C to 13.9°C. Bottom temperatures were taken from 494 stations and averaged 5.86°C with a range of 4.1°C to 12.3°C.

## ORGANIZATION OF REPORT AND DATA STANDARIZATIONS

The purpose of this report is to provide the fishing industry and public with pertinent catch information collected by the survey vessels. The report focuses on data

collected at individual stations for the principal species encountered during the survey. The fishing results are presented in Section 1 for the F/V *Morning Star* and Section 2 for the F/V *Vesteraalen*. Each section has two parts: 1) station charts with haul numbers plotted adjacent to their respective geographical locations and 2) summary listings of species caught in each haul. A combined fishing log for both vessels showing catches ranked by weight for selected commercial species is listed in Section 3. The combined fishing log includes catches of rockfish species, Atka mackerel (*Pleurogrammus monopterygius*), walleye pollock, Pacific cod, flatfish species, lingcod, Pacific herring, king and Tanner crab, scallops, shrimp, octopus and red squid (*Berryteuthis magister*).

Explanations of the performance codes appearing in the fishing logs are summarized in Table 2. Fishing gear specifications and diagrams are presented in Section 4.

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## CITATIONS

Stauffer, G. (compiler). 2004. NOAA protocols for groundfish bottom trawl surveys of the nation's fishery resources, U.S. Department of Commerce, NOAA Tech. Memo. NMFS-F/SPO-65, 205 p.



**Table 1.** -- Mean CPUE (kg/ha) for the 20 most abundant groundfish and total sampling effort in each INPFC regulatory area during the 2001 Gulf of Alaska survey.

<u>Shumagin area</u>	<u>CPUE</u>	<u>Chirikof area</u>	<u>CPUE</u>
Pacific ocean perch	44.91	Arrowtooth flounder	98.54
Atka mackerel	36.09	Pacific halibut	17.06
Arrowtooth flounder	30.26	Pacific cod	11.14
Pacific cod	21.74	Flathead sole	6.58
Pacific halibut	15.27	Pacific ocean perch	6.32
Northern rockfish	15.22	Giant grenadier	6.27
Walleye pollock	14.17	Sablefish	5.52
Giant grenadier	11.38	Walleye pollock	5.26
Flathead sole	11.12	Pacific herring	4.15
Southern rock sole	9.68	Northern rockfish	3.88
Yellowfin sole	8.09	Eulachon	2.95
Northern rock sole	6.08	Pacific sleeper shark	2.83
Yellow Irish Lord	2.95	Southern rock sole	2.79
Starry flounder	2.33	Rex sole	2.75
Pacific sleeper shark	1.58	Big skate	2.43
Rex sole	1.56	Northern rock sole	2.22
Shortspine thornyhead	1.43	Dover sole	2.20
Big skate	1.37	Longnose skate	1.51
Rougheye rockfish	1.13	Shortspine thornyhead	0.81
Sablefish	0.92	Rougheye rockfish	0.57
Number of hauls	139	Number of hauls	140

<u>Kodiak area</u>	<u>CPUE</u>	<u>All areas</u>	<u>CPUE</u>
Arrowtooth flounder	57.58	Arrowtooth flounder	61.69
Pacific ocean perch	37.21	Pacific ocean perch	30.52
Northern rockfish	23.46	Pacific halibut	15.65
Sablefish	15.39	Northern rockfish	15.58
Pacific halibut	14.98	Pacific cod	11.68
Walleye pollock	9.43	Atka mackerel	10.03
Starry flounder	5.74	Walleye pollock	9.56
Giant grenadier	5.66	Sablefish	8.55
Pacific cod	5.63	Giant grenadier	7.42
Southern rock sole	4.74	Flathead sole	6.96
Flathead sole	4.56	Southern rock sole	5.55
Spiny dogfish	3.20	Starry flounder	3.26
Eulachon	3.16	Northern rock sole	2.94
Rex sole	2.53	Yellowfin sole	2.50
Dusky rockfish	2.45	Eulachon	2.35
Rougheye rockfish	2.20	Rex sole	2.32
Dover sole	1.84	Big skate	1.77
Big skate	1.60	Pacific sleeper shark	1.71
Shortspine thornyhead	1.54	Dover sole	1.47
Longnose skate	1.42	Spiny dogfish	1.44
Number of hauls	210	Number of hauls	489

**Table 2.** -- Performance codes used during the 2001 Gulf of Alaska bottom trawl survey.

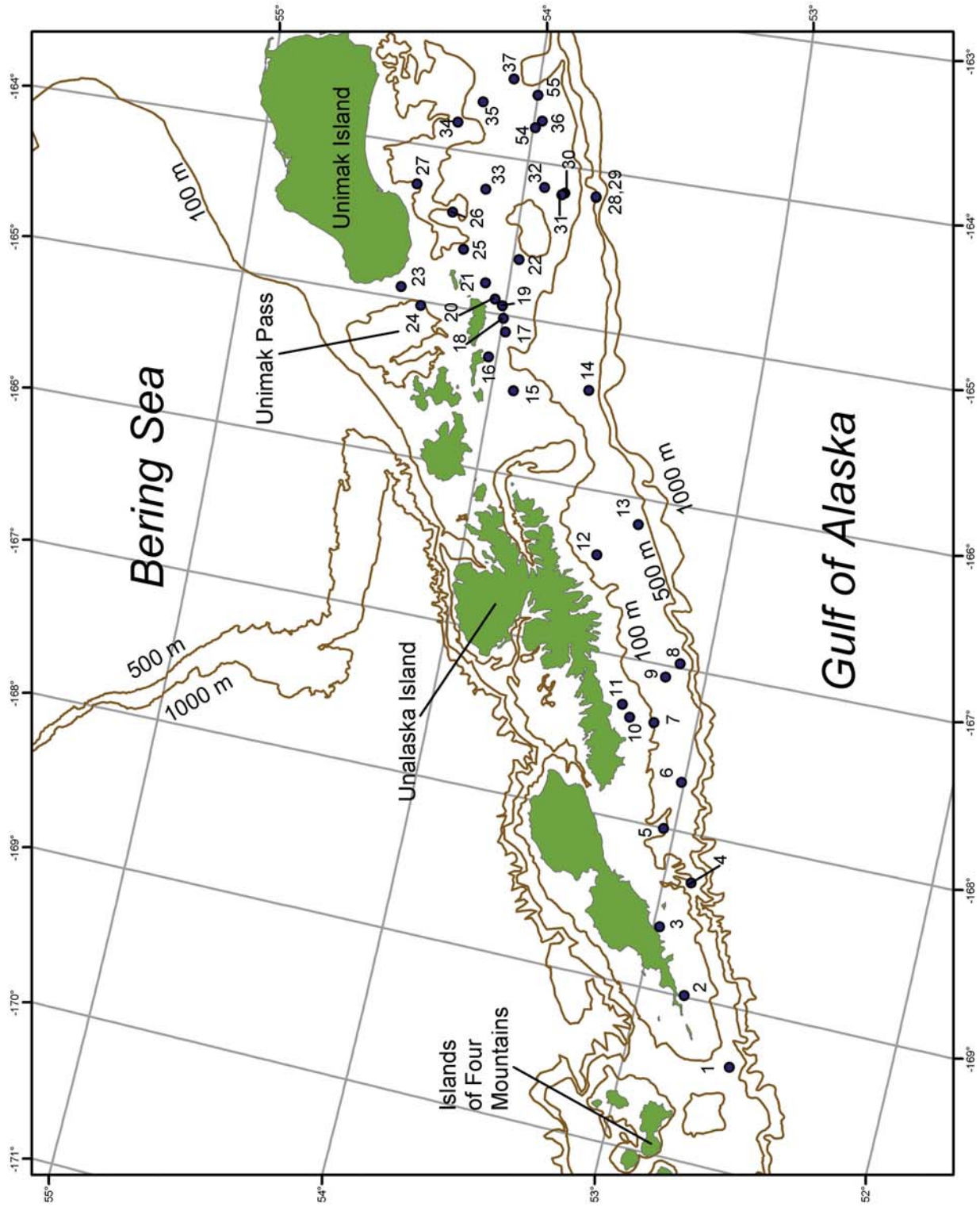
Codes	Performance
0	Good performance
1	Satisfactory performance, hung up
1.1	Satisfactory performance, minor hang(s)
1.11	Satisfactory performance, completed tow
1.12	Satisfactory performance, hauled back early due to hang(s)
1.2	Satisfactory performance, major hang, stopped forward progress of vessel.
2	Satisfactory performance, unspecified gear damage
2.1	Satisfactory performance, wing damaged
2.4	Satisfactory performance, belly damaged
3.1	Satisfactory performance, caught pot, unspecified type
3.13	Satisfactory performance, Alaskan crab pot
4	Satisfactory performance, caught unspecified object
4.1	Satisfactory performance, caught large rock
4.4	Satisfactory performance, large fish catch affected net performance
4.5	Satisfactory performance, large invertebrate catch affected net performance
5	Satisfactory performance, unspecified gear performance problem
5.1	Satisfactory performance, net came off bottom
5.3	Satisfactory performance, weather affected trawl performance
5.4	Satisfactory performance, unspecified door problem
5.41	Satisfactory performance, door digging or falling over
5.5	Satisfactory performance, net crabbing severely
6.1	Satisfactory performance, depth change over tow exceeds survey defined limits
-1	Unsatisfactory performance, hung up
-1.12	Unsatisfactory performance, hauled back early due to hang(s)
-1.2	Unsatisfactory performance, major hang, stopped forward progress of vessel
-2.1	Unsatisfactory performance, wing damaged
-2.2	Unsatisfactory performance, breastline damaged
-2.4	Unsatisfactory performance, belly damaged
-4	Unsatisfactory performance, caught unspecified object
-5.1	Unsatisfactory performance, net came off bottom
-5.23	Unsatisfactory performance headrope/footrope tangled
-5.41	Unsatisfactory performance, door digging or falling over
-5.42	Unsatisfactory performance, doors crossed

**Section 1**

**Fishing Log for the F/V *Morning Star***

- Station charts of haul numbers plotted adjacent to their respective geographical positions





**Figure 2.**--Stations surveyed by the chartered trawler *F/V Morning Star* from the Islands of Four Mountains to Unimak Island.

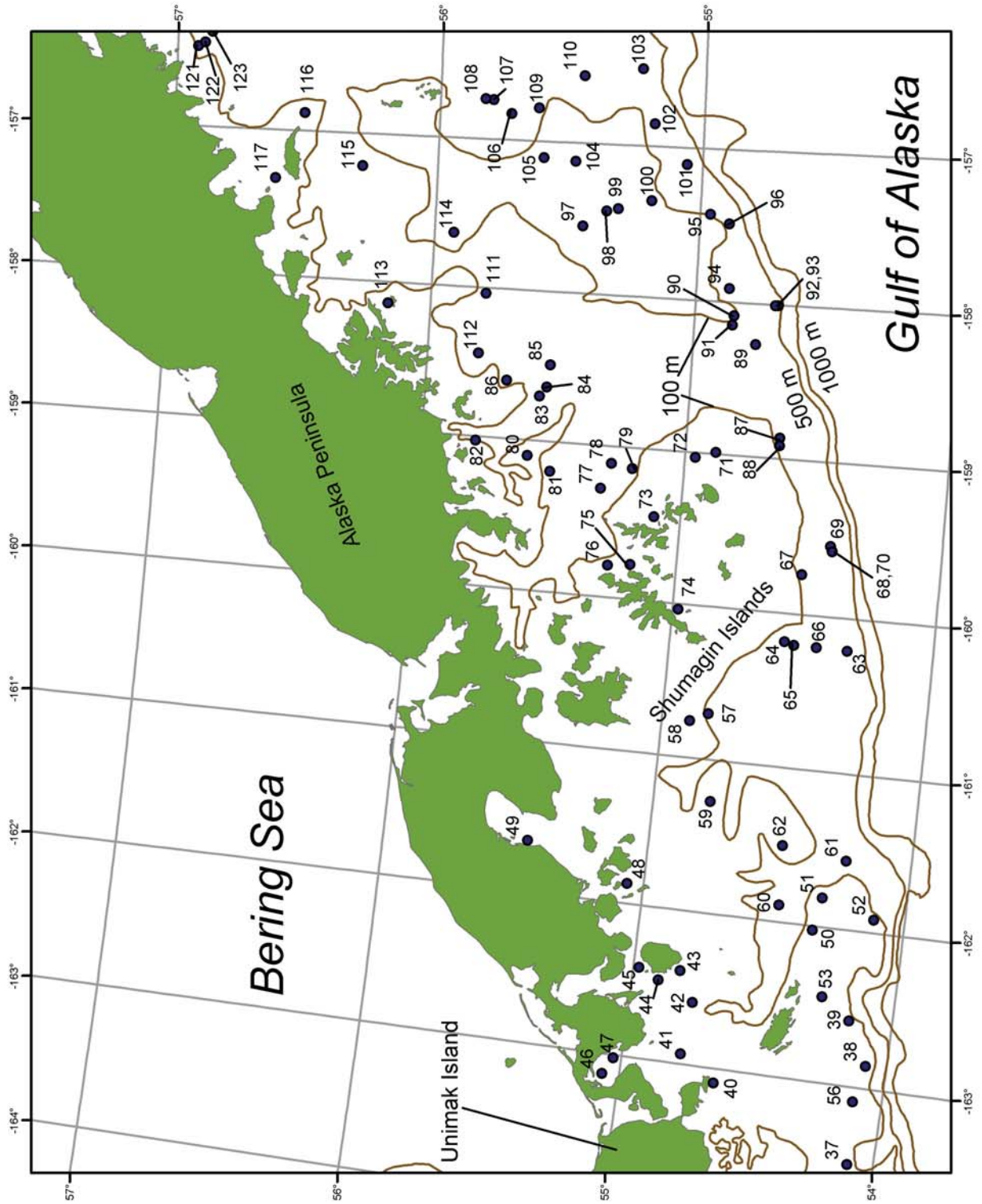


Figure 3.--Stations surveyed by the chartered trawler F/V Morning Star in the vicinity of the western Alaska Peninsula.

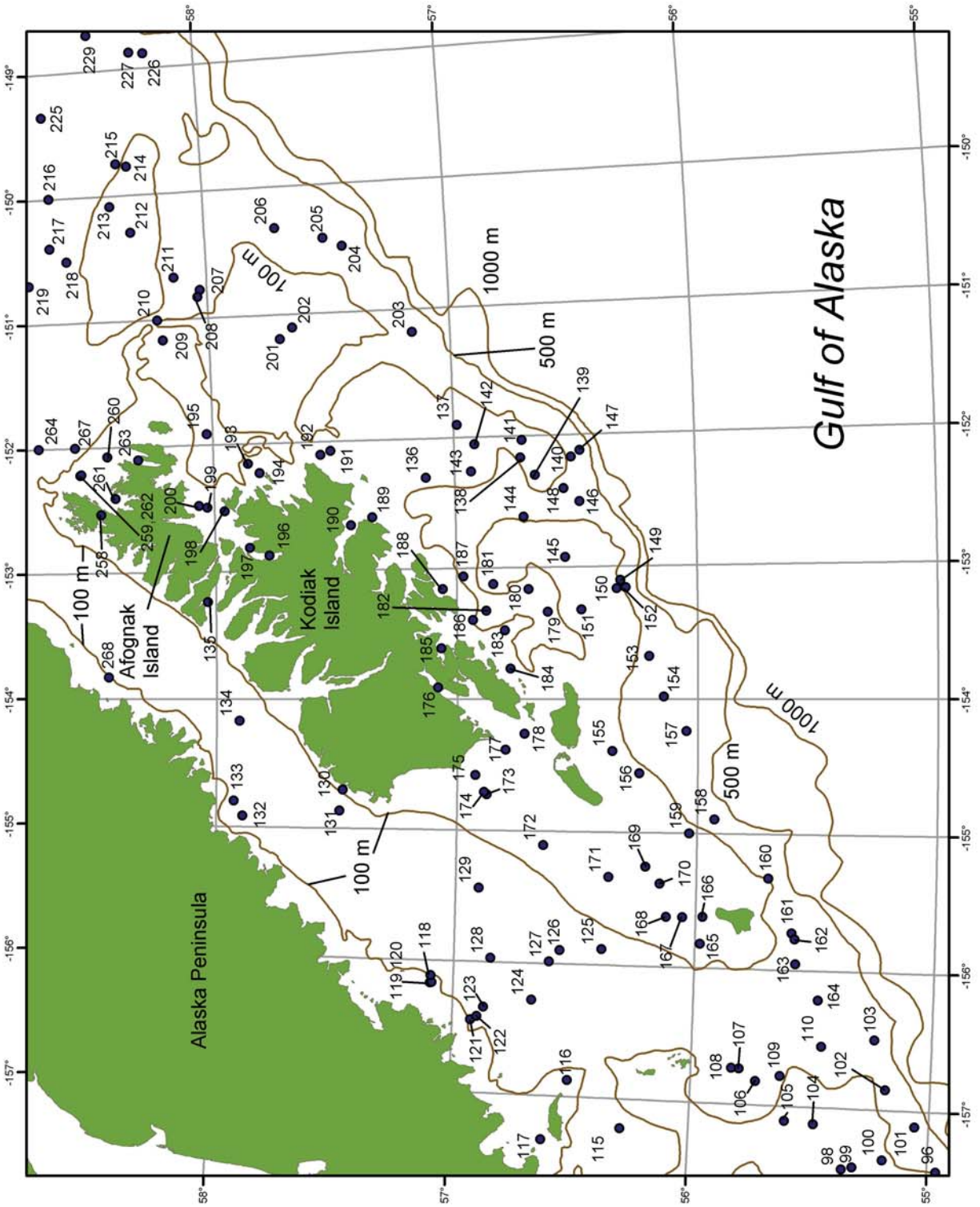


Figure 4.--Stations surveyed by the chartered trawler F/V Morning Star in the vicinity of Kodiak Island.

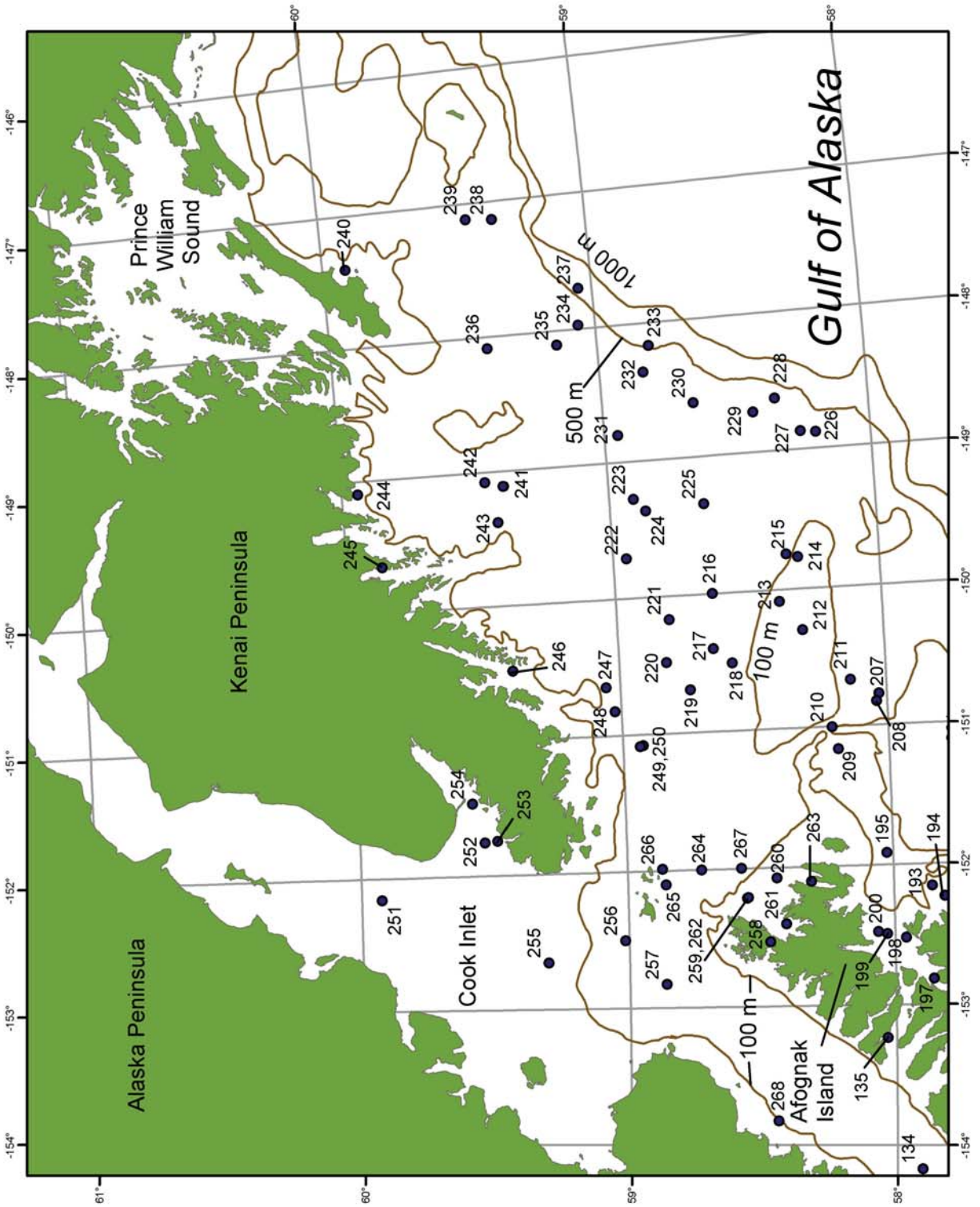


Figure 5.--Stations surveyed by the chartered trawler F/V *Morning Star* from Afognak Island to Prince William Sound.



**Section 1 (continued)****Fishing Log for the F/V *Morning Star***

- Summary listings of species catches by haul
- Haul start/end latitude and longitude in degrees, minutes, and decimal minutes
- Bottom depth in meters
- Duration of tow in minutes
- Distance fished in kilometers
- Catch weight in kilograms of principal species
- Total catch weight in kilograms of all species



Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	1	2	3	4	5	6	7
Start date & time	05/20/01 08	05/20/01 13	05/20/01 18	05/21/01 07	05/21/01 15	05/21/01 17	05/21/01 19
Start latitude	N 5235.92	N 5249.68	N 5258.59	N 5253.72	N 5302.49	N 5300.64	N 5309.52
Start longitude	W 16921.63	W 16859.42	W 16836.43	W 16817.82	W 16800.14	W 16741.77	W 16721.79
End latitude	N 5235.51	N 5248.85	N 5259.01	N 5253.87	N 5302.52	N 5300.68	N 5309.15
End longitude	W 16920.52	W 16858.84	W 16835.41	W 16816.61	W 16758.90	W 16743.03	W 16722.99
Bottom depth (m)	237	50	64	107	116	108	98
Duration (minutes)	16.8	19.8	18.6	16.8	16.2	17.4	17.4
Distance fished (km)	1.597	1.883	1.697	1.561	1.496	1.569	1.552
Performance	0	0	0	4.4	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	47	2432	3	30	0	18	0
Walleye pollock	5	0	0	4	0	1	2
Pacific ocean perch	5591	0	< 1	6020	0	0	1
Northern rockfish	2	0	0	1349	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	28	0	0	0	0	0	0
Shortspine thornyhead	3	0	0	0	0	0	0
Light dusky rockfish	1	3	0	114	0	0	2
Other rockfish	< 1	3	0	123	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	5	0	25	0	23	22	3
Pacific halibut	7	96	29	0	19	31	42
Northern rock sole	0	19	14	1	4	3	2
Southern rock sole	0	71	88	4	16	22	33
Flathead sole	0	0	0	0	0	0	0
Rex sole	0	0	0	0	0	0	0
Dover sole	< 1	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	< 1	< 1	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	24	3	0	0	2	5
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	54	2	8	0	0	2
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	6	0	< 1	0	0	0	< 1
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	3	< 1	56	0	0	3
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	2	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	< 1	0	0	0	0	0	0
Sponges	6	5	< 1	3	< 1	< 1	141
Starfish	< 1	< 1	1	< 1	< 1	< 1	< 1
Stony coral unident.	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Soft coral	0	0	0	0	0	0	8
Octopus	0	0	0	0	0	0	0
Snails	< 1	2	< 1	< 1	< 1	0	1
Other invertebrates	< 1	12	3	< 1	3	< 1	54
Total catch (kg)	5707	2726	168	7715	67	99	300

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	8	9	10	11	12	13	14
Start date & time	05/22/01 07	05/22/01 10	05/22/01 12	05/22/01 13	05/22/01 18	05/23/01 08	05/23/01 13
Start latitude	N 5306.34	N 5308.98	N 5315.20	N 5317.42	N 5329.64	N 5321.63	N 5338.08
Start longitude	W 16658.24	W 16704.18	W 16721.67	W 16717.49	W 16623.83	W 16609.72	W 16522.94
End latitude	N 5305.94	N 5308.71	N 5315.83	N 5317.58	N 5329.35	N 5321.30	N 5337.87
End longitude	W 16659.37	W 16705.38	W 16720.87	W 16718.80	W 16625.10	W 16610.90	W 16524.24
Bottom depth (m)	288	172	78	73	109	315	247
Duration (minutes)	16.8	18.6	18	17.4	17.4	17.4	18
Distance fished (km)	1.526	1.646	1.61	1.542	1.568	1.589	1.603
Performance	0	0	1.11	0	1.1	0	0
Atka mackerel	0	0	0	0	3	0	0
Pacific cod	0	6	0	0	7	0	0
Walleye pollock	9	10	0	0	< 1	6	12
Pacific ocean perch	3	0	< 1	0	6	7	95
Northern rockfish	0	0	2	< 1	0	0	< 1
Shortraker rockfish	0	0	0	0	0	17	6
Rougheye rockfish	5	0	0	0	0	28	< 1
Shortspine thornyhead	32	0	0	0	0	50	58
Light dusky rockfish	0	0	0	0	0	0	1
Other rockfish	0	0	0	0	0	0	0
Sablefish	25	0	0	0	0	20	0
Arrowtooth flounder	10	124	5	3	74	19	24
Pacific halibut	8	13	30	9	36	4	9
Northern rock sole	0	37	6	4	0	0	0
Southern rock sole	0	0	30	15	4	0	0
Flathead sole	0	1	1	0	0	0	2
Rex sole	26	4	0	0	< 1	26	29
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	2	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	1	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	0	0	< 1	0	3
Smelts	0	0	0	0	0	0	< 1
Giant grenadier	51	0	0	0	0	462	0
Other fish	0	0	5	0	2	0	< 1
Bairdi Tanner crab	0	0	0	0	< 1	0	0
Golden king crab	0	0	0	0	0	2	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	< 1	0	< 1	0	0
Magistrate armhook squid	2	< 1	0	0	0	7	2
Sponges	< 1	0	14	7	12	0	< 1
Starfish	< 1	< 1	< 1	< 1	< 1	2	< 1
Stony coral unident.	< 1	0	0	0	< 1	0	0
Soft coral	0	0	< 1	0	< 1	0	< 1
Octopus	0	0	0	0	0	0	< 1
Snails	< 1	< 1	< 1	< 1	< 1	1	2
Other invertebrates	29	2	4	20	3	5	6
Total catch (kg)	202	199	97	58	149	657	251

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	15	16	17	18	19	20	21
Start date & time	05/23/01 16	05/23/01 19	05/24/01 07	05/24/01 10	05/24/01 12	05/24/01 14	05/24/01 16
Start latitude	N 5354.93	N 5401.80	N 5358.93	N 5359.89	N 5400.62	N 5402.48	N 5405.24
Start longitude	W 16527.91	W 16516.74	W 16506.26	W 16501.21	W 16456.49	W 16454.43	W 16448.91
End latitude	N 5354.92	N 5402.31	N 5358.47	N 5400.03	N 5400.38	N 5402.27	N 5404.65
End longitude	W 16529.40	W 16515.64	W 16505.19	W 16502.49	W 16457.97	W 16453.010	W 16449.84
Bottom depth (m)	87	57	87	78	79	78	91
Duration (minutes)	18	17.4	16.8	17.4	18.6	18.6	17.4
Distance fished (km)	1.666	1.611	1.559	1.551	1.681	1.635	1.61
Performance	0	0	1.11	0	0	0	0
Atka mackerel	0	0	0	0	2	0	0
Pacific cod	0	568	0	0	205	37	4
Walleye pollock	< 1	0	< 1	< 1	0	0	0
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	4	0	0	0	11	0	0
Pacific halibut	6	5	57	5	11	35	29
Northern rock sole	7	61	1	< 1	8	0	0
Southern rock sole	41	197	< 1	5	57	14	2
Flathead sole	0	0	0	0	0	0	0
Rex sole	0	0	0	0	0	0	0
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	2	0	0	0	0	0	0
Skate unident.	0	0	10	7	2	21	31
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	1	274	0	2	1	< 1	6
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	3	0	0	0	0	2
Other sculpins	0	0	0	0	0	0	0
Smelts	0	0	0	< 1	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	< 1	0	< 1	0	< 1
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	< 1	0	< 1	0	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	< 1	5	8	< 1	0	41
Starfish	0	< 1	18	9	< 1	7	5
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	< 1	< 1	0	0	0
Octopus	0	0	10	0	0	0	6
Snails	0	0	2	< 1	< 1	0	1
Other invertebrates	0	< 1	12	10	< 1	< 1	15
Total catch (kg)	61	1109	117	47	301	115	141

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	22	23	24	25	26	27	28
Start date & time	05/24/01 18	05/25/01 07	05/25/01 09	05/25/01 12	05/25/01 14	05/25/01 17	05/26/01 07
Start latitude	N 5358.57	N 5423.98	N 5418.91	N 5411.37	N 5415.15	N 5424.13	N 5343.51
Start longitude	W 16437.93	W 16455.56	W 16501.54	W 16437.40	W 16423.96	W 16415.20	W 16409.85
End latitude	N 5358.57	N 5423.49	N 5419.12	N 5412.08	N 5415.23	N 5424.95	N 5343.73
End longitude	W 16436.50	W 16454.52	W 16500.20	W 16436.96	W 16425.50	W 16415.13	W 16408.95
Bottom depth (m)	95	65	91	76	81	92	314
Duration (minutes)	17.4	17.4	16.2	17.4	19.8	17.4	13.8
Distance fished (km)	1.595	1.519	1.507	1.607	1.764	1.555	1.161
Performance	0	0	0	5.1	0	0	-5.2
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	39	361	0	465	0	0
Walleye pollock	< 1	56	0	0	0	0	3
Pacific ocean perch	0	0	< 1	0	0	0	< 1
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	67
Rougeye rockfish	0	0	0	0	0	0	194
Shortspine thornyhead	0	0	0	0	0	0	83
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	24
Arrowtooth flounder	< 1	1	0	0	47	80	58
Pacific halibut	28	148	376	43	45	104	7
Northern rock sole	3	41	0	0	10	52	0
Southern rock sole	14	< 1	0	2	12	26	0
Flathead sole	0	< 1	0	0	< 1	7	0
Rex sole	0	0	0	0	0	0	13
Dover sole	0	0	0	0	0	0	< 1
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	8	0	0	0	17	0
Shark unident.	0	0	0	2	0	0	0
Yellow Irish Lord	0	372	24	0	0	1	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	3	8	0	0	0	0
Other sculpins	0	0	< 1	0	0	0	< 1
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	294
Other fish	0	17	23	0	0	< 1	2
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	< 1
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	< 1	0	< 1	< 1	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	5
Sponges	< 1	< 1	124	< 1	< 1	< 1	1
Starfish	2	< 1	4	< 1	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	< 1	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	< 1	3	< 1	< 1	< 1	2
Other invertebrates	< 1	3	76	2	< 1	< 1	68
Total catch (kg)	48	691	999	49	580	291	824

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	29	30	33	34	35	36	37
Start date & time	05/26/01 11	05/26/01 15	05/27/01 19	05/28/01 07	05/28/01 08	05/28/01 11	05/28/01 13
Start latitude	N 5343.54	N 5350.65	N 5408.49	N 5417.09	N 5412.05	N 5358.16	N 5405.89
Start longitude	W 16409.68	W 16410.03	W 16413.19	W 16349.23	W 16339.95	W 16344.00	W 16329.60
End latitude	N 5343.87	N 5350.21	N 5407.68	N 5416.82	N 5411.79	N 5357.40	N 5406.15
End longitude	W 16408.48	W 16408.89	W 16413.34	W 16348.04	W 16338.63	W 16344.12	W 16328.43
Bottom depth (m)	306	80	75	114	84	76	95
Duration (minutes)	19.2	18	18	16.8	18	16.8	17.4
Distance fished (km)	1.558	1.569	1.624	1.494	1.574	1.565	1.544
Performance	0	-2.4	0	0	0	0	0
Atka mackerel	0	1642	0	0	< 1	0	0
Pacific cod	0	25	8	0	22	35	0
Walleye pollock	6	0	0	1	1	0	0
Pacific ocean perch	78	11	0	0	0	0	0
Northern rockfish	0	21	0	0	0	0	0
Shortraker rockfish	76	0	0	0	0	0	0
Rougeye rockfish	219	0	0	2	0	0	0
Shortspine thornyhead	70	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	10	0	0	< 1	0	0	0
Arrowtooth flounder	173	0	6	59	16	2	9
Pacific halibut	33	41	39	15	64	22	89
Northern rock sole	0	0	6	0	8	1	2
Southern rock sole	0	5	20	< 1	26	15	12
Flathead sole	< 1	0	< 1	182	15	0	2
Rex sole	22	0	0	1	< 1	0	0
Dover sole	< 1	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	2	0	0	3
Skate unident.	0	0	6	0	14	0	0
Shark unident.	0	0	0	0	0	0	56
Yellow Irish Lord	0	0	0	0	0	0	< 1
Bigmouth sculpin	8	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	0	0	0	0	0	0
Smelts	0	0	0	0	0	0	0
Giant grenadier	19	0	0	0	0	0	0
Other fish	13	< 1	0	0	0	0	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	7	< 1	0	0	0	0	0
Sponges	5	1	0	0	0	0	0
Starfish	< 1	< 1	< 1	< 1	0	0	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	< 1	0	0	0	0	0	0
Snails	< 1	< 1	0	0	0	0	0
Other invertebrates	8	20	2	0	2	< 1	3
Total catch (kg)	750	1768	87	265	170	77	176

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	38	39	40	41	42	43	44
Start date & time	05/28/01 17	05/29/01 08	05/29/01 18	05/30/01 07	05/30/01 10	05/30/01 12	05/30/01 14
Start latitude	N 5404.77	N 5409.83	N 5438.51	N 5446.78	N 5445.63	N 5449.33	N 5453.97
Start longitude	W 16251.20	W 16234.58	W 16305.46	W 16255.89	W 16235.24	W 16223.53	W 16228.25
End latitude	N 5404.96	N 5410.03	N 5438.13	N 5446.17	N 5444.100	N 5449.30	N 5454.69
End longitude	W 16251.17	W 16234.31	W 16304.45	W 16255.06	W 16235.07	W 16224.83	W 16227.66
Bottom depth (m)	79	85	61	85	46	44	24
Duration (minutes)	6.6	7.8	16.2	16.8	15	17.4	18.6
Distance fished (km)	0.458	0.565	1.466	1.549	1.367	1.547	1.756
Performance	-1	-1	0	0	0	0	0
Atka mackerel	0	0	< 1	0	< 1	0	0
Pacific cod	0	< 1	480	62	< 1	< 1	0
Walleye pollock	0	0	15	374	3	< 1	0
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	< 1	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	0	0	23	35	0	3	0
Pacific halibut	0	8	34	63	80	26	10
Northern rock sole	0	2	23	6	1	20	4
Southern rock sole	0	3	211	< 1	25	141	20
Flathead sole	0	0	13	107	0	9	0
Rex sole	0	0	0	< 1	0	0	0
Dover sole	0	0	0	< 1	0	0	0
Yellowfin sole	0	0	0	3	0	15	0
Other flatfish	0	0	25	5	1	243	9
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	0	20	0
Shark unident.	0	0	282	0	0	0	0
Yellow Irish Lord	0	< 1	2	15	10	11	8
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	6
Other sculpins	0	0	0	0	0	0	0
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	0	3	2	< 1	< 1	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	< 1	0	< 1	< 1	0	< 1
Starfish	0	0	0	< 1	0	2	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	< 1	0	0	< 1	< 1	0
Other invertebrates	3	3	7	4	6	69	5
Total catch (kg)	3	17	1120	679	128	562	62



Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	45	46	47	48	49	50	51
Start date & time	05/30/01 16	05/31/01 07	05/31/01 08	05/31/01 14	05/31/01 17	06/01/01 10	06/01/01 14
Start latitude	N 5458.73	N 5503.92	N 5501.83	N 5503.74	N 5527.29	N 5420.67	N 5419.27
Start longitude	W 16224.33	W 16307.72	W 16301.07	W 16152.00	W 16139.55	W 16201.43	W 16148.64
End latitude	N 5459.11	N 5503.34	N 5501.29	N 5504.18	N 5526.41	N 5420.90	N 5419.95
End longitude	W 16223.19	W 16308.51	W 16300.16	W 16153.23	W 16140.07	W 16200.15	W 16149.13
Bottom depth (m)	42	43	43	42	77	68	74
Duration (minutes)	17.4	16.8	16.8	16.8	19.8	18.6	16.2
Distance fished (km)	1.578	1.527	1.535	1.606	1.823	1.567	1.496
Performance	0	0	0	0	0	-2.3	-2.4
Atka mackerel	0	0	0	0	0	0	4
Pacific cod	21	29	30	19	39	80	3
Walleye pollock	30	75	18	2	71	0	0
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	1	139
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	10
Other rockfish	0	0	0	0	0	8	28
Sablefish	2	48	< 1	0	< 1	0	0
Arrowtooth flounder	8	7	5	3	35	0	< 1
Pacific halibut	127	55	67	23	7	77	33
Northern rock sole	87	8	118	71	17	< 1	< 1
Southern rock sole	8	0	10	91	0	17	3
Flathead sole	19	3	0	0	639	0	0
Rex sole	0	0	0	0	0	0	0
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	92	166	98	4	328	0	0
Other flatfish	14	17	< 1	13	31	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	11	1	34	9	2	14	2
Bigmouth sculpin	0	0	0	0	< 1	0	0
Great sculpin	5	0	0	0	1	0	0
Other sculpins	2	4	0	< 1	16	0	0
Smelts	0	0	0	0	< 1	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	0	0	11	3	5
Bairdi Tanner crab	0	0	< 1	0	1	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	< 1	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	0	0	< 1	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	0	< 1	0	0	6	1
Starfish	3	0	1	1	9	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	5	< 1	< 1	< 1	0
Other invertebrates	55	26	216	38	29	5	7
Total catch (kg)	483	439	603	275	1237	212	236

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	53	54	55	56	57	58	59
Start date & time	06/01/01 20	06/02/01 07	06/02/01 08	06/02/01 11	06/04/01 10	06/04/01 13	06/04/01 18
Start latitude	N 5416.63	N 5359.50	N 5359.100	N 5406.59	N 5449.59	N 5453.65	N 5447.07
Start longitude	W 16226.72	W 16346.98	W 16334.48	W 16305.35	W 16041.91	W 16045.36	W 16116.15
End latitude	N 5417.07	N 5359.84	N 5359.20	N 5406.59	N 5449.93	N 5453.06	N 5447.66
End longitude	W 16225.88	W 16345.80	W 16334.36	W 16305.36	W 16040.39	W 16046.58	W 16115.50
Bottom depth (m)	67	94	85	86	105	89	87
Duration (minutes)	16.8	17.4	18.6	17.4	21	19.2	15
Distance fished (km)	1.395	1.569	1.566	1.598	1.892	1.784	1.352
Performance	-2.4	0	0	0	0	0	0
Atka mackerel	0	0	0	1	0	0	0
Pacific cod	1699	0	0	0	0	4	2
Walleye pollock	0	0	0	0	0	< 1	0
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	< 1	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	0	12	2	8	430	318	36
Pacific halibut	86	13	83	44	32	58	25
Northern rock sole	51	33	10	28	0	4	4
Southern rock sole	181	8	12	2	2	31	19
Flathead sole	0	30	5	222	26	6	61
Rex sole	0	4	0	0	6	< 1	< 1
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	15	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	0	0	0	0
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	1	0	0	0	0	0	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	< 1	0	0	< 1	0	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	1	0	0	0	< 1	0	0
Starfish	< 1	0	0	< 1	0	0	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	0	0	0	0	< 1	< 1
Other invertebrates	12	2	< 1	< 1	< 1	< 1	< 1
Total catch (kg)	2048	102	113	306	497	423	148

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	60	61	62	63	64	65	66
Start date & time	06/05/01 07	06/05/01 10	06/05/01 13	06/05/01 20	06/06/01 06	06/06/01 08	06/06/01 10
Start latitude	N 5428.88	N 5414.83	N 5429.65	N 5419.59	N 5433.94	N 5431.74	N 5426.60
Start longitude	W 16153.27	W 16133.40	W 16130.19	W 16012.43	W 16010.93	W 16011.95	W 16012.06
End latitude	N 5428.15	N 5413.95	N 5430.17	N 5419.95	N 5434.55	N 5432.57	N 5425.78
End longitude	W 16152.51	W 16133.38	W 16129.11	W 16011.29	W 16011.94	W 16011.81	W 16012.54
Bottom depth (m)	146	112	73	250	111	118	144
Duration (minutes)	17.4	18.6	17.4	16.2	18	18	18
Distance fished (km)	1.657	1.694	1.564	1.534	1.616	1.585	1.652
Performance	0	0	0	0	-2.1	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	4	0	0	0	< 1	< 1	8
Walleye pollock	0	< 1	0	41	0	0	0
Pacific ocean perch	0	1549	0	8	0	0	0
Northern rockfish	0	20	0	0	7	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	1	0	0	14	0	0	0
Shortspine thornyhead	0	0	0	61	0	0	0
Light dusky rockfish	0	1	0	0	0	0	0
Other rockfish	0	0	0	3	0	0	0
Sablefish	0	0	0	65	0	0	0
Arrowtooth flounder	121	144	0	100	91	320	354
Pacific halibut	11	144	90	13	11	62	9
Northern rock sole	0	17	0	0	0	0	0
Southern rock sole	0	12	3	0	0	0	0
Flathead sole	103	0	0	0	26	5	5
Rex sole	10	0	0	1	5	25	28
Dover sole	0	0	0	2	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	9	0	0	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	0	2	0	0	0
Smelts	< 1	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	0	0	6	0	0
Bairdi Tanner crab	< 1	0	0	0	0	0	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	< 1	0	< 1	0	0
Magistrate armhook squid	0	0	0	5	0	0	0
Sponges	0	0	< 1	< 1	0	0	0
Starfish	1	< 1	< 1	< 1	0	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Other invertebrates	< 1	< 1	3	< 1	4	4	< 1
Total catch (kg)	260	1888	98	316	151	418	406

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	67	68	69	70	71	72	73
Start date & time	06/06/01 14	06/06/01 17	06/06/01 19	06/07/01 06	06/07/01 13	06/07/01 15	06/07/01 18
Start latitude	N 5431.44	N 5424.95	N 5425.38	N 5424.93	N 5453.010	N 5457.64	N 5505.96
Start longitude	W 15944.29	W 15934.28	W 15932.45	W 15934.40	W 15859.26	W 15901.84	W 15926.45
End latitude	N 5431.38	N 5425.15	N 5425.33	N 5424.72	N 5453.54	N 5458.20	N 5505.92
End longitude	W 15945.75	W 15933.13	W 15932.92	W 15935.54	W 15858.07	W 15902.84	W 15927.90
Bottom depth (m)	108	205	209	206	75	90	73
Duration (minutes)	17.4	15.6	7.8	15.6	17.4	17.4	17.4
Distance fished (km)	1.643	1.318	0.555	1.388	1.564	1.609	1.595
Performance	0	-5.1	-1.2	1.12	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	3	2	3	5	0	< 1	3
Walleye pollock	0	0	3	9	< 1	< 1	< 1
Pacific ocean perch	5	16	24	24	0	0	0
Northern rockfish	95	< 1	< 1	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	< 1	< 1	0	0	0
Shortspine thornyhead	0	2	11	23	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	< 1	2	2	0	0	0
Sablefish	0	215	100	85	0	0	< 1
Arrowtooth flounder	169	17	4	28	0	15	43
Pacific halibut	25	0	20	11	10	5	5
Northern rock sole	13	0	0	0	0	0	5
Southern rock sole	14	0	0	0	0	41	60
Flathead sole	4	0	0	< 1	0	0	11
Rex sole	0	2	6	16	0	< 1	0
Dover sole	0	0	2	5	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	1
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	15	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	1	< 1	0	< 1	0
Smelts	0	< 1	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	13	0	5	0	0	0	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	< 1	0	0	0	0
Sidestripe shrimp	0	< 1	< 1	< 1	0	0	0
Scallop unident.	< 1	0	0	0	< 1	1	< 1
Magistrate armhook squid	0	12	1	< 1	0	0	0
Sponges	< 1	0	< 1	< 1	< 1	< 1	0
Starfish	< 1	< 1	< 1	< 1	1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	0	< 1	2	< 1	0
Other invertebrates	4	0	< 1	2	8	< 1	< 1
Total catch (kg)	345	268	185	227	21	65	131

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	74	75	76	77	78	79	80
Start date & time	06/08/01 06	06/08/01 11	06/08/01 12	06/08/01 15	06/08/01 17	06/08/01 19	06/09/01 06
Start latitude	N 5458.67	N 5510.48	N 5515.55	N 5518.55	N 5516.56	N 5511.70	N 5535.69
Start longitude	W 16002.02	W 15946.09	W 15947.15	W 15916.92	W 15906.63	W 15908.14	W 15906.12
End latitude	N 5459.35	N 5511.24	N 5514.88	N 5518.64	N 5516.89	N 5511.39	N 5535.92
End longitude	W 16001.28	W 15945.49	W 15946.74	W 15918.29	W 15907.85	W 15906.89	W 15907.49
Bottom depth (m)	37	52	70	180	190	117	82
Duration (minutes)	18	18	16.2	16.8	16.2	17.4	17.4
Distance fished (km)	1.553	1.661	1.394	1.516	1.483	1.586	1.587
Performance	0	0	1.11	0	0	0	0
Atka mackerel	0	< 1	0	0	< 1	0	0
Pacific cod	16	< 1	< 1	0	0	< 1	0
Walleye pollock	< 1	3	3	0	37	0	0
Pacific ocean perch	0	0	< 1	< 1	0	< 1	2
Northern rockfish	0	0	0	0	0	0	1
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	< 1	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	< 1	< 1	0	0	0	0
Sablefish	0	0	< 1	0	0	0	0
Arrowtooth flounder	0	0	1	324	197	182	< 1
Pacific halibut	25	75	15	7	0	55	12
Northern rock sole	5	0	0	0	0	0	0
Southern rock sole	13	3	6	0	0	0	10
Flathead sole	0	0	0	56	65	15	0
Rex sole	0	0	0	4	2	54	0
Dover sole	0	0	0	0	0	2	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	13	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	< 1	42	2	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	< 1	0	0	0	0	0
Bigmouth sculpin	0	< 1	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	< 1	< 1	< 1	< 1	< 1
Smelts	0	0	0	56	82	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	0	0	< 1	< 1	< 1	< 1
Bairdi Tanner crab	0	0	0	< 1	< 1	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	3	5	0	0
Sidestripe shrimp	0	0	0	2	3	0	0
Scallop unident.	0	0	0	0	0	< 1	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	< 1	0	0	0	< 1	0
Starfish	0	0	< 1	4	5	1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	2	0	0	0	0	0
Snails	0	0	< 1	< 1	< 1	< 1	< 1
Other invertebrates	< 1	6	9	< 1	< 1	1	5
Total catch (kg)	72	90	34	460	440	315	32

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	81	82	83	84	85	86	87
Start date & time	06/09/01 08	06/09/01 11	06/09/01 13	06/09/01 15	06/09/01 16	06/09/01 18	06/10/01 06
Start latitude	N 5530.37	N 5547.67	N 5533.92	N 5532.44	N 5531.98	N 5541.66	N 5438.80
Start longitude	W 15911.70	W 15901.56	W 15841.93	W 15838.24	W 15829.29	W 15836.50	W 15851.79
End latitude	N 5530.12	N 5546.95	N 5534.56	N 5531.92	N 5531.93	N 5540.90	N 5438.82
End longitude	W 15910.33	W 15901.12	W 15842.65	W 15837.28	W 15830.60	W 15836.02	W 15850.83
Bottom depth (m)	124	121	152	153	144	106	106
Duration (minutes)	17.4	16.2	15.6	15.6	15.6	17.4	14.4
Distance fished (km)	1.559	1.509	1.486	1.472	1.461	1.57	1.109
Performance	0	0	0	0	0	0	5.4
Atka mackerel	0	0	0	0	0	1	0
Pacific cod	2	0	0	0	0	645	0
Walleye pollock	0	2	0	< 1	< 1	0	< 1
Pacific ocean perch	0	0	0	0	0	32	< 1
Northern rockfish	0	0	0	0	0	23	1
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	< 1	0	14	< 1	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	23	0
Other rockfish	0	0	0	0	0	2	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	349	166	49	94	84	379	< 1
Pacific halibut	18	14	0	0	0	96	80
Northern rock sole	0	< 1	0	0	0	2	1
Southern rock sole	0	0	0	0	0	0	4
Flathead sole	6	44	18	39	23	3	0
Rex sole	13	< 1	< 1	4	< 1	1	0
Dover sole	< 1	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	< 1	9	15	11	0	< 1	12
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	< 1	< 1	< 1	< 1	0	< 1
Smelts	0	< 1	4	15	4	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	0	0	< 1	< 1	< 1	< 1
Bairdi Tanner crab	0	7	< 1	< 1	< 1	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	< 1	1	2	< 1	0	0
Sidestripe shrimp	0	0	< 1	< 1	0	0	0
Scallop unident.	0	< 1	< 1	0	0	< 1	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	0	0	0	0	< 1	1
Starfish	< 1	< 1	7	15	3	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	< 1
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	< 1	0	< 1	3	< 1
Other invertebrates	1	< 1	< 1	2	< 1	3	6
Total catch (kg)	391	245	96	197	117	1216	107

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	88	89	90	91	92	93	94
Start date & time	06/10/01 08	06/10/01 11	06/10/01 14	06/10/01 19	06/11/01 07	06/11/01 09	06/11/01 12
Start latitude	N 5438.79	N 5445.75	N 5451.08	N 5451.30	N 5441.14	N 5441.81	N 5452.52
Start longitude	W 15854.71	W 15815.83	W 15805.09	W 15808.80	W 15800.19	W 15800.25	W 15754.54
End latitude	N 5438.72	N 5445.27	N 5450.72	N 5450.55	N 5441.12	N 5441.80	N 5451.75
End longitude	W 15853.18	W 15816.97	W 15805.40	W 15808.80	W 15801.66	W 15801.29	W 15754.85
Bottom depth (m)	107	225	102	161	440	359	121
Duration (minutes)	19.8	17.4	12	16.2	18	12.6	16.8
Distance fished (km)	1.769	1.571	0.894	1.444	1.634	1.151	1.618
Performance	5.1	0	-1.2	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	2	0	15	0	0	13
Walleye pollock	< 1	0	14	2	0	0	29
Pacific ocean perch	< 1	26	37	13	0	0	20
Northern rockfish	0	0	115	0	0	0	101
Shortraker rockfish	0	0	0	0	7	27	0
Rougeye rockfish	0	0	0	0	0	11	0
Shortspine thornyhead	0	< 1	0	0	87	24	0
Light dusky rockfish	0	0	8	0	0	0	1
Other rockfish	0	< 1	3	0	0	0	< 1
Sablefish	0	8	0	0	13	3	0
Arrowtooth flounder	< 1	22	< 1	36	3	3	81
Pacific halibut	100	14	15	79	0	9	43
Northern rock sole	0	0	1	0	0	0	0
Southern rock sole	3	0	2	0	0	0	0
Flathead sole	0	0	0	0	0	0	0
Rex sole	0	50	< 1	8	8	2	3
Dover sole	0	14	0	< 1	36	28	< 1
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	23	< 1	0	0	0	< 1	3
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	4	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	1	0	< 1	0	0	< 1
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	208	171	0
Other fish	1	0	2	< 1	< 1	0	3
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	6	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	< 1	0	0	0
Sidestripe shrimp	0	< 1	0	0	0	0	0
Scallop unident.	< 1	0	< 1	< 1	0	0	< 1
Magistrate armhook squid	0	< 1	0	0	0	0	0
Sponges	< 1	0	< 1	< 1	0	4	< 1
Starfish	1	< 1	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	< 1	0	< 1	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	< 1	< 1
Snails	0	0	0	< 1	< 1	0	< 1
Other invertebrates	< 1	< 1	< 1	< 1	< 1	3	5
Total catch (kg)	131	142	200	155	363	296	304

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	95	96	97	98	99	100	101
Start date & time	06/11/01 18	06/11/01 19	06/12/01 06	06/12/01 08	06/12/01 09	06/12/01 11	06/12/01 13
Start latitude	N 5457.70	N 5453.29	N 5526.51	N 5521.28	N 5518.68	N 5511.19	N 5503.52
Start longitude	W 15725.73	W 15729.09	W 15732.94	W 15726.47	W 15725.31	W 15721.55	W 15706.58
End latitude	N 5457.37	N 5453.49	N 5526.61	N 5520.49	N 5517.96	N 5510.61	N 5503.08
End longitude	W 15726.81	W 15727.80	W 15731.48	W 15726.45	W 15725.78	W 15720.67	W 15707.62
Bottom depth (m)	127	243	89	90	91	100	283
Duration (minutes)	15	16.2	17.4	16.8	16.2	16.2	15
Distance fished (km)	1.418	1.494	1.6	1.53	1.492	1.54	1.429
Performance	0	0	0	5.4	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	< 1	< 1	0	5
Walleye pollock	2	2	0	< 1	2	0	2
Pacific ocean perch	120	5	0	1	< 1	0	7
Northern rockfish	10	0	0	< 1	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	< 1	0	0	0	0	2
Shortspine thornyhead	0	36	0	0	0	0	16
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	3	140	0	0	0	0	84
Arrowtooth flounder	196	18	10	5	6	9	80
Pacific halibut	12	8	104	16	83	6	35
Northern rock sole	0	0	0	< 1	< 1	0	0
Southern rock sole	0	0	6	31	5	< 1	0
Flathead sole	0	0	0	0	0	0	0
Rex sole	19	< 1	0	< 1	0	0	29
Dover sole	8	2	0	0	0	0	15
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	< 1	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	< 1	0	< 1	< 1	0	< 1
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	< 1	1	2	0	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	4	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	< 1	0	0	0	0	< 1
Scallop unident.	0	0	< 1	< 1	< 1	< 1	0
Magistrate armhook squid	2	10	0	0	0	0	0
Sponges	< 1	< 1	0	< 1	3	< 1	< 1
Starfish	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	0	< 1	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	0	< 1	< 1	0	0
Other invertebrates	4	2	< 1	3	2	1	< 1
Total catch (kg)	382	227	120	61	105	18	274



Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	102	103	104	105	106	107	108
Start date & time	06/12/01 15	06/12/01 18	06/13/01 06	06/13/01 08	06/13/01 11	06/13/01 14	06/13/01 15
Start latitude	N 5511.22	N 5514.37	N 5528.83	N 5536.09	N 5543.78	N 5547.96	N 5549.83
Start longitude	W 15650.90	W 15629.27	W 15707.22	W 15706.37	W 15649.28	W 15644.02	W 15643.78
End latitude	N 5511.15	N 5514.38	N 5529.59	N 5536.69	N 5544.53	N 5548.30	N 5549.06
End longitude	W 15652.26	W 15630.65	W 15707.22	W 15707.27	W 15649.19	W 15643.91	W 15643.69
Bottom depth (m)	152	178	93	86	101	216	212
Duration (minutes)	16.8	16.2	15.6	16.8	16.2	9.6	15.6
Distance fished (km)	1.541	1.504	1.481	1.547	1.489	0.73	1.478
Performance	0	0	0	0	0	-1.2	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	48	22	< 1	< 1	< 1	5	0
Walleye pollock	0	0	1	2	< 1	10	19
Pacific ocean perch	3	1215	< 1	0	13	3	2
Northern rockfish	2	8	0	0	32	0	2
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	2	0	0	1	0	0
Other rockfish	0	5	0	0	2	0	0
Sablefish	3	411	0	0	0	6	13
Arrowtooth flounder	460	234	3	2	2	53	106
Pacific halibut	59	12	90	34	18	0	0
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	4	2	4	0	0
Flathead sole	0	0	0	< 1	0	1	10
Rex sole	4	8	0	0	0	11	14
Dover sole	15	6	0	0	0	11	14
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	3	0	0	0	0
Skate unident.	0	0	8	0	0	0	4
Shark unident.	0	0	4	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	< 1	0	< 1	0	< 1
Smelts	0	0	0	0	0	17	44
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	5	3	0	10	0	8
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	< 1
Sidestripe shrimp	0	0	0	0	0	2	< 1
Scallop unident.	< 1	0	< 1	< 1	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	5	< 1	1	< 1	0	0	0
Starfish	< 1	< 1	< 1	< 1	0	< 1	< 1
Stony coral unident.	0	< 1	0	0	0	0	0
Soft coral	0	7	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	0	0	0	0
Other invertebrates	< 1	< 1	1	2	< 1	8	< 1
Total catch (kg)	601	1936	119	44	82	128	239

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	109	110	111	112	113	114	115
Start date & time	06/13/01 17	06/13/01 19	06/14/01 07	06/14/01 09	06/14/01 13	06/15/01 06	06/15/01 11
Start latitude	N 5537.61	N 5527.56	N 5547.52	N 5548.42	N 5609.67	N 5555.63	N 5617.03
Start longitude	W 15646.55	W 15632.90	W 15802.18	W 15826.35	W 15808.53	W 15738.30	W 15713.16
End latitude	N 5538.39	N 5527.71	N 5547.55	N 5548.39	N 5609.38	N 5554.86	N 5616.78
End longitude	W 15646.75	W 15634.13	W 15803.62	W 15824.87	W 15809.69	W 15738.43	W 15711.81
Bottom depth (m)	139	184	118	111	54	95	151
Duration (minutes)	16.8	15	16.8	17.4	15.6	16.8	16.2
Distance fished (km)	1.551	1.419	1.534	1.615	1.417	1.564	1.559
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	907	12	6	< 1	7	0	0
Walleye pollock	193	0	0	< 1	0	1	2
Pacific ocean perch	1	32	0	< 1	0	0	0
Northern rockfish	< 1	35	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	1	0	0	0	0	5
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	14	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	5	22	0	0	0	0	0
Arrowtooth flounder	741	160	1343	180	0	15	56
Pacific halibut	43	29	78	27	72	66	0
Northern rock sole	0	0	0	0	117	3	0
Southern rock sole	0	0	< 1	0	105	10	0
Flathead sole	< 1	< 1	< 1	6	0	0	16
Rex sole	64	20	14	12	0	0	0
Dover sole	14	5	1	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	13	0	< 1	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	< 1	0	< 1	0	< 1
Smelts	0	0	0	0	0	0	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	< 1	< 1	0	0	0
Bairdi Tanner crab	0	0	0	0	0	0	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	< 1	0	< 1	0	0	3
Sidestripe shrimp	0	< 1	0	0	0	0	< 1
Scallop unident.	0	0	< 1	0	0	< 1	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	2	0	0	0	< 1	< 1
Starfish	1	< 1	< 1	0	0	< 1	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	< 1	0	< 1	0
Other invertebrates	1	< 1	< 1	< 1	1	2	< 1
Total catch (kg)	1972	347	1444	226	302	99	82

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	116	117	118	119	120	121	122
Start date & time	06/15/01 16	06/15/01 20	06/16/01 07	06/16/01 08	06/16/01 10	06/16/01 11	06/16/01 13
Start latitude	N 5630.71	N 5636.63	N 5705.62	N 5705.73	N 5705.34	N 5655.36	N 5653.82
Start longitude	W 15652.45	W 15719.73	W 15606.83	W 15610.16	W 15610.01	W 15626.56	W 15624.90
End latitude	N 5631.48	N 5636.69	N 5705.56	N 5705.95	N 5704.79	N 5655.97	N 5653.41
End longitude	W 15652.21	W 15718.54	W 15608.36	W 15611.54	W 15611.06	W 15625.49	W 15624.87
Bottom depth (m)	87	37	75	78	75	105	154
Duration (minutes)	16.2	15	18	16.2	16.2	18	13.8
Distance fished (km)	1.511	1.454	1.646	1.497	1.518	1.642	0.948
Performance	0	5.1	0	0	0	1.1	-1.12
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	2	6	3	< 1	5	14
Walleye pollock	0	< 1	0	< 1	0	< 1	1
Pacific ocean perch	0	0	< 1	< 1	0	0	0
Northern rockfish	0	0	0	< 1	< 1	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	< 1	1	1	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	87	0	11	5	< 1	161	101
Pacific halibut	7	44	42	101	136	43	0
Northern rock sole	0	0	0	1	0	2	0
Southern rock sole	34	5	14	17	25	11	0
Flathead sole	0	0	0	0	0	0	10
Rex sole	0	0	0	0	0	< 1	5
Dover sole	0	0	0	0	0	0	3
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	4	0	0	3	0
Skate unident.	10	0	12	0	0	15	< 1
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	2	< 1	0	1	< 1	2
Bigmouth sculpin	0	0	0	0	0	5	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	< 1	< 1	0	0	0	0
Smelts	< 1	0	0	0	0	0	4
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	1	2	2	3	0	0
Bairdi Tanner crab	< 1	0	0	0	0	0	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	< 1	< 1
Sidestripe shrimp	0	0	0	0	0	0	< 1
Scallop unident.	< 1	0	0	0	0	< 1	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	< 1	< 1	0	0	< 1	< 1
Starfish	0	0	< 1	0	0	< 1	< 1
Stony coral unident.	0	< 1	0	< 1	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	1	0
Snails	0	< 1	< 1	< 1	< 1	< 1	0
Other invertebrates	< 1	36	10	1	4	9	5
Total catch (kg)	139	92	106	134	170	258	147

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	123	124	125	126	127	128	129
Start date & time	06/16/01 15	06/16/01 17	06/17/01 06	06/17/01 08	06/17/01 10	06/17/01 13	06/17/01 16
Start latitude	N 5652.26	N 5640.34	N 5623.26	N 5633.68	N 5636.20	N 5650.85	N 5654.23
Start longitude	W 15620.49	W 15616.59	W 15552.72	W 15553.66	W 15558.100	W 15558.010	W 15526.12
End latitude	N 5651.73	N 5641.05	N 5622.65	N 5633.61	N 5636.15	N 5651.61	N 5653.72
End longitude	W 15621.52	W 15617.13	W 15553.54	W 15552.27	W 15557.57	W 15558.03	W 15527.18
Bottom depth (m)	181	192	185	250	284	263	261
Duration (minutes)	16.2	15.6	15.6	16.2	16.2	16.2	16.2
Distance fished (km)	1.511	1.47	1.453	1.511	1.499	1.463	1.509
Performance	0	1.11	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	13	16	0	14	0	23	0
Walleye pollock	9	7	< 1	11	6	38	11
Pacific ocean perch	0	2	1	0	< 1	0	< 1
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	2	0	4	2
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	16	24	50	19	21	82
Arrowtooth flounder	280	250	512	256	46	170	202
Pacific halibut	5	34	78	11	0	4	0
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0
Flathead sole	11	8	4	2	2	< 1	6
Rex sole	2	2	4	1	< 1	6	1
Dover sole	1	8	3	5	0	5	4
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	14	< 1	12	19	3	0	6
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	22	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	< 1	0	0	< 1	0
Smelts	59	3	2	1	3	< 1	2
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	0	0	1	< 1	5	< 1
Bairdi Tanner crab	< 1	< 1	< 1	< 1	< 1	0	< 1
Golden king crab	0	0	0	2	0	3	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	< 1	0	< 1	< 1	2	< 1
Sidestripe shrimp	< 1	2	< 1	2	2	8	2
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	8	3	6
Sponges	0	4	0	0	0	2	0
Starfish	< 1	< 1	1	2	5	< 1	8
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	< 1	< 1	0	< 1	< 1	< 1
Other invertebrates	1	< 1	< 1	< 1	< 1	2	< 1
Total catch (kg)	398	376	642	379	94	298	335

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	130	131	132	133	134	135	136
Start date & time	06/18/01 07	06/18/01 08	06/18/01 13	06/18/01 15	06/18/01 19	06/19/01 07	06/21/01 19
Start latitude	N 5728.44	N 5729.22	N 5753.38	N 5755.65	N 5754.24	N 5802.03	N 5707.19
Start longitude	W 15441.90	W 15451.68	W 15454.59	W 15447.64	W 15410.01	W 15313.98	W 15217.87
End latitude	N 5727.86	N 5728.44	N 5753.80	N 5755.33	N 5753.54	N 5802.16	N 5707.98
End longitude	W 15442.86	W 15451.63	W 15453.24	W 15448.98	W 15410.48	W 15315.54	W 15217.51
Bottom depth (m)	64	212	189	121	201	49	79
Duration (minutes)	16.8	16.2	17.4	15.6	15.6	16.8	15
Distance fished (km)	1.549	1.488	1.624	1.477	1.436	1.59	1.424
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	6	11	114	3	4	0
Walleye pollock	1	7	14	0	24	7	0
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	2	0	0	3	0	0
Shortspine thornyhead	0	0	0	0	< 1	0	0
Light dusky rockfish	0	0	0	2	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	94	0	0	5	1	0
Arrowtooth flounder	63	308	299	6991	84	59	3
Pacific halibut	92	25	30	283	0	24	18
Northern rock sole	2	0	0	0	0	14	< 1
Southern rock sole	8	0	0	0	0	74	28
Flathead sole	28	6	12	6	6	17	0
Rex sole	0	< 1	4	5	< 1	< 1	0
Dover sole	0	1	21	4	0	< 1	0
Yellowfin sole	0	0	0	0	0	21	0
Other flatfish	51	0	0	0	0	145	0
Salmon	2	0	0	0	0	0	0
Skate unident.	12	0	36	50	26	0	0
Shark unident.	0	0	20	116	0	0	0
Yellow Irish Lord	0	0	< 1	4	0	11	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	10	0
Other sculpins	0	0	< 1	0	< 1	< 1	0
Smelts	0	69	36	< 1	31	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	9	< 1	< 1	< 1	0
Bairdi Tanner crab	0	< 1	< 1	< 1	< 1	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	< 1	2	< 1	3	0	0
Sidestripe shrimp	0	6	5	0	4	0	0
Scallop unident.	< 1	0	0	0	0	0	< 1
Magistrate armhook squid	0	1	0	0	< 1	0	0
Sponges	0	0	< 1	< 1	0	< 1	< 1
Starfish	< 1	0	< 1	< 1	< 1	18	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	< 1	< 1	< 1	< 1	< 1	< 1
Other invertebrates	< 1	2	2	6	< 1	16	3
Total catch (kg)	259	529	503	7583	192	424	54

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	137	138	139	140	142	143	144
Start date & time	06/22/01 06	06/22/01 09	06/22/01 11	06/22/01 16	06/23/01 06	06/23/01 10	06/23/01 13
Start latitude	N 5659.11	N 5643.47	N 5639.98	N 5630.88	N 5654.86	N 5655.89	N 5642.99
Start longitude	W 15154.03	W 15209.82	W 15217.80	W 15209.95	W 15203.12	W 15215.54	W 15236.74
End latitude	N 5658.36	N 5644.03	N 5639.72	N 5631.34	N 5655.20	N 5655.41	N 5643.76
End longitude	W 15153.35	W 15208.86	W 15218.99	W 15208.86	W 15204.70	W 15216.76	W 15236.92
Bottom depth (m)	83	78	61	130	85	77	103
Duration (minutes)	16.2	15.6	15	15	19.2	16.8	16.2
Distance fished (km)	1.595	1.463	1.335	1.427	1.689	1.543	1.47
Performance	0	0	1	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	25	7	0	0	3	< 1	2
Walleye pollock	0	0	0	0	< 1	0	0
Pacific ocean perch	0	0	0	2	88	0	0
Northern rockfish	0	0	< 1	0	30	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	16	0	0
Other rockfish	0	0	0	0	2	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	0	< 1	0	16	1	< 1	742
Pacific halibut	84	49	94	12	78	44	63
Northern rock sole	2	4	0	0	< 1	0	0
Southern rock sole	70	39	0	16	7	2	0
Flathead sole	0	0	0	0	0	0	< 1
Rex sole	0	0	0	0	0	0	7
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	11	30	0	10	0	0	< 1
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	< 1	0	< 1	< 1	0
Smelts	< 1	< 1	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	11	< 1	3	< 1	< 1
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	< 1	< 1	< 1	< 1	< 1	< 1	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	0	1	0	< 1	< 1	0
Starfish	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	< 1	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	< 1	< 1	< 1	< 1	< 1
Other invertebrates	13	2	< 1	2	3	2	1
Total catch (kg)	206	133	108	59	235	50	816

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	145	146	147	148	149	150	151
Start date & time	06/23/01 16	06/23/01 19	06/24/01 07	06/24/01 10	06/24/01 15	06/24/01 16	06/24/01 20
Start latitude	N 5632.86	N 5629.04	N 5628.66	N 5632.89	N 5619.17	N 5620.13	N 5628.95
Start longitude	W 15255.32	W 15230.26	W 15207.06	W 15224.11	W 15306.16	W 15309.77	W 15319.24
End latitude	N 5633.07	N 5629.86	N 5629.15	N 5632.71	N 5618.75	N 5620.30	N 5629.30
End longitude	W 15256.77	W 15230.07	W 15206.04	W 15222.62	W 15304.94	W 15308.42	W 15317.92
Bottom depth (m)	89	297	366	251	166	64	75
Duration (minutes)	16.8	16.8	15	17.4	15.6	16.2	16.2
Distance fished (km)	1.558	1.555	1.418	1.583	1.471	1.457	1.522
Performance	0	0	0	0	0	1	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	133	0	0	0	6	14	2
Walleye pollock	0	0	0	6	2	0	< 1
Pacific ocean perch	0	0	< 1	20	24	0	0
Northern rockfish	0	0	0	3	8	0	0
Shortraker rockfish	0	10	59	15	0	0	0
Rougeye rockfish	0	0	41	2	0	0	0
Shortspine thornyhead	0	53	32	62	10	< 1	0
Light dusky rockfish	0	0	0	0	1	0	0
Other rockfish	0	0	0	4	0	0	0
Sablefish	0	10	30	76	9	0	0
Arrowtooth flounder	286	105	45	94	43	61	28
Pacific halibut	14	7	15	0	0	30	11
Northern rock sole	2	0	0	0	0	49	7
Southern rock sole	9	0	0	0	0	46	17
Flathead sole	6	0	0	6	3	0	0
Rex sole	< 1	55	2	19	16	0	0
Dover sole	0	48	6	40	6	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	< 1	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	6
Skate unident.	19	0	0	0	< 1	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	< 1	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	3	0	0	9
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	< 1	< 1	0	< 1	0
Smelts	0	< 1	0	0	0	0	0
Giant grenadier	0	0	52	0	0	0	0
Other fish	< 1	< 1	0	0	0	8	< 1
Bairdi Tanner crab	< 1	0	0	< 1	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	< 1	0	0
Sidestripe shrimp	0	< 1	< 1	< 1	< 1	0	0
Scallop unident.	< 1	< 1	0	0	0	< 1	< 1
Magistrate armhook squid	0	< 1	6	1	3	0	0
Sponges	< 1	< 1	0	0	0	< 1	< 1
Starfish	< 1	< 1	< 1	< 1	< 1	< 1	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	< 1	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	< 1	0	< 1	< 1
Other invertebrates	< 1	7	1	5	< 1	23	1
Total catch (kg)	471	296	290	360	132	232	82

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	152	153	154	155	156	157	158
Start date & time	06/25/01 07	06/25/01 10	06/25/01 13	06/25/01 16	06/25/01 19	06/26/01 06	06/26/01 11
Start latitude	N 5617.84	N 5612.14	N 5608.47	N 5621.33	N 5614.55	N 5602.89	N 5555.66
Start longitude	W 15309.48	W 15340.46	W 15358.70	W 15423.26	W 15433.22	W 15414.15	W 15453.54
End latitude	N 5618.20	N 5611.98	N 5608.01	N 5620.77	N 5614.50	N 5602.53	N 5554.50
End longitude	W 15310.81	W 15339.14	W 15357.61	W 15422.27	W 15431.89	W 15415.37	W 15454.79
Bottom depth (m)	256	117	179	64	91	135	269
Duration (minutes)	18	15	15.6	16.2	16.8	16.2	27.6
Distance fished (km)	1.555	1.424	1.454	1.487	1.436	1.457	2.592
Performance	0	0	0	0	1	0	6
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	1	686	15	2	0
Walleye pollock	3	0	0	< 1	1	0	2
Pacific ocean perch	30	38	101	0	0	3	4
Northern rockfish	0	35	0	0	53	1	0
Shortraker rockfish	189	0	0	0	0	0	7
Rougheye rockfish	74	0	0	0	0	0	20
Shortspine thornyhead	32	0	< 1	0	0	0	36
Light dusky rockfish	0	0	0	0	5	0	0
Other rockfish	5	2	0	0	0	0	< 1
Sablefish	94	0	11	0	0	0	100
Arrowtooth flounder	96	38	46	10	48	59	134
Pacific halibut	0	13	26	23	9	11	16
Northern rock sole	0	0	0	16	0	0	0
Southern rock sole	0	0	0	9	0	0	0
Flathead sole	6	0	0	0	0	0	0
Rex sole	31	< 1	26	0	5	6	63
Dover sole	5	0	0	0	0	0	94
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	1	0	0	62	0	0	0
Salmon	3	0	0	0	0	0	0
Skate unident.	0	0	0	0	0	< 1	< 1
Shark unident.	0	0	0	3	0	0	0
Yellow Irish Lord	0	0	0	0	5	0	0
Bigmouth sculpin	0	5	0	0	< 1	14	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	< 1	0	< 1	0	< 1
Smelts	0	0	0	< 1	< 1	0	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	1	27	5	< 1	0	< 1	< 1
Bairdi Tanner crab	< 1	< 1	0	0	0	< 1	0
Golden king crab	0	0	0	0	0	0	4
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	< 1	0	< 1	0	0	< 1	0
Scallop unident.	0	0	0	0	< 1	0	0
Magistrate armhook squid	1	< 1	0	0	0	0	3
Sponges	0	< 1	0	0	< 1	< 1	5
Starfish	1	< 1	< 1	0	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	0	0	0	< 1	< 1
Other invertebrates	1	1	1	< 1	33	2	26
Total catch (kg)	576	160	219	810	175	99	516



Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	159	160	161	162	163	164	165
Start date & time	06/26/01 14	06/26/01 19	06/27/01 07	06/27/01 08	06/27/01 11	06/27/01 13	06/27/01 18
Start latitude	N 5601.94	N 5541.97	N 5535.89	N 5535.05	N 5534.77	N 5528.83	N 5558.67
Start longitude	W 15459.88	W 15519.40	W 15543.40	W 15546.00	W 15557.01	W 15612.70	W 15549.07
End latitude	N 5601.46	N 5542.36	N 5535.90	N 5534.50	N 5533.100	N 5528.85	N 5558.01
End longitude	W 15500.58	W 15518.24	W 15542.35	W 15544.99	W 15556.79	W 15611.24	W 15548.17
Bottom depth (m)	87	179	145	187	193	208	61
Duration (minutes)	13.2	15	12.6	16.2	16.2	16.8	17.4
Distance fished (km)	1.175	1.436	1.105	1.506	1.483	1.636	1.58
Performance	0	0	6	0	0	0	0
Atka mackerel	1	0	0	0	0	0	0
Pacific cod	103	4	0	47	8	3	7
Walleye pollock	0	0	0	53	2	< 1	0
Pacific ocean perch	0	123	< 1	21	20	39	0
Northern rockfish	0	8	0	4	5	2	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	< 1	< 1	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	2	0	0	0	0	0
Other rockfish	0	3	0	0	0	0	0
Sablefish	0	18	0	1	5	13	0
Arrowtooth flounder	< 1	12	10	115	91	122	0
Pacific halibut	112	0	93	39	53	7	18
Northern rock sole	68	0	0	0	0	0	4
Southern rock sole	2	0	0	0	0	0	4
Flathead sole	0	0	0	< 1	2	5	0
Rex sole	0	15	0	28	13	50	0
Dover sole	0	0	0	16	4	12	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	< 1	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	< 1	< 1	< 1	< 1	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	0	0	0	0
Smelts	< 1	0	0	0	< 1	12	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	0	23	< 1	6	0	0
Bairdi Tanner crab	0	0	0	< 1	< 1	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	< 1	0	0	0
Sidestripe shrimp	0	< 1	0	< 1	< 1	< 1	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	< 1	< 1	9	< 1	< 1	< 1
Starfish	5	< 1	< 1	< 1	< 1	< 1	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	< 1	0	0	0
Snails	0	0	< 1	< 1	< 1	< 1	< 1
Other invertebrates	< 1	< 1	< 1	3	7	10	< 1
Total catch (kg)	292	187	128	338	217	277	33

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	166	167	168	169	170	171	172
Start date & time	06/28/01 07	06/28/01 09	06/28/01 12	06/28/01 19	06/29/01 06	06/29/01 10	06/29/01 14
Start latitude	N 5558.22	N 5603.27	N 5607.33	N 5612.78	N 5609.09	N 5621.90	N 5638.29
Start longitude	W 15536.98	W 15537.37	W 15537.45	W 15515.08	W 15522.63	W 15520.05	W 15506.19
End latitude	N 5558.24	N 5603.00	N 5608.03	N 5612.01	N 5608.46	N 5621.98	N 5637.62
End longitude	W 15536.91	W 15536.45	W 15538.12	W 15514.35	W 15521.86	W 15518.49	W 15505.36
Bottom depth (m)	27	49	56	32	37	46	46
Duration (minutes)	18.6	11.4	16.8	17.4	18.6	18	17.4
Distance fished (km)		1.087	1.513	1.638	1.454	1.63	1.548
Performance	-1	1	0	0	1	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	5	0	0	0	0	< 1
Walleye pollock	0	0	0	< 1	< 1	0	< 1
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	0	0	< 1	0	0	0	4
Pacific halibut	< 1	25	73	33	71	197	8
Northern rock sole	< 1	23	45	0	0	64	3
Southern rock sole	0	0	3	0	0	24	3
Flathead sole	0	0	0	0	0	0	0
Rex sole	0	0	0	0	0	0	0
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	< 1	0	0	0	0	3	25
Salmon	0	0	0	0	0	3	0
Skate unident.	< 1	0	9	0	19	346	75
Shark unident.	0	0	0	4	0	10	0
Yellow Irish Lord	1	< 1	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	0	< 1	0	< 1
Smelts	0	0	0	0	0	0	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	0	0	0	< 1	< 1	< 1
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	93	1	< 1	0	51	0	0
Starfish	2	0	0	3	1	0	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	< 1	< 1	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	< 1	< 1	0	< 1
Other invertebrates	94	21	17	< 1	12	< 1	< 1
Total catch (kg)	192	77	147	40	155	648	119

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	173	174	175	176	177	178	179
Start date & time	06/29/01 18	06/29/01 19	06/30/01 06	06/30/01 18	06/30/01 21	07/01/01 06	07/01/01 10
Start latitude	N 5652.58	N 5653.22	N 5655.49	N 5704.85	N 5647.95	N 5643.24	N 5637.37
Start longitude	W 15443.43	W 15442.31	W 15434.58	W 15354.49	W 15422.97	W 15415.66	W 15320.14
End latitude	N 5653.18	N 5653.87	N 5656.38	N 5704.33	N 5648.55	N 5643.03	N 5637.88
End longitude	W 15444.33	W 15443.25	W 15434.45	W 15355.49	W 15423.98	W 15414.13	W 15319.24
Bottom depth (m)	72	47	31	179	63	24	146
Duration (minutes)	15.6	17.4	18.6	15.6	17.4	18.6	14.4
Distance fished (km)	1.472	1.58	1.679	1.442	1.552	1.634	1.344
Performance	-3	1	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	30	0	0	7	4	438	0
Walleye pollock	22	0	0	190	169	435	0
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	< 1	0	0	< 1
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	1	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	69	0	0	20	18	47	349
Pacific halibut	47	244	34	14	12	204	0
Northern rock sole	5	< 1	< 1	0	0	22	0
Southern rock sole	5	21	3	1	0	38	0
Flathead sole	50	0	0	53	46	< 1	34
Rex sole	3	0	0	< 1	< 1	0	< 1
Dover sole	< 1	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	< 1	0	0
Other flatfish	14	0	0	3	11	17	0
Salmon	0	0	0	< 1	0	0	0
Skate unident.	0	0	0	0	0	0	7
Shark unident.	0	0	0	0	0	9	0
Yellow Irish Lord	11	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	< 1	0	0	< 1
Great sculpin	28	0	0	2	< 1	0	0
Other sculpins	< 1	< 1	0	4	< 1	0	< 1
Smelts	< 1	0	0	< 1	< 1	0	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	1	< 1	133	6	1511	< 1
Bairdi Tanner crab	8	< 1	0	5	< 1	< 1	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	4	1	0	3
Sidestripe shrimp	0	0	0	3	0	0	0
Scallop unident.	8	2	0	0	43	3	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	2	< 1	< 1	0	< 1	< 1
Starfish	< 1	2	0	< 1	10	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	1	2	0	< 1	< 1	< 1	0
Other invertebrates	10	7	11	18	7	2	< 1
Total catch (kg)	314	282	50	461	330	2728	396

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	180	181	182	183	184	185	186
Start date & time	07/01/01 12	07/01/01 14	07/01/01 16	07/01/01 18	07/02/01 10	07/02/01 13	07/02/01 16
Start latitude	N 5642.09	N 5650.84	N 5652.65	N 5648.11	N 5646.74	N 5703.97	N 5655.99
Start longitude	W 15309.86	W 15307.34	W 15319.48	W 15328.41	W 15345.98	W 15336.41	W 15323.69
End latitude	N 5642.59	N 5651.65	N 5653.37	N 5648.76	N 5647.26	N 5704.53	N 5655.53
End longitude	W 15308.78	W 15307.14	W 15318.83	W 15329.26	W 15344.89	W 15336.19	W 15322.55
Bottom depth (m)	151	78	174	82	78	80	79
Duration (minutes)	16.2	16.8	16.8	16.8	16.2	12	15.6
Distance fished (km)	1.469	1.537	1.544	1.517	1.493	1.096	1.472
Performance	0	0	0	1	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	149	1	33	8	12
Walleye pollock	< 1	< 1	174	< 1	119	363	0
Pacific ocean perch	0	0	0	12	0	0	0
Northern rockfish	0	0	0	393	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	5	0	2	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	926	0	0	0
Other rockfish	0	0	0	9	0	0	0
Sablefish	0	0	5	0	< 1	0	1
Arrowtooth flounder	294	11	454	8	15	22	43
Pacific halibut	35	12	78	59	5	8	22
Northern rock sole	0	2	0	0	37	0	23
Southern rock sole	0	20	0	26	42	5	144
Flathead sole	39	0	2	0	11	156	< 1
Rex sole	2	0	14	0	0	0	< 1
Dover sole	0	0	5	0	0	0	0
Yellowfin sole	0	0	0	0	5	45	0
Other flatfish	0	0	0	0	28	0	< 1
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	12	0	0	0	15
Shark unident.	0	0	0	15	7	0	4
Yellow Irish Lord	0	0	10	1	0	< 1	0
Bigmouth sculpin	< 1	0	< 1	0	0	0	0
Great sculpin	0	0	2	0	3	12	0
Other sculpins	< 1	0	5	< 1	0	< 1	0
Smelts	< 1	0	1	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	< 1	13	1	2	0
Bairdi Tanner crab	< 1	0	< 1	0	0	< 1	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	2	0	12	0	0	< 1	0
Sidestripe shrimp	< 1	0	0	0	0	0	0
Scallop unident.	< 1	< 1	3	< 1	0	0	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	0	28	< 1	0	0	0
Starfish	2	< 1	2	< 1	0	2	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	12	0	0	0
Snails	< 1	0	1	< 1	0	0	0
Other invertebrates	2	1	8	3	2	12	2
Total catch (kg)	385	47	968	1480	309	636	267

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	187	188	189	190	191	192	193
Start date & time	07/02/01 19	07/03/01 06	07/03/01 10	07/03/01 11	07/03/01 16	07/03/01 18	07/04/01 16
Start latitude	N 5658.33	N 5703.51	N 5720.74	N 5726.09	N 5730.73	N 5733.23	N 5751.38
Start longitude	W 15303.59	W 15309.29	W 15235.67	W 15239.17	W 15204.27	W 15205.95	W 15209.20
End latitude	N 5657.54	N 5704.21	N 5721.52	N 5725.52	N 5731.28	N 5733.93	N 5751.39
End longitude	W 15304.51	W 15308.55	W 15235.30	W 15238.18	W 15203.13	W 15205.15	W 15208.13
Bottom depth (m)	134	36	35	104	70	79	75
Duration (minutes)	19.2	16.8	16.8	16.2	16.8	16.2	12
Distance fished (km)	1.788	1.538	1.526	1.484	1.564	1.538	1.072
Performance	0	0	0	0	0	0	5
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	19	0	0	79	86	12	2
Walleye pollock	62	0	0	998	0	0	< 1
Pacific ocean perch	0	0	0	0	0	0	< 1
Northern rockfish	0	0	0	0	0	0	12
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	4	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	< 1	0	0	0	0	0	< 1
Other rockfish	0	0	0	< 1	0	0	< 1
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	403	0	< 1	282	357	53	13
Pacific halibut	0	15	28	5	14	9	12
Northern rock sole	0	4	1	0	114	99	1
Southern rock sole	0	18	6	0	116	81	110
Flathead sole	238	0	0	118	0	3	0
Rex sole	54	0	0	< 1	0	< 1	< 1
Dover sole	6	0	0	< 1	0	2	0
Yellowfin sole	0	0	0	3	0	0	0
Other flatfish	< 1	< 1	14	14	8	4	< 1
Salmon	0	0	0	0	0	0	0
Skate unident.	0	25	0	41	18	0	0
Shark unident.	3	0	0	2	0	0	0
Yellow Irish Lord	1	0	0	1	0	0	< 1
Bigmouth sculpin	0	0	0	4	0	0	0
Great sculpin	0	0	0	11	0	0	0
Other sculpins	< 1	< 1	0	4	< 1	< 1	< 1
Smelts	< 1	0	0	1	0	0	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	9	3	< 1	4	< 1	< 1	2
Bairdi Tanner crab	< 1	0	0	78	< 1	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	6	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	< 1	0	0	0	< 1	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	< 1	0	0	< 1	< 1	< 1
Starfish	1	< 1	< 1	< 1	18	7	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	6	< 1	< 1	0
Other invertebrates	3	3	2	11	20	14	7
Total catch (kg)	802	70	52	1672	753	286	164

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	194	195	196	197	198	199	200
Start date & time	07/04/01 18	07/04/01 21	07/05/01 09	07/05/01 11	07/05/01 13	07/05/01 14	07/05/01 17
Start latitude	N 5748.58	N 5801.43	N 5746.52	N 5751.39	N 5757.50	N 5801.78	N 5803.81
Start longitude	W 15213.76	W 15154.77	W 15252.45	W 15248.79	W 15231.24	W 15229.44	W 15228.56
End latitude	N 5748.29	N 5800.69	N 5747.29	N 5751.81	N 5758.08	N 5801.12	N 5803.37
End longitude	W 15215.18	W 15155.45	W 15252.13	W 15247.47	W 15230.12	W 15230.44	W 15229.51
Bottom depth (m)	56	176	45	30	58	197	186
Duration (minutes)	18	17.4	16.8	16.8	16.8	18.6	13.8
Distance fished (km)	1.552	1.562	1.451	1.554	1.565	1.615	1.258
Performance	0	0	-6	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	6	0	0	7	2	11	37
Walleye pollock	2	8	22	0	30	63	41
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	< 1	10
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	39	2	< 1	0	5	0
Arrowtooth flounder	49	192	2	5	7	242	104
Pacific halibut	24	17	31	5	14	31	0
Northern rock sole	76	0	78	15	1	0	0
Southern rock sole	85	0	0	50	75	< 1	0
Flathead sole	0	40	198	7	0	151	123
Rex sole	0	< 1	< 1	0	< 1	3	0
Dover sole	< 1	0	0	0	1	2	2
Yellowfin sole	0	0	323	35	2	0	0
Other flatfish	< 1	0	494	7	0	0	0
Salmon	0	0	0	0	3	0	0
Skate unident.	11	33	0	0	0	16	22
Shark unident.	4	0	0	0	0	0	89
Yellow Irish Lord	< 1	0	0	2	2	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	17	0	4	0	0
Other sculpins	1	< 1	< 1	< 1	< 1	< 1	< 1
Smelts	0	18	0	0	0	16	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	< 1	< 1	0	< 1	< 1
Bairdi Tanner crab	0	2	1	0	0	10	1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	8	0	0	0	17	18
Sidestripe shrimp	0	2	0	0	0	1	1
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	< 1	0	0	0	0	0
Sponges	< 1	0	0	< 1	< 1	0	0
Starfish	2	< 1	< 1	2	5	2	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	0	< 1	< 1	< 1	0
Other invertebrates	54	9	1	3	4	< 1	< 1
Total catch (kg)	315	370	1170	140	152	575	451

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	201	202	203	204	205	206	207
Start date & time	07/06/01 06	07/06/01 08	07/08/01 17	07/09/01 07	07/09/01 09	07/09/01 12	07/09/01 15
Start latitude	N 5742.33	N 5739.18	N 5709.42	N 5725.84	N 5730.52	N 5742.42	N 5801.76
Start longitude	W 15111.36	W 15106.010	W 15110.57	W 15029.11	W 15024.99	W 15019.28	W 15046.46
End latitude	N 5741.58	N 5738.44	N 5708.99	N 5726.46	N 5731.15	N 5741.92	N 5802.12
End longitude	W 15110.68	W 15105.72	W 15111.17	W 15028.13	W 15024.07	W 15020.53	W 15045.05
Bottom depth (m)	70	75	120	227	179	116	148
Duration (minutes)	16.8	16.2	10.8	16.8	16.8	17.4	17.4
Distance fished (km)	1.572	1.481	1.031	1.542	1.534	1.585	1.574
Performance	0	1	4.4	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	29	5	0	0	0	< 1	20
Walleye pollock	0	< 1	0	269	0	< 1	3
Pacific ocean perch	0	0	3095	275	228	2	39
Northern rockfish	0	0	13755	6	3	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	2	0	0	0
Light dusky rockfish	0	0	255	0	0	0	0
Other rockfish	0	0	61	3	0	0	0
Sablefish	0	0	0	31	150	0	10
Arrowtooth flounder	62	4	0	6	30	6	538
Pacific halibut	32	3	21	11	21	8	12
Northern rock sole	36	10	0	0	0	0	0
Southern rock sole	116	29	0	0	0	0	1
Flathead sole	0	0	0	< 1	4	0	42
Rex sole	0	0	0	< 1	12	0	44
Dover sole	0	0	0	7	< 1	0	22
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	2	0	0	0	4	0	0
Skate unident.	90	0	0	0	0	22	2
Shark unident.	17	8	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	10
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	< 1	0	0	0
Smelts	0	< 1	0	0	0	0	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	0	0	0	< 1	0
Bairdi Tanner crab	< 1	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	< 1
Sidestripe shrimp	0	0	0	< 1	0	0	0
Scallop unident.	0	0	0	0	0	< 1	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	4	0	0	0	0	0
Starfish	1	8	< 1	0	0	0	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	0	0	0	0	< 1	0
Other invertebrates	2	28	< 1	6	7	3	2
Total catch (kg)	387	99	17188	615	460	42	746

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	208	209	210	211	212	213	214
Start date & time	07/09/01 17	07/10/01 06	07/10/01 09	07/10/01 13	07/10/01 15	07/10/01 17	07/10/01 20
Start latitude	N 5802.41	N 5811.45	N 5812.69	N 5808.08	N 5818.27	N 5823.10	N 5818.38
Start longitude	W 15049.66	W 15109.62	W 15100.06	W 15040.01	W 15017.71	W 15004.94	W 14946.11
End latitude	N 5802.58	N 5811.43	N 5813.37	N 5807.78	N 5818.07	N 5823.45	N 5818.86
End longitude	W 15048.20	W 15108.32	W 15100.91	W 15038.59	W 15016.30	W 15006.15	W 14947.47
Bottom depth (m)	147	158	109	125	55	68	83
Duration (minutes)	16.2	13.8	18	17.4	16.2	16.2	18.6
Distance fished (km)	1.49	1.289	1.558	1.537	1.481	1.394	1.638
Performance	0	1.12	0	0	0	1.12	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	86	21	1	85	0	0	0
Walleye pollock	662	2	0	0	0	0	0
Pacific ocean perch	940	0	423	4	0	0	0
Northern rockfish	0	0	0	12	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	2	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	1	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	541	102	1445	3	0	0	0
Arrowtooth flounder	488	1051	2380	229	0	0	0
Pacific halibut	47	19	0	71	185	410	1211
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	2	0	0	0	0
Flathead sole	15	21	< 1	15	0	0	0
Rex sole	22	5	0	25	0	0	0
Dover sole	41	22	0	2	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	< 1	0	0	0
Salmon	0	4	0	0	0	0	0
Skate unident.	0	0	0	0	42	0	6
Shark unident.	4	5	0	0	33	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	7	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	0	0	< 1	< 1	0
Smelts	1	< 1	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	0	0	< 1	0	46	8
Bairdi Tanner crab	0	< 1	0	< 1	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	1	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	< 1	0	0	< 1	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	0	0	0	0	7	< 1
Starfish	< 1	< 1	< 1	< 1	< 1	1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	< 1	0	0	0	0	0
Snails	< 1	2	0	0	< 1	< 1	< 1
Other invertebrates	< 1	1	1	4	2	20	< 1
Total catch (kg)	2854	1259	4253	451	262	485	1226



Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	215	216	217	218	219	220	221
Start date & time	07/11/01 06	07/11/01 09	07/11/01 12	07/11/01 14	07/11/01 16	07/11/01 19	07/12/01 07
Start latitude	N 5820.96	N 5838.12	N 5838.61	N 5834.51	N 5844.21	N 5849.33	N 5848.22
Start longitude	W 14944.62	W 14959.74	W 15023.72	W 15030.35	W 15041.15	W 15028.74	W 15010.08
End latitude	N 5820.54	N 5837.55	N 5839.08	N 5834.85	N 5844.45	N 5849.37	N 5848.38
End longitude	W 14943.28	W 14958.66	W 15024.92	W 15031.78	W 15042.67	W 15030.35	W 15008.60
Bottom depth (m)	125	128	179	181	183	168	167
Duration (minutes)	17.4	18	16.8	16.8	16.8	16.8	17.4
Distance fished (km)	1.569	1.523	1.491	1.536	1.554	1.575	1.492
Performance	0	0	1.11	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	64	5	6	0	49	24	0
Walleye pollock	0	< 1	2	6	2	5	5
Pacific ocean perch	0	< 1	5	0	3	259	271
Northern rockfish	0	0	0	0	0	3	< 1
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	2	0	0	0	7
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	2	2	4
Other rockfish	0	0	< 1	0	< 1	0	14
Sablefish	0	0	14	71	159	224	49
Arrowtooth flounder	1931	30	352	165	1927	129	58
Pacific halibut	77	76	0	6	0	0	29
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0
Flathead sole	5	0	2	15	1	0	0
Rex sole	24	9	2	1	8	13	5
Dover sole	22	< 1	18	0	11	2	3
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	10	0	23	5	12	2	0
Shark unident.	0	0	2	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	8	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	< 1	0	< 1	0
Smelts	< 1	0	161	77	0	0	13
Giant grenadier	0	0	0	0	0	0	0
Other fish	2	0	< 1	< 1	0	< 1	1
Bairdi Tanner crab	0	0	< 1	< 1	< 1	< 1	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	< 1	< 1	1	< 1	< 1	< 1
Sidestripe shrimp	0	0	2	2	< 1	< 1	< 1
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	< 1	< 1	< 1	0	0
Sponges	< 1	0	< 1	< 1	2	2	14
Starfish	< 1	< 1	< 1	2	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	0	< 1	0	< 1	< 1	0
Other invertebrates	< 1	< 1	3	< 1	19	8	< 1
Total catch (kg)	2137	123	604	353	2196	674	474

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	222	223	224	225	226	227	228
Start date & time	07/12/01 11	07/12/01 14	07/12/01 16	07/12/01 19	07/13/01 09	07/13/01 10	07/13/01 12
Start latitude	N 5856.100	N 5854.49	N 5851.94	N 5838.74	N 5812.35	N 5815.80	N 5820.100
Start longitude	W 14942.32	W 14916.53	W 14921.91	W 14920.57	W 14852.93	W 14852.05	W 14837.21
End latitude	N 5857.42	N 5854.29	N 5851.88	N 5838.41	N 5812.56	N 5815.58	N 5821.71
End longitude	W 14941.01	W 14917.99	W 14923.39	W 14921.92	W 14852.72	W 14853.51	W 14836.68
Bottom depth (m)	230	227	220	134	131	136	147
Duration (minutes)	16.8	16.2	15.6	15.6	13.2	16.8	15.6
Distance fished (km)	1.504	1.476	1.447	1.469	0.705	1.513	1.441
Performance	0	0	0	0	-1.2	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	285	0	0	0
Walleye pollock	17	3	9	434	0	0	< 1
Pacific ocean perch	3	39	14	7966	4	< 1	< 1
Northern rockfish	0	0	0	169	0	0	0
Shortraker rockfish	0	26	3	0	0	0	0
Rougeye rockfish	3	16	5	0	0	0	0
Shortspine thornyhead	6	28	23	0	0	0	0
Light dusky rockfish	0	0	0	16	0	0	0
Other rockfish	0	< 1	0	0	0	< 1	0
Sablefish	27	56	12	0	0	0	0
Arrowtooth flounder	12	40	22	11	6	36	84
Pacific halibut	0	0	0	19	0	13	20
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	2	6	0
Flathead sole	< 1	0	< 1	8	0	0	0
Rex sole	< 1	< 1	< 1	19	0	< 1	< 1
Dover sole	4	3	0	16	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	1	0	0	8	0
Skate unident.	0	2	0	0	0	0	4
Shark unident.	2	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	0	0	0	0	0
Smelts	128	33	11	0	0	< 1	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	< 1	0	< 1	< 1	< 1
Bairdi Tanner crab	0	0	< 1	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	< 1	< 1	0	0	0	0
Sidestripe shrimp	< 1	1	2	0	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	10	< 1	< 1	0	0	0	0
Sponges	0	0	0	0	1	< 1	< 1
Starfish	< 1	< 1	< 1	0	0	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	7	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	0	0	< 1	0
Other invertebrates	23	24	53	0	1	3	2
Total catch (kg)	237	274	156	8943	16	74	111

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	229	230	231	232	233	234	235
Start date & time	07/13/01 13	07/13/01 16	07/14/01 06	07/14/01 09	07/14/01 11	07/14/01 15	07/14/01 16
Start latitude	N 5826.15	N 5839.39	N 5856.95	N 5850.07	N 5848.38	N 5903.77	N 5908.96
Start longitude	W 14842.53	W 14836.42	W 14848.01	W 14821.27	W 14809.82	W 14758.24	W 14806.13
End latitude	N 5826.96	N 5839.37	N 5856.21	N 5850.05	N 5847.66	N 5903.36	N 5908.28
End longitude	W 14842.59	W 14837.60	W 14847.33	W 14819.73	W 14809.100	W 14756.95	W 14805.41
Bottom depth (m)	126	224	275	277	448	147	156
Duration (minutes)	18	13.2	16.8	16.2	16.8	16.2	16.2
Distance fished (km)	1.558	1.15	1.546	1.505	1.389	1.475	1.478
Performance	1.2	0	0	0	4.1	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	0	0	0	57
Walleye pollock	< 1	7	< 1	0	0	0	0
Pacific ocean perch	0	441	< 1	532	12	0	4
Northern rockfish	32	< 1	0	0	0	0	0
Shortraker rockfish	0	0	0	0	6	0	0
Rougeye rockfish	1	4	68	6	77	0	0
Shortspine thornyhead	0	12	19	15	28	0	0
Light dusky rockfish	9	1	0	0	0	0	0
Other rockfish	56	< 1	0	0	0	7	0
Sablefish	0	382	6	13	329	0	15
Arrowtooth flounder	0	43	12	4	2	289	337
Pacific halibut	4	1	0	10	0	56	0
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	< 1	0	0	0	0	0	0
Flathead sole	0	0	< 1	0	0	0	0
Rex sole	0	12	0	4	3	< 1	5
Dover sole	0	6	1	24	17	0	< 1
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	3	0	0
Salmon	0	0	0	0	0	2	0
Skate unident.	< 1	0	< 1	0	2	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	0	0	< 1	0	0
Smelts	0	0	7	0	0	0	0
Giant grenadier	0	0	0	0	790	0	0
Other fish	45	< 1	0	< 1	< 1	5	3
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	< 1	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	< 1	0	0	0	< 1
Sidestripe shrimp	0	< 1	< 1	< 1	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	< 1	< 1	0	0	0
Sponges	< 1	3	0	< 1	2	1	< 1
Starfish	< 1	< 1	0	0	1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	0	< 1	< 1	0	0
Other invertebrates	7	3	12	4	13	< 1	12
Total catch (kg)	155	918	129	612	1286	363	434

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	236	237	238	239	240	241	242
Start date & time	07/14/01 19	07/15/01 06	07/15/01 10	07/15/01 13	07/15/01 17	07/16/01 07	07/16/01 08
Start latitude	N 5924.54	N 5903.04	N 5920.76	N 5926.71	N 5954.81	N 5923.53	N 5927.53
Start longitude	W 14805.04	W 14742.08	W 14707.100	W 14706.88	W 14724.01	W 14906.61	W 14904.35
End latitude	N 5924.22	N 5902.63	N 5919.98	N 5926.14	N 5954.03	N 5924.010	N 5927.41
End longitude	W 14806.41	W 14743.28	W 14708.50	W 14705.83	W 14724.10	W 14905.53	W 14902.90
Bottom depth (m)	182	391	196	212	54	209	198
Duration (minutes)	16.2	16.2	17.4	16.2	15.6	16.2	15
Distance fished (km)	1.455	1.405	1.564	1.485	1.468	1.491	1.404
Performance	1.11	4.1	0	0	0	1.1	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	2	0	0	0	86	0	0
Walleye pollock	< 1	0	2	10	2	20	5
Pacific ocean perch	6	3	5	2	0	< 1	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	79	0	8	0	0	0
Rougeye rockfish	0	82	2	169	0	24	24
Shortspine thornyhead	0	68	7	6	0	5	2
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	48	< 1	0	< 1	24	13
Arrowtooth flounder	106	20	7	5	58	94	92
Pacific halibut	0	0	0	0	0	0	0
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0
Flathead sole	0	0	0	0	8	16	15
Rex sole	6	8	< 1	< 1	9	22	5
Dover sole	4	47	2	< 1	5	20	12
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	31	0	0
Salmon	0	0	0	0	4	0	0
Skate unident.	2	0	2	0	0	16	2
Shark unident.	0	2	2	3	30	2	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	< 1	< 1	0	0	< 1	< 1
Smelts	0	0	10	5	< 1	67	38
Giant grenadier	0	1451	0	0	0	0	0
Other fish	0	3	< 1	1	14	< 1	< 1
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	< 1	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	0	< 1	< 1	0	< 1	1
Sidestripe shrimp	< 1	0	< 1	< 1	< 1	< 1	< 1
Scallop unident.	0	0	0	0	< 1	< 1	0
Magistrate armhook squid	0	< 1	< 1	< 1	0	< 1	0
Sponges	2	< 1	0	0	0	0	0
Starfish	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	< 1	0	0	0	0
Octopus	0	< 1	< 1	0	0	0	0
Snails	0	< 1	0	0	0	0	0
Other invertebrates	2	5	12	3	< 1	21	9
Total catch (kg)	130	1821	54	213	249	336	220

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	243	244	245	246	247	248	249
Start date & time	07/16/01 10	07/17/01 08	07/17/01 13	07/18/01 08	07/18/01 11	07/18/01 12	07/18/01 15
Start latitude	N 5925.23	N 5956.34	N 5951.99	N 5924.07	N 5903.19	N 5901.50	N 5855.46
Start longitude	W 14922.57	W 14905.69	W 14939.20	W 15028.99	W 15038.53	W 15049.16	W 15104.63
End latitude	N 5925.90	N 5956.07	N 5951.59	N 5924.73	N 5904.01	N 5901.86	N 5855.57
End longitude	W 14921.59	W 14904.19	W 14940.60	W 15027.100	W 15038.56	W 15047.76	W 15104.23
Bottom depth (m)	145	75	89	239	110	161	156
Duration (minutes)	17.4	16.2	16.8	17.4	16.8	17.4	9.6
Distance fished (km)	1.576	1.51	1.525	1.575	1.53	1.531	0.627
Performance	1.11	0	0	0	0	0	-1.2
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	4	3	0	3	< 1	8	0
Walleye pollock	< 1	6	2	62	< 1	1	0
Pacific ocean perch	6	0	2	0	3	19	20
Northern rockfish	14	0	< 1	0	0	< 1	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	< 1	0	9	22	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	13	0	0	0	0	0	0
Other rockfish	11	0	0	0	0	0	0
Sablefish	1	1	2	10	0	6	7
Arrowtooth flounder	98	10	37	43	6	115	14
Pacific halibut	0	11	5	0	10	0	0
Northern rock sole	0	1	0	0	0	0	0
Southern rock sole	0	3	0	0	2	0	0
Flathead sole	0	6	43	16	2	0	0
Rex sole	10	6	2	3	0	10	4
Dover sole	4	6	< 1	0	0	6	< 1
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	9	1	0	0	0	0
Salmon	0	0	0	0	0	5	4
Skate unident.	12	< 1	0	17	10	0	0
Shark unident.	2	0	0	0	6	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	2	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	< 1	< 1	< 1	0	0
Smelts	0	< 1	< 1	22	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	10	63	< 1	< 1	0	< 1	0
Bairdi Tanner crab	0	0	< 1	2	< 1	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	0	1	2	0	2	0
Sidestripe shrimp	0	0	0	7	0	< 1	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	3	1	< 1	0
Sponges	18	< 1	< 1	0	0	< 1	< 1
Starfish	< 1	0	0	2	1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	4	0	0	0	0
Snails	0	0	0	0	< 1	< 1	0
Other invertebrates	2	< 1	33	17	3	6	6
Total catch (kg)	207	126	144	233	45	178	56

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	250	251	252	253	254	255	256
Start date & time	07/18/01 15	07/19/01 06	07/19/01 09	07/19/01 11	07/19/01 13	07/20/01 10	07/20/01 13
Start latitude	N 5856.11	N 5955.47	N 5931.85	N 5928.99	N 5934.40	N 5918.30	N 5900.90
Start longitude	W 15105.02	W 15209.56	W 15145.05	W 15144.47	W 15127.40	W 15239.10	W 15229.99
End latitude	N 5856.13	N 5956.19	N 5932.29	N 5929.47	N 5934.20	N 5917.50	N 5901.37
End longitude	W 15103.43	W 15209.27	W 15143.64	W 15142.88	W 15128.88	W 15238.53	W 15231.28
Bottom depth (m)	165	67	75	32	121	72	152
Duration (minutes)	16.8	21.6	17.4	17.4	15.6	18.6	16.8
Distance fished (km)	1.547	1.411	1.603	1.767	1.479	1.629	1.527
Performance	0	-5.1	0	0	0	5.1	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	6	0	0	0	27	20	36
Walleye pollock	0	0	44	0	139	4	126
Pacific ocean perch	10	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	1
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	< 1	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	33	0	< 1	0	2	< 1	4
Arrowtooth flounder	95	9	38	0	18	94	66
Pacific halibut	0	20	0	10	0	58	0
Northern rock sole	0	0	0	4	0	3	0
Southern rock sole	0	0	0	32	0	3	0
Flathead sole	0	0	31	0	61	0	35
Rex sole	10	0	36	0	12	0	9
Dover sole	3	0	< 1	0	0	0	16
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	20	3	2	105	0
Salmon	0	0	0	0	< 1	0	0
Skate unident.	0	0	18	0	43	37	8
Shark unident.	5	0	0	0	4	0	0
Yellow Irish Lord	0	< 1	< 1	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	3	0	0	0	0	0
Other sculpins	< 1	0	0	0	0	0	0
Smelts	0	0	< 1	0	< 1	0	5
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	30	< 1	8	0	< 1
Bairdi Tanner crab	0	0	< 1	0	9	2	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	< 1	0	< 1	0	< 1
Sidestripe shrimp	0	0	0	0	< 1	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	< 1	0	0
Sponges	3	< 1	< 1	< 1	0	0	0
Starfish	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	< 1	< 1	< 1	< 1	0
Other invertebrates	20	21	6	53	13	11	62
Total catch (kg)	185	54	226	102	341	337	369

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	257	258	259	260	261	262	263
Start date & time	07/20/01 15	07/20/01 19	07/21/01 11	07/21/01 14	07/21/01 16	07/21/01 18	07/22/01 06
Start latitude	N 5851.75	N 5828.19	N 5833.18	N 5826.35	N 5824.52	N 5832.93	N 5818.64
Start longitude	W 15249.51	W 15231.96	W 15212.85	W 15204.39	W 15224.26	W 15212.56	W 15206.16
End latitude	N 5852.32	N 5828.33	N 5832.74	N 5826.20	N 5825.24	N 5833.39	N 5819.05
End longitude	W 15250.43	W 15233.57	W 15212.42	W 15202.95	W 15223.59	W 15212.95	W 15205.77
Bottom depth (m)	173	27	57	126	131	60	111
Duration (minutes)	15	17.4	11.4	19.8	16.8	13.8	9.6
Distance fished (km)	1.413	1.612	0.964	1.468	1.532	0.978	0.868
Performance	1.2	0	-5.1	0	0	0	4.1
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	49	0	< 1	54	20	10	73
Walleye pollock	26	0	0	24	194	0	14
Pacific ocean perch	0	0	0	0	0	0	< 1
Northern rockfish	0	0	0	0	< 1	0	2
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	< 1	0	0	0	2	0	7
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	58
Other rockfish	0	0	0	0	0	0	1
Sablefish	7	0	0	0	0	0	0
Arrowtooth flounder	38	0	0	128	117	7	169
Pacific halibut	0	77	82	15	0	16	61
Northern rock sole	0	7	0	0	0	2	3
Southern rock sole	0	0	18	3	0	37	0
Flathead sole	3	0	0	7	236	< 1	56
Rex sole	3	0	0	< 1	4	0	2
Dover sole	4	0	0	2	0	0	4
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	1	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	2	0	0	0	0	20	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	42	0	< 1	< 1	0	12
Bigmouth sculpin	0	0	0	0	2	0	33
Great sculpin	0	2	0	0	10	0	0
Other sculpins	0	0	0	0	< 1	0	3
Smelts	24	0	3	0	< 1	< 1	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	< 1	0	7	9	2
Bairdi Tanner crab	0	0	0	0	9	< 1	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	0	0	0	8	0	1
Sidestripe shrimp	< 1	0	0	0	0	0	0
Scallop unident.	0	0	0	< 1	< 1	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	0	0	0	0	< 1	< 1
Starfish	< 1	1	< 1	< 1	3	< 1	5
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	0	0	< 1	< 1
Other invertebrates	18	20	2	10	26	5	149
Total catch (kg)	176	150	107	245	642	108	659

Fishing Log: F/V *Morning Star*, Cruise 2001-01.

Haul number	264	265	266	267	268
Start date & time	07/22/01 11	07/22/01 13	07/22/01 14	07/22/01 17	07/23/01 06
Start latitude	N 5843.31	N 5851.45	N 5852.12	N 5834.35	N 5826.78
Start longitude	W 15159.90	W 15206.01	W 15159.08	W 15159.70	W 15349.48
End latitude	N 5843.81	N 5851.16	N 5852.04	N 5833.52	N 5827.50
End longitude	W 15201.28	W 15204.94	W 15157.46	W 15159.58	W 15348.73
Bottom depth (m)	153	122	128	158	87
Duration (minutes)	18	20.4	19.2	17.4	16.8
Distance fished (km)	1.685	1.264	1.594	1.571	1.554
Performance	1.11	0	0	0	0
Atka mackerel	0	0	0	0	0
Pacific cod	4	19	4	8	5
Walleye pollock	18	0	0	35	31
Pacific ocean perch	0	0	0	0	0
Northern rockfish	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0
Light dusky rockfish	2	0	0	0	0
Other rockfish	0	0	0	0	0
Sablefish	10	0	0	17	0
Arrowtooth flounder	139	474	155	49	90
Pacific halibut	0	37	26	0	97
Northern rock sole	0	0	0	0	0
Southern rock sole	0	< 1	2	0	0
Flathead sole	0	0	0	5	67
Rex sole	3	0	< 1	4	< 1
Dover sole	0	< 1	< 1	4	0
Yellowfin sole	0	0	0	0	0
Other flatfish	0	0	0	0	0
Salmon	0	0	0	0	< 1
Skate unident.	15	0	0	0	44
Shark unident.	0	0	0	0	3
Yellow Irish Lord	1	0	0	0	0
Bigmouth sculpin	0	0	0	0	0
Great sculpin	0	0	0	0	0
Other sculpins	0	0	< 1	0	< 1
Smelts	0	0	0	8	16
Giant grenadier	0	0	0	0	0
Other fish	< 1	< 1	< 1	0	1
Bairdi Tanner crab	0	0	0	< 1	< 1
Golden king crab	0	0	0	0	0
Red king crab	0	0	0	0	0
Northern shrimp	< 1	0	0	< 1	4
Sidestripe shrimp	0	0	0	< 1	0
Scallop unident.	< 1	< 1	< 1	< 1	< 1
Magistrate armhook squid	0	0	0	0	0
Sponges	1	< 1	0	0	0
Starfish	< 1	< 1	< 1	< 1	0
Stony coral unident.	0	0	0	0	0
Soft coral	0	0	0	0	0
Octopus	0	0	0	0	0
Snails	< 1	< 1	< 1	0	1
Other invertebrates	19	6	< 1	11	4
Total catch (kg)	214	539	189	142	366

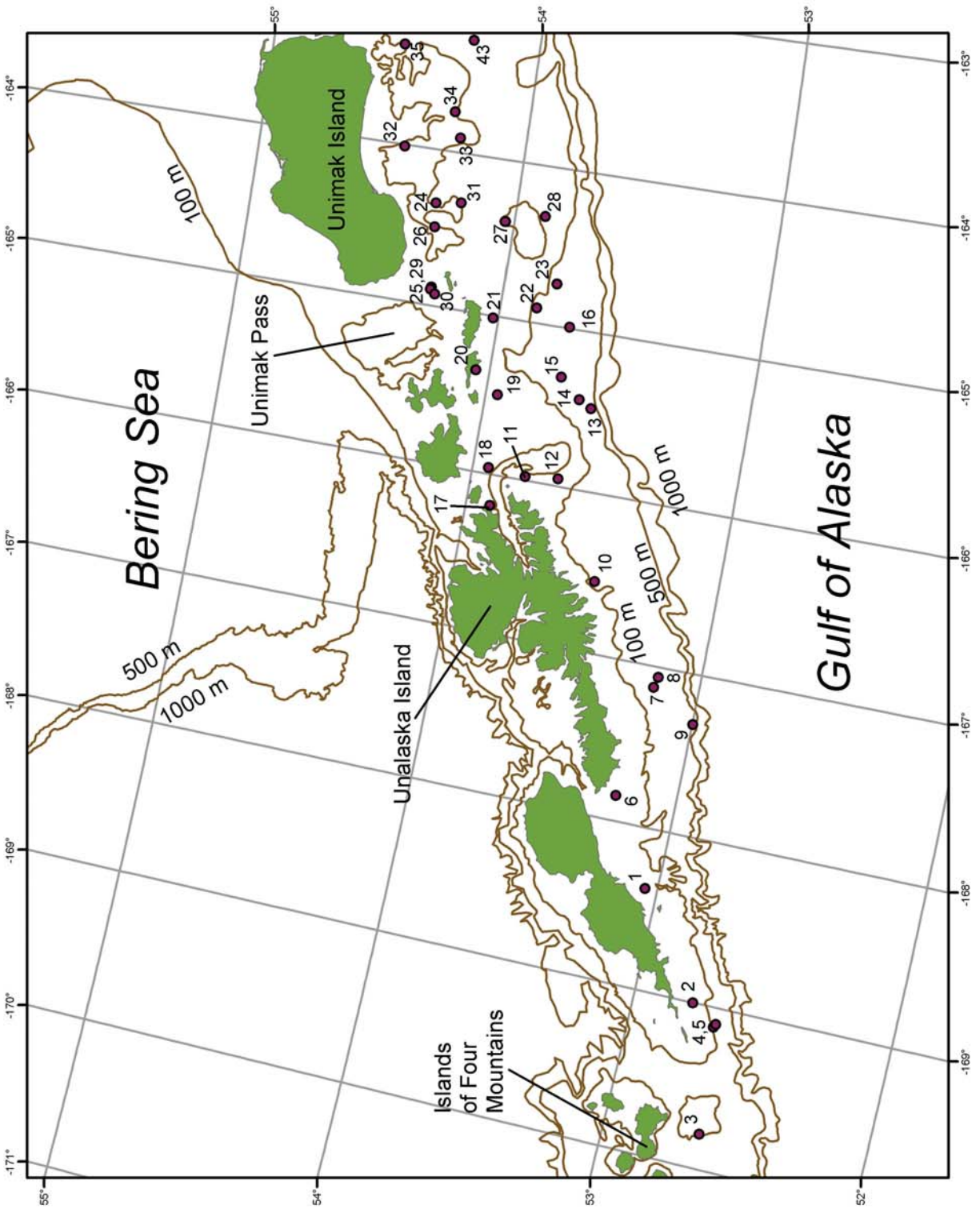


**Section 2**

**Fishing Log for the F/V *Vesteraalen***

- Station charts of haul numbers plotted adjacent to their respective geographical positions





**Figure 6.**---Stations surveyed by the chartered trawler F/V *Vestraalen* from the Islands of Four Mountains to Unimak Island.

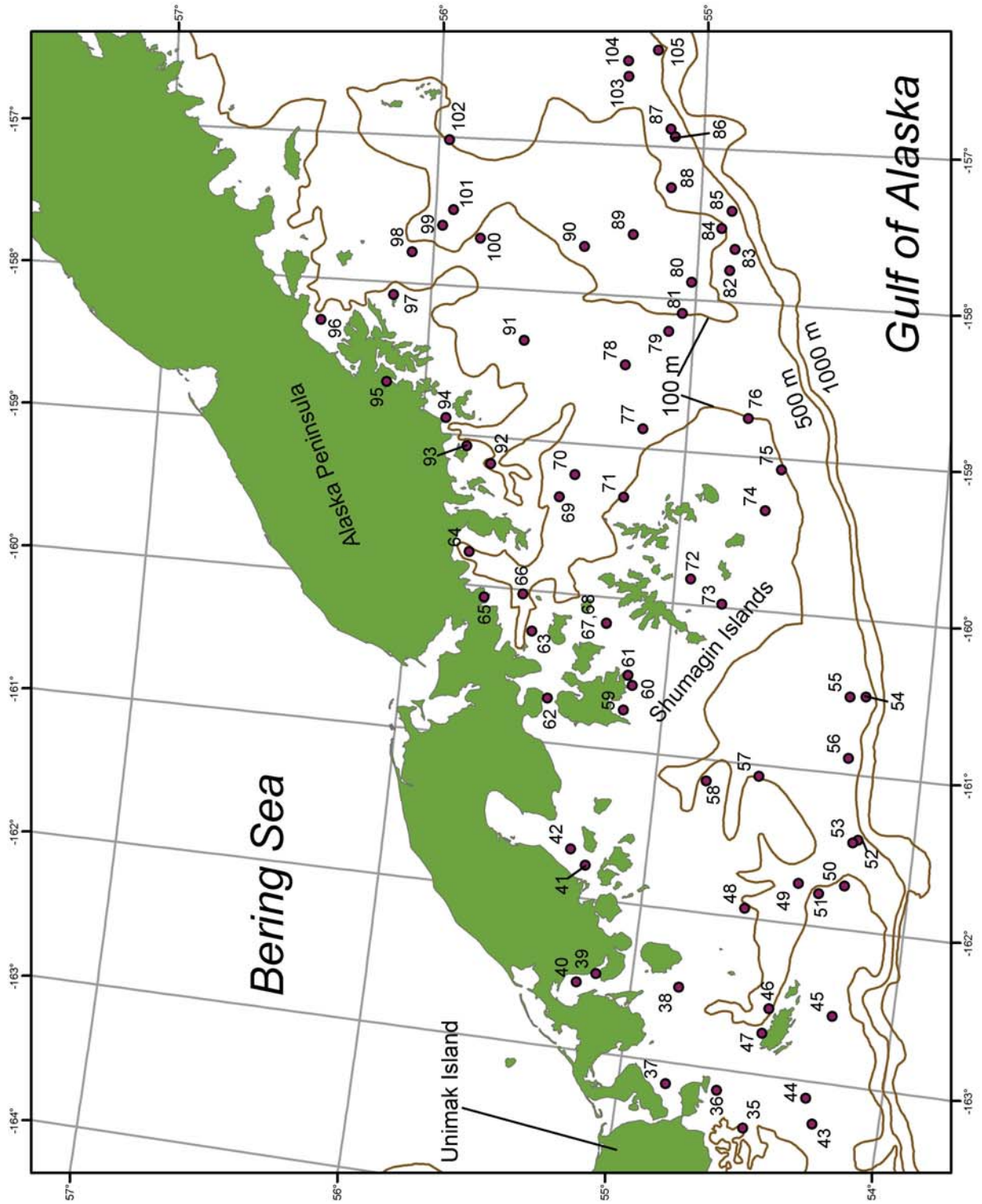


Figure 7.--Stations surveyed by the chartered trawler F/V *Vestraalen* in the vicinity of the western Alaska Peninsula.

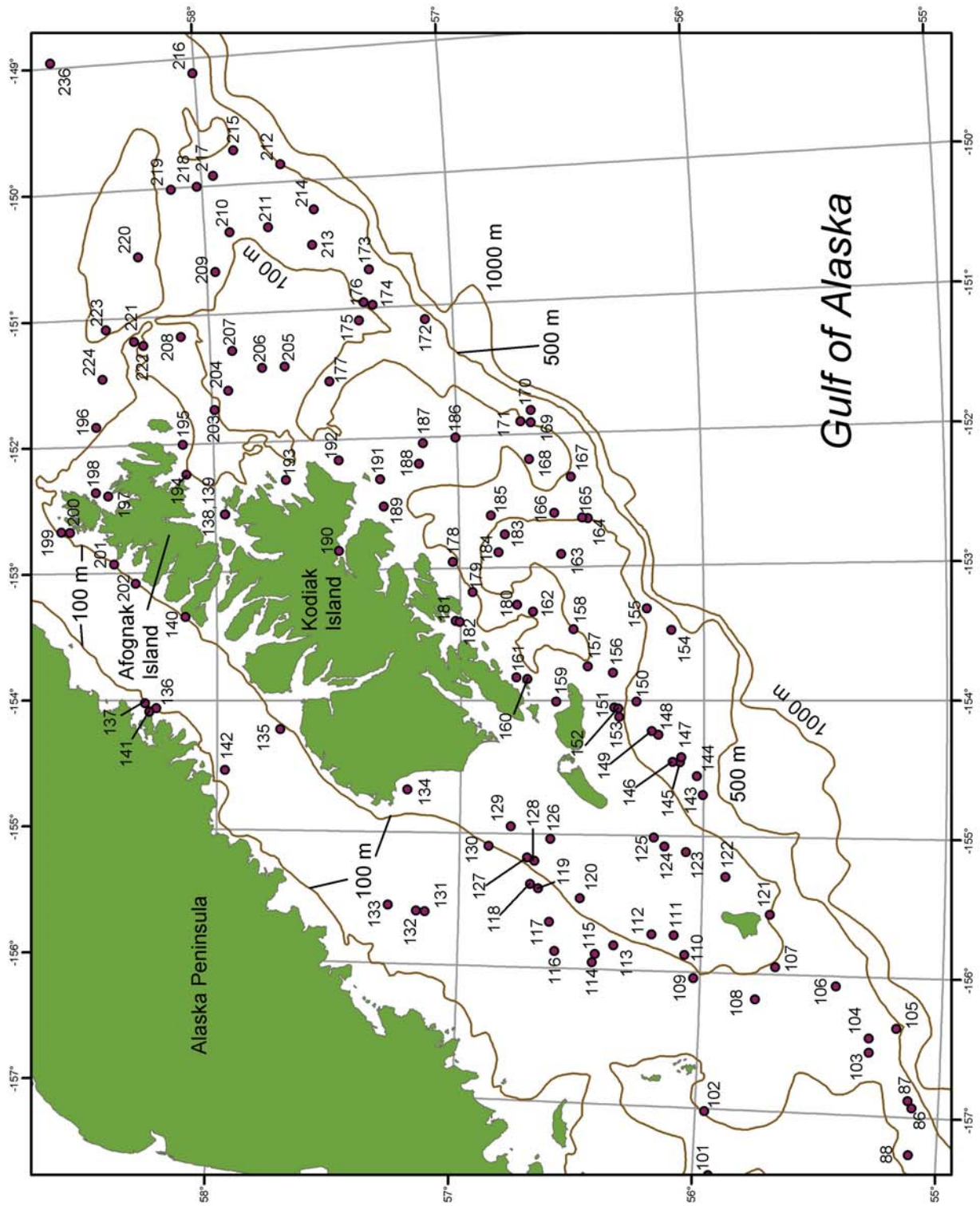
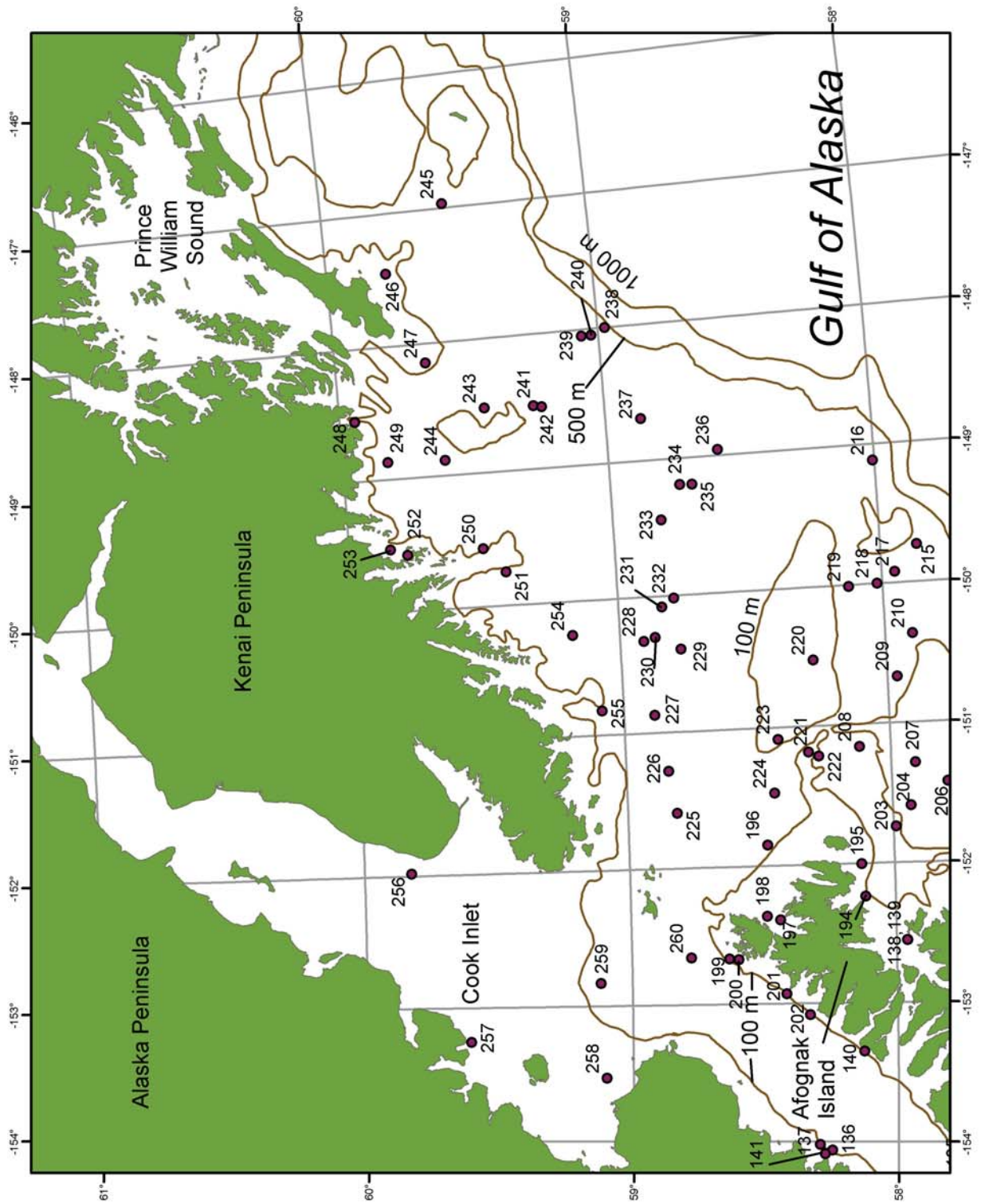


Figure 8.--Stations surveyed by the chartered trawler F/V *Vesterlaeten* in the vicinity of Kodiak Island.



**Figure 9.**--Stations surveyed by the chartered trawler F/V *Vesterdaalen* from Afognak Island to Prince William Sound.

**Section 2 (continued)****Fishing Log for the F/V *Vesteraalen***

- Summary listings of species catches by haul
- Haul start/end latitude and longitude in degrees, minutes, and decimal minutes
- Bottom depth in meters
- Duration of tow in minutes
- Distance fished in kilometers
- Catch weight in kilograms of principal species
- Total catch weight in kilograms of all species





Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	1	2	3	5	6	7	8
Start date & time	05/20/01 10	05/20/01 16	05/21/01 07	05/21/01 15	05/22/01 07	05/22/01 10	05/22/01 12
Start latitude	N 5302.82	N 5246.48	N 5238.21	N 5240.67	N 5313.76	N 5310.28	N 5309.69
Start longitude	W 16822.21	W 16900.03	W 16946.96	W 16907.03	W 16750.32	W 16707.76	W 16703.68
End latitude	N 5302.18	N 5245.71	N 5237.44	N 5240.85	N 5312.95	N 5310.15	N 5309.27
End longitude	W 16822.88	W 16900.06	W 16946.59	W 16906.19	W 16750.35	W 16709.08	W 16704.78
Bottom depth (m)	79	85	83	110	67	114	161
Duration (minutes)	16.2	16.2	16.8	19.8	16.8	16.2	16.8
Distance fished (km)	1.44	1.459	1.523	1.69	1.53	1.515	1.469
Performance	0	0	4.4	1	0	0	0
Atka mackerel	0	2	11219	0	0	0	0
Pacific cod	0	0	301	20	0	31	10
Walleye pollock	0	< 1	4	13	0	0	< 1
Pacific ocean perch	0	0	662	90	0	0	0
Northern rockfish	0	0	1756	106	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	22	48	0	0	2
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	8	2	0	21	32	11	265
Pacific halibut	53	93	26	22	43	48	7
Northern rock sole	63	4	0	2	19	12	15
Southern rock sole	35	13	0	15	81	15	1
Flathead sole	0	0	0	0	0	0	1
Rex sole	0	0	0	0	0	0	8
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	5	0	0	0	2	2
Skate unident.	0	0	51	0	59	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	32	2	0	0	0
Bigmouth sculpin	0	0	0	0	0	8	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	< 1	0	0	0	0
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	0	15	5	0	< 1	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	< 1	0	< 1	0	0	0
Magistrate armhook squid	< 1	0	0	0	0	0	0
Sponges	0	0	254	27	0	4	0
Starfish	0	0	< 1	< 1	0	5	0
Stony coral unident.	0	0	12	5	0	0	< 1
Soft coral	< 1	0	3	18	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	0	< 1	0	< 1	0
Other invertebrates	< 1	< 1	6	5	0	< 1	< 1
Total catch (kg)	159	120	14365	398	233	136	312

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	9	10	11	12	13	14	15
Start date & time	05/22/01 14	05/22/01 19	05/23/01 07	05/23/01 09	05/23/01 12	05/23/01 13	05/23/01 15
Start latitude	N 5259.85	N 5328.08	N 5347.90	N 5340.52	N 5335.94	N 5338.89	N 5343.75
Start longitude	W 16718.41	W 16632.81	W 16558.41	W 16557.05	W 16528.52	W 16525.95	W 16518.61
End latitude	N 5259.99	N 5327.39	N 5347.05	N 5339.80	N 5335.57	N 5338.54	N 5343.62
End longitude	W 16717.13	W 16633.60	W 16558.37	W 16556.36	W 16529.77	W 16527.07	W 16520.02
Bottom depth (m)	322	106	97	83	261	221	173
Duration (minutes)	17.4	17.4	17.4	16.8	16.8	16.2	17.4
Distance fished (km)	1.515	1.585	1.613	1.579	1.561	1.406	1.59
Performance	0	0	0	0	2.1	0	0
Atka mackerel	0	0	0	< 1	0	0	0
Pacific cod	0	0	6	< 1	0	0	7
Walleye pollock	70	< 1	< 1	< 1	7	12	0
Pacific ocean perch	< 1	0	0	< 1	342	31	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	71	0	0	0	0	0	0
Roughey rockfish	71	0	0	0	3	< 1	0
Shortspine thornyhead	19	0	0	0	40	3	0
Light dusky rockfish	0	0	0	0	0	5	0
Other rockfish	0	0	0	0	< 1	0	0
Sablefish	5	0	0	0	4	49	0
Arrowtooth flounder	22	225	83	3	18	40	1185
Pacific halibut	8	19	60	12	5	2	52
Northern rock sole	0	17	3	2	0	0	0
Southern rock sole	0	41	58	19	0	0	0
Flathead sole	0	0	0	0	2	3	< 1
Rex sole	19	1	< 1	0	58	16	15
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	0	0	0
Shark unident.	0	0	0	0	0	1	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	< 1	2	0	0
Smelts	0	0	0	0	0	< 1	0
Giant grenadier	6	0	0	0	0	0	0
Other fish	0	0	0	0	0	0	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	< 1	0	0	0	0	0	0
Scallop unident.	0	< 1	< 1	0	0	0	0
Magistrate armhook squid	8	0	0	0	0	0	0
Sponges	< 1	0	< 1	40	< 1	< 1	0
Starfish	2	0	< 1	0	< 1	< 1	< 1
Stony coral unident.	< 1	0	0	< 1	< 1	< 1	0
Soft coral	< 1	0	< 1	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	0	0	< 1	< 1	0	1
Other invertebrates	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Total catch (kg)	303	304	210	79	482	165	1261

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	16	17	18	19	20	21	22
Start date & time	05/23/01 18	05/24/01 07	05/24/01 09	05/24/01 11	05/24/01 13	05/24/01 15	05/24/01 17
Start latitude	N 5343.79	N 5354.53	N 5356.36	N 5357.26	N 5403.06	N 5401.15	N 5351.87
Start longitude	W 16459.35	W 16611.71	W 16557.50	W 16529.44	W 16521.47	W 16500.68	W 16454.13
End latitude	N 5343.63	N 5353.70	N 5355.62	N 5356.47	N 5402.53	N 5401.03	N 5352.40
End longitude	W 16458.02	W 16611.86	W 16557.80	W 16529.83	W 16520.51	W 16459.39	W 16455.23
Bottom depth (m)	215	60	88	85	47	77	103
Duration (minutes)	16.2	18	17.4	17.4	17.4	16.2	18
Distance fished (km)	1.521	1.605	1.49	1.598	1.479	1.44	1.585
Performance	0	0	0	0	0	0	0
Atka mackerel	0	< 1	0	0	0	0	0
Pacific cod	0	0	0	2	84	132	0
Walleye pollock	20	< 1	< 1	< 1	0	0	< 1
Pacific ocean perch	21	0	0	0	0	0	0
Northern rockfish	8	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	16	0	0	0	0	0	0
Arrowtooth flounder	38	0	< 1	29	0	0	14
Pacific halibut	5	101	43	6	16	8	28
Northern rock sole	0	1	1	3	28	3	3
Southern rock sole	0	16	< 1	37	10	17	27
Flathead sole	< 1	0	0	0	0	0	0
Rex sole	3	0	0	0	0	0	0
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	< 1	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	4	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	3	0	< 1	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	0	0	0	0
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	< 1	0	< 1	0	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	< 1	< 1	0	0	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	51	2	< 1	< 1	4	< 1
Starfish	0	2	< 1	< 1	< 1	0	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	< 1	0	0	< 1
Other invertebrates	< 1	10	4	2	0	0	< 1
Total catch (kg)	112	184	57	81	140	164	73

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	23	24	26	27	28	29	30
Start date & time	05/24/01 18	05/25/01 07	05/25/01 13	05/25/01 16	05/25/01 17	05/26/01 07	05/26/01 08
Start latitude	N 5348.20	N 5418.15	N 5417.57	N 5402.04	N 5353.26	N 5416.28	N 5415.16
Start longitude	W 16443.92	W 16420.44	W 16429.69	W 16423.35	W 16419.16	W 16453.66	W 16455.32
End latitude	N 5348.17	N 5417.33	N 5416.81	N 5401.55	N 5352.76	N 5416.40	N 5415.26
End longitude	W 16445.23	W 16420.38	W 16429.99	W 16422.24	W 16420.18	W 16452.23	W 16456.65
Bottom depth (m)	108	103	101	101	96	61	59
Duration (minutes)	17.4	17.4	16.8	17.4	16.8	17.4	16.8
Distance fished (km)	1.466	1.538	1.493	1.552	1.487	1.619	1.489
Performance	0	0	0	0	0	0	0
Atka mackerel	0	1	0	0	0	0	0
Pacific cod	44	54	9	0	0	0	0
Walleye pollock	0	< 1	74	< 1	0	0	0
Pacific ocean perch	2	0	0	0	0	0	0
Northern rockfish	662	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	2	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	26	0	0	0	0	0	0
Other rockfish	19	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	33	132	19	4	11	0	0
Pacific halibut	26	18	8	33	22	28	56
Northern rock sole	15	36	17	8	9	76	2
Southern rock sole	1	2	2	17	12	0	0
Flathead sole	5	17	8	< 1	1	0	0
Rex sole	1	5	0	0	0	0	0
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	3	0	0	0	0
Skate unident.	0	0	0	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	< 1	2	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	0	0	0	0
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	0	0	0	23	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	< 1	< 1	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	< 1	< 1	0	0	< 1	< 1
Starfish	< 1	0	< 1	0	0	0	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	< 1	0	0	< 1	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	0	< 1	0	< 1	0
Other invertebrates	15	2	< 1	1	< 1	< 1	< 1
Total catch (kg)	851	267	142	65	56	130	58

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	31	32	33	34	35	36	37
Start date & time	05/26/01 11	05/26/01 15	05/26/01 16	05/26/01 18	05/27/01 07	05/27/01 09	05/27/01 12
Start latitude	N 5412.47	N 5427.10	N 5414.89	N 5416.95	N 5430.43	N 5437.54	N 5449.21
Start longitude	W 16418.90	W 16400.50	W 16354.18	W 16344.45	W 16321.29	W 16308.19	W 16308.39
End latitude	N 5411.86	N 5426.45	N 5415.60	N 5417.53	N 5430.85	N 5437.39	N 5449.87
End longitude	W 16419.81	W 16359.74	W 16354.74	W 16345.58	W 16320.19	W 16309.52	W 16307.65
Bottom depth (m)	94	111	110	105	99	105	92
Duration (minutes)	16.8	16.8	16.8	18	16.8	16.2	17.4
Distance fished (km)	1.527	1.494	1.481	1.736	1.472	1.479	1.533
Performance	0	0	0	0	1.1	0	0
Atka mackerel	0	0	0	1	0	0	0
Pacific cod	4	0	5	257	< 1	36	47
Walleye pollock	17	0	0	< 1	< 1	16	82
Pacific ocean perch	0	0	0	< 1	0	0	0
Northern rockfish	0	0	0	15	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	< 1
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	< 1	3	< 1	0	0
Arrowtooth flounder	6	228	138	112	48	75	130
Pacific halibut	14	32	42	55	42	72	73
Northern rock sole	35	3	< 1	2	19	66	23
Southern rock sole	12	2	0	< 1	19	21	< 1
Flathead sole	< 1	137	136	61	5	5	344
Rex sole	0	4	5	16	< 1	2	< 1
Dover sole	0	0	0	0	0	< 1	0
Yellowfin sole	0	0	0	0	0	0	70
Other flatfish	0	0	0	0	0	0	57
Salmon	2	0	0	0	0	0	0
Skate unident.	36	0	0	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	35	5
Bigmouth sculpin	0	< 1	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	3
Other sculpins	0	0	0	0	0	0	< 1
Smelts	0	0	0	0	0	0	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	0	0	0	< 1	4
Bairdi Tanner crab	0	0	0	< 1	0	0	3
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	3
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	0	0	< 1	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	0	0	< 1	< 1	0	0
Starfish	0	0	< 1	0	0	< 1	5
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	15	0
Snails	0	< 1	0	< 1	< 1	< 1	< 1
Other invertebrates	< 1	< 1	< 1	4	2	7	2
Total catch (kg)	126	406	327	528	135	350	853

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	38	39	40	41	42	43	44
Start date & time	05/28/01 07	05/28/01 10	05/28/01 13	05/29/01 13	05/29/01 15	05/30/01 07	05/30/01 08
Start latitude	N 5449.18	N 5508.22	N 5512.36	N 5513.61	N 5517.32	N 5415.01	N 5417.26
Start longitude	W 16230.01	W 16228.90	W 16233.16	W 16146.70	W 16140.90	W 16316.05	W 16306.49
End latitude	N 5449.64	N 5508.97	N 5511.82	N 5514.36	N 5517.97	N 5414.50	N 5416.98
End longitude	W 16231.28	W 16228.81	W 16232.04	W 16146.24	W 16139.89	W 16314.98	W 16307.76
Bottom depth (m)	45	91	66	112	102	70	63
Duration (minutes)	18	17.4	18	16.8	19.2	17.4	17.4
Distance fished (km)	1.712	1.536	1.643	1.513	1.672	1.527	1.49
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	12	93	20	38	37	393	30
Walleye pollock	5	86	90	80	74	0	0
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	< 1	< 1	0	0
Arrowtooth flounder	2	1	0	72	82	6	15
Pacific halibut	21	43	26	30	33	104	70
Northern rock sole	31	105	8	2	1	50	84
Southern rock sole	87	4	0	0	0	78	23
Flathead sole	8	131	328	206	202	< 1	35
Rex sole	0	0	0	2	3	0	0
Dover sole	0	0	0	0	< 1	0	0
Yellowfin sole	0	1074	1437	34	132	0	0
Other flatfish	4	89	451	10	2	0	< 1
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	0	0	8
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	7	11	< 1	3	1	8	2
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	1	0	9	1	0	0
Other sculpins	< 1	10	4	< 1	< 1	0	0
Smelts	0	0	< 1	< 1	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	2	< 1	9	19	0	0
Bairdi Tanner crab	0	12	< 1	< 1	2	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	9	0	0	0	0
Northern shrimp	0	< 1	1	< 1	< 1	0	0
Sidestripe shrimp	0	< 1	0	0	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	< 1	0	0	0	0	0
Starfish	< 1	12	88	5	13	6	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	< 1	0	0	< 1	0	0
Other invertebrates	22	16	7	10	< 1	3	0
Total catch (kg)	199	1690	2472	511	606	649	269

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	45	46	47	48	49	50	51
Start date & time	05/30/01 11	05/30/01 15	05/30/01 17	05/31/01 07	05/31/01 09	05/31/01 11	05/31/01 13
Start latitude	N 5413.73	N 5428.25	N 5429.07	N 5436.47	N 5425.05	N 5414.55	N 5420.20
Start longitude	W 16233.67	W 16233.87	W 16243.76	W 16156.09	W 16144.01	W 16142.95	W 16147.09
End latitude	N 5413.77	N 5428.02	N 5428.79	N 5437.30	N 5425.59	N 5415.28	N 5420.46
End longitude	W 16234.53	W 16232.52	W 16242.52	W 16156.01	W 16145.03	W 16143.31	W 16148.44
Bottom depth (m)	70	154	157	134	149	83	128
Duration (minutes)	10.8	17.4	16.2	17.4	18	18	16.8
Distance fished (km)	0.955	1.539	1.486	1.601	1.54	1.48	1.581
Performance	1.12	0	1.11	0	0	-2.4	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	8	7	18	1	0	0	0
Walleye pollock	0	11	< 1	5	< 1	0	0
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	56	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	1	0	2	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	< 1	0	0	15	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	0	300	51	316	252	< 1	92
Pacific halibut	21	49	11	13	7	48	22
Northern rock sole	10	0	1	0	0	< 1	0
Southern rock sole	24	0	2	0	< 1	1	< 1
Flathead sole	< 1	227	7	105	45	< 1	4
Rex sole	0	9	2	6	22	0	14
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	6	6	0	0	0	0	0
Shark unident.	0	4	0	0	3	0	0
Yellow Irish Lord	7	0	2	0	0	< 1	0
Bigmouth sculpin	0	3	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	0	< 1	0	0	0
Smelts	0	6	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	2	< 1	< 1	< 1	0	24	0
Bairdi Tanner crab	0	< 1	< 1	1	< 1	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	< 1	0	< 1	< 1	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	0	< 1	< 1	0	2	0
Starfish	0	3	1	< 1	1	< 1	0
Stony coral unident.	0	0	0	0	0	< 1	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	< 1	< 1	< 1	< 1	< 1	< 1
Other invertebrates	40	2	4	< 1	< 1	< 1	2
Total catch (kg)	120	632	102	453	332	150	134

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	52	53	54	55	56	57	58
Start date & time	05/31/01 17	05/31/01 18	06/01/01 07	06/01/01 09	06/01/01 12	06/01/01 16	06/01/01 18
Start latitude	N 5412.70	N 5413.85	N 5414.29	N 5417.89	N 5416.83	N 5436.65	N 5448.45
Start longitude	W 16124.77	W 16126.08	W 16029.38	W 16029.89	W 16053.72	W 16104.22	W 16108.24
End latitude	N 5412.17	N 5413.21	N 5413.100	N 5417.33	N 5416.95	N 5436.23	N 5447.66
End longitude	W 16125.65	W 16126.80	W 16030.52	W 16030.86	W 16055.12	W 16103.07	W 16107.87
Bottom depth (m)	400	273	393	144	280	109	93
Duration (minutes)	15	15.6	16.2	16.8	16.2	17.4	17.4
Distance fished (km)	1.42	1.477	1.397	1.562	1.559	1.486	1.564
Performance	0	0	0	0	0	0	1.1
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	20	0	4	3
Walleye pollock	0	0	< 1	< 1	< 1	1	1
Pacific ocean perch	0	< 1	< 1	31	1	0	< 1
Northern rockfish	0	0	0	1	0	0	0
Shortraker rockfish	8	16	46	0	14	0	0
Rougeye rockfish	2	8	5	0	11	0	0
Shortspine thornyhead	24	60	77	0	57	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	2	< 1	0	0
Sablefish	10	8	12	2	7	0	0
Arrowtooth flounder	12	10	12	111	126	323	55
Pacific halibut	67	17	0	12	53	12	25
Northern rock sole	0	0	0	0	0	0	9
Southern rock sole	0	0	0	0	0	0	19
Flathead sole	0	0	0	0	0	1	6
Rex sole	0	16	10	6	24	5	< 1
Dover sole	0	2	36	< 1	5	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	< 1	0	1	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	< 1	< 1	< 1	< 1	< 1
Smelts	0	0	0	0	0	0	< 1
Giant grenadier	335	213	2888	0	120	0	0
Other fish	< 1	< 1	< 1	4	< 1	< 1	1
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	1	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	< 1	0	8	0
Sidestripe shrimp	< 1	< 1	< 1	0	< 1	0	0
Scallop unident.	0	0	0	0	0	< 1	< 1
Magistrate armhook squid	< 1	2	< 1	< 1	2	< 1	0
Sponges	< 1	< 1	2	1	< 1	0	< 1
Starfish	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	< 1	< 1	< 1	< 1	0	0
Snails	< 1	< 1	< 1	< 1	0	0	< 1
Other invertebrates	15	1	2	1	< 1	< 1	6
Total catch (kg)	474	356	3096	196	424	356	127



Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	59	60	61	62	63	64	65
Start date & time	06/02/01 07	06/02/01 10	06/02/01 11	06/04/01 13	06/04/01 18	06/05/01 06	06/05/01 09
Start latitude	N 5508.88	N 5507.39	N 5508.60	N 5526.25	N 5531.25	N 5547.04	N 5542.80
Start longitude	W 16043.82	W 16033.85	W 16029.89	W 16042.17	W 16016.16	W 15946.49	W 16004.21
End latitude	N 5508.20	N 5507.86	N 5509.24	N 5526.31	N 5531.83	N 5546.30	N 5542.44
End longitude	W 16044.69	W 16035.15	W 16028.97	W 16040.40	W 16015.09	W 15947.21	W 16002.85
Bottom depth (m)	68	44	40	40	72	124	27
Duration (minutes)	18	17.4	18	19.8	18	17.4	17.4
Distance fished (km)	1.615	1.698	1.581	1.445	1.673	1.602	1.652
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	2	0	618	< 1	< 1	18	6
Walleye pollock	8	0	< 1	3	< 1	385	3
Pacific ocean perch	0	0	0	0	< 1	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	1	0	0	0	0	0	0
Sablefish	3	0	0	0	0	< 1	0
Arrowtooth flounder	41	0	1	0	2	229	< 1
Pacific halibut	57	26	58	23	54	19	117
Northern rock sole	31	34	281	1	1	0	87
Southern rock sole	2	54	359	70	99	0	17
Flathead sole	81	1	0	0	0	83	5
Rex sole	0	0	0	0	0	3	0
Dover sole	0	0	0	0	0	0	0
Yellowfin sole	15	0	0	0	0	< 1	25
Other flatfish	92	17	51	0	0	10	79
Salmon	0	0	0	0	0	0	0
Skate unident.	0	27	0	0	0	0	36
Shark unident.	0	0	0	0	41	244	0
Yellow Irish Lord	0	0	0	37	1	0	1
Bigmouth sculpin	0	0	0	0	0	< 1	0
Great sculpin	0	0	16	0	0	0	16
Other sculpins	0	0	0	1	0	0	0
Smelts	< 1	< 1	0	0	0	< 1	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	0	0	< 1	0	< 1	< 1
Bairdi Tanner crab	0	0	0	0	0	< 1	2
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	< 1	< 1	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	0	< 1	0	< 1	< 1	0
Starfish	< 1	< 1	0	0	< 1	< 1	4
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	0	< 1	1	< 1	< 1
Other invertebrates	< 1	< 1	< 1	15	30	2	21
Total catch (kg)	337	160	1386	152	230	995	417

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	66	67	68	69	70	71	72
Start date & time	06/05/01 11	06/05/01 15	06/05/01 16	06/06/01 06	06/06/01 08	06/06/01 12	06/06/01 15
Start latitude	N 5534.010	N 5514.55	N 5514.60	N 5527.75	N 5524.56	N 5513.14	N 5456.48
Start longitude	W 16001.57	W 16010.34	W 16010.21	W 15921.58	W 15912.27	W 15919.66	W 15949.80
End latitude	N 5534.03	N 5514.66	N 5514.98	N 5527.43	N 5524.51	N 5512.62	N 5455.98
End longitude	W 16000.14	W 16010.10	W 16009.50	W 15922.81	W 15910.87	W 15918.55	W 15950.85
Bottom depth (m)	170	178	186	127	167	92	57
Duration (minutes)	16.2	3.6	10.8	16.2	16.2	17.4	16.2
Distance fished (km)	1.524	0.335	1.06	1.448	1.498	1.566	1.568
Performance	0	-1.2	0	-5.1	0	0	6.1
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	16	66	112	30	0	0	4
Walleye pollock	66	314	1458	0	2	0	2
Pacific ocean perch	0	4	< 1	9	0	0	0
Northern rockfish	0	0	0	2	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Roughey rockfish	0	0	0	0	< 1	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	3	0	4	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	2	0	0
Arrowtooth flounder	232	38	102	206	96	63	4
Pacific halibut	6	0	21	11	0	11	13
Northern rock sole	< 1	4	< 1	0	0	0	13
Southern rock sole	0	0	0	0	0	19	24
Flathead sole	245	3	15	7	28	9	< 1
Rex sole	2	< 1	4	3	< 1	1	0
Dover sole	< 1	0	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	< 1	< 1
Salmon	0	0	0	0	0	2	0
Skate unident.	39	0	6	1	22	0	89
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	9	13	0	0	0	0
Bigmouth sculpin	< 1	0	0	0	< 1	0	0
Great sculpin	0	0	0	0	0	0	5
Other sculpins	< 1	< 1	< 1	< 1	1	0	0
Smelts	28	0	0	0	24	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	< 1	< 1	< 1	0	0
Bairdi Tanner crab	1	0	0	2	< 1	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	8	2	3	2	7	0	0
Sidestripe shrimp	< 1	0	0	0	< 1	0	0
Scallop unident.	0	< 1	0	0	0	0	0
Magistrate armhook squid	< 1	0	0	0	< 1	0	0
Sponges	0	2	1	0	0	0	< 1
Starfish	7	1	< 1	< 1	2	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	2	< 1	< 1	< 1	< 1	< 1	0
Other invertebrates	< 1	98	13	6	< 1	< 1	< 1
Total catch (kg)	655	545	1753	283	186	106	157

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	73	74	75	76	77	78	79
Start date & time	06/06/01 17	06/07/01 06	06/07/01 08	06/07/01 11	06/07/01 15	06/07/01 18	06/08/01 06
Start latitude	N 5448.87	N 5440.89	N 5437.91	N 5446.31	N 5509.99	N 5514.99	N 5505.67
Start longitude	W 15958.49	W 15920.56	W 15904.12	W 15844.99	W 15852.12	W 15827.21	W 15812.78
End latitude	N 5448.23	N 5440.010	N 5437.59	N 5445.67	N 5509.36	N 5514.80	N 5506.33
End longitude	W 15959.29	W 15920.62	W 15905.53	W 15845.88	W 15851.25	W 15828.57	W 15813.69
Bottom depth (m)	63	74	96	92	191	196	153
Duration (minutes)	17.4	16.8	17.4	16.8	16.8	17.4	17.4
Distance fished (km)	1.529	1.5	1.665	1.564	1.511	1.517	1.602
Performance	0	-2.4	1.1	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	< 1	0	0	7
Walleye pollock	0	1	< 1	< 1	< 1	17	1
Pacific ocean perch	0	0	26	220	0	< 1	< 1
Northern rockfish	0	< 1	171	120	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	11	0
Shortspine thornyhead	0	0	0	0	0	4	0
Light dusky rockfish	0	0	13	4	0	0	0
Other rockfish	0	0	0	< 1	0	0	0
Sablefish	0	0	0	0	0	0	2
Arrowtooth flounder	2	0	11	< 1	283	377	379
Pacific halibut	50	22	27	18	41	10	9
Northern rock sole	5	2	2	0	0	0	0
Southern rock sole	89	8	17	4	0	0	0
Flathead sole	0	0	0	0	39	34	9
Rex sole	0	0	0	0	22	1	28
Dover sole	0	0	0	0	3	0	3
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	< 1	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	8
Skate unident.	0	0	0	0	4	2	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	1	0	< 1	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	1	0	< 1	< 1	< 1	0
Smelts	0	0	0	0	18	158	122
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	3	7	0	< 1	0
Bairdi Tanner crab	0	< 1	0	0	< 1	< 1	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	1	2	1
Sidestripe shrimp	0	0	0	0	< 1	2	0
Scallop unident.	0	1	< 1	< 1	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	< 1
Sponges	0	8	< 1	3	0	0	0
Starfish	0	2	< 1	2	< 1	3	< 1
Stony coral unident.	0	0	0	< 1	0	< 1	< 1
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	2	0	< 1	< 1	< 1	< 1
Other invertebrates	< 1	5	3	3	4	< 1	< 1
Total catch (kg)	147	54	273	384	417	624	571

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	80	81	82	83	84	85	86
Start date & time	06/08/01 08	06/08/01 10	06/08/01 12	06/08/01 14	06/08/01 16	06/08/01 18	06/09/01 06
Start latitude	N 5501.12	N 5502.80	N 5452.66	N 5451.71	N 5455.01	N 5452.83	N 5506.52
Start longitude	W 15752.92	W 15805.38	W 15747.48	W 15738.97	W 15731.12	W 15724.04	W 15655.76
End latitude	N 5501.12	N 5503.61	N 5452.38	N 5451.91	N 5454.52	N 5453.19	N 5506.29
End longitude	W 15753.57	W 15805.46	W 15746.21	W 15737.69	W 15732.33	W 15722.83	W 15657.06
Bottom depth (m)	83	96	131	206	156	373	275
Duration (minutes)	9.6	16.8	16.8	15.6	16.8	15.6	15.6
Distance fished (km)	0.737	1.532	1.535	1.44	1.615	1.478	1.47
Performance	-1	0	1.1	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	< 1	36	0	2	28	0	0
Walleye pollock	< 1	0	0	< 1	< 1	2	0
Pacific ocean perch	7	0	0	73	493	< 1	2
Northern rockfish	19	0	< 1	6	7	0	0
Shortraker rockfish	0	0	0	0	0	18	2
Roughey rockfish	0	0	0	0	0	14	10
Shortspine thornyhead	0	0	0	19	< 1	25	48
Light dusky rockfish	5	0	0	0	0	0	0
Other rockfish	0	0	0	< 1	1	0	0
Sablefish	0	0	0	47	4	26	166
Arrowtooth flounder	< 1	205	113	71	125	20	8
Pacific halibut	0	88	40	18	28	8	0
Northern rock sole	< 1	1	0	0	0	0	0
Southern rock sole	1	4	0	0	0	0	0
Flathead sole	0	1	0	< 1	0	0	< 1
Rex sole	0	0	2	2	28	2	18
Dover sole	0	0	5	6	6	16	12
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	18	0	10	0	0
Shark unident.	0	0	7	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	< 1	0	< 1	< 1
Smelts	0	0	0	0	0	0	0
Giant grenadier	0	0	0	0	0	318	0
Other fish	< 1	< 1	0	5	< 1	0	< 1
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	1
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	< 1	0	0
Sidestripe shrimp	0	0	0	< 1	< 1	< 1	< 1
Scallop unident.	0	< 1	0	0	< 1	0	0
Magistrate armhook squid	0	0	0	3	0	109	5
Sponges	3	0	< 1	0	< 1	< 1	< 1
Starfish	< 1	< 1	0	< 1	< 1	0	0
Stony coral unident.	0	< 1	0	0	0	< 1	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	< 1	0	< 1	0	< 1
Other invertebrates	4	< 1	< 1	< 1	< 1	1	1
Total catch (kg)	41	337	188	255	732	560	275

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	87	88	89	90	91	92	93
Start date & time	06/09/01 08	06/09/01 11	06/09/01 13	06/09/01 15	06/09/01 18	06/10/01 06	06/10/01 08
Start latitude	N 5507.59	N 5506.87	N 5514.99	N 5525.87	N 5538.24	N 5543.82	N 5549.56
Start longitude	W 15652.79	W 15715.95	W 15735.35	W 15741.11	W 15820.16	W 15910.51	W 15904.07
End latitude	N 5507.23	N 5507.53	N 5514.62	N 5525.65	N 5537.89	N 5544.61	N 5550.31
End longitude	W 15654.04	W 15715.24	W 15734.13	W 15739.67	W 15818.92	W 15910.19	W 15903.40
Bottom depth (m)	257	117	87	90	137	105	69
Duration (minutes)	16.8	16.2	18	17.4	16.8	17.4	17.4
Distance fished (km)	1.52	1.481	1.487	1.602	1.487	1.541	1.605
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	< 1	0	0	0	0
Pacific cod	6	27	4	0	0	0	1
Walleye pollock	6	< 1	0	< 1	0	< 1	< 1
Pacific ocean perch	29	40	2	0	0	0	0
Northern rockfish	< 1	176	125	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	5	0	0	0	< 1	0	0
Shortspine thornyhead	68	< 1	0	0	0	0	0
Light dusky rockfish	0	41	< 1	0	0	0	0
Other rockfish	2	11	0	0	0	0	0
Sablefish	113	0	0	0	0	0	0
Arrowtooth flounder	24	372	4	35	190	277	7
Pacific halibut	24	44	0	6	0	15	13
Northern rock sole	0	0	1	1	0	0	34
Southern rock sole	0	0	4	< 1	0	0	193
Flathead sole	0	0	0	0	20	36	3
Rex sole	19	1	0	< 1	< 1	< 1	0
Dover sole	17	< 1	0	0	0	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	< 1
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	0	6	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	< 1	< 1	0	< 1	< 1	0
Smelts	< 1	0	0	0	2	< 1	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	0	1	< 1	< 1	< 1	2
Bairdi Tanner crab	0	0	0	0	< 1	< 1	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	< 1	0	0	1	< 1	0
Sidestripe shrimp	< 1	0	0	0	0	0	0
Scallop unident.	0	< 1	< 1	< 1	0	< 1	0
Magistrate armhook squid	11	2	< 1	0	0	0	0
Sponges	1	< 1	1	< 1	0	0	0
Starfish	< 1	< 1	< 1	2	1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	< 1	0	0	0
Snails	< 1	< 1	< 1	< 1	< 1	0	< 1
Other invertebrates	5	4	2	2	1	< 1	43
Total catch (kg)	333	722	145	48	216	336	297

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	94	95	96	97	98	99	100
Start date & time	06/10/01 10	06/10/01 14	06/11/01 08	06/12/01 06	06/12/01 09	06/12/01 11	06/12/01 13
Start latitude	N 5554.76	N 5608.76	N 5624.54	N 5608.48	N 5604.85	N 5558.31	N 5549.56
Start longitude	W 15853.33	W 15840.44	W 15816.94	W 15804.99	W 15747.20	W 15735.68	W 15740.15
End latitude	N 5553.92	N 5608.20	N 5624.91	N 5607.76	N 5605.45	N 5557.81	N 5550.37
End longitude	W 15853.12	W 15839.67	W 15815.82	W 15805.81	W 15746.21	W 15734.51	W 15740.24
Bottom depth (m)	127	23	125	45	166	78	117
Duration (minutes)	18	16.2	15.6	18	16.2	17.4	16.8
Distance fished (km)	1.629	1.43	1.4	1.622	1.559	1.567	1.523
Performance	0	4.6	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	7	7	13	1	< 1	0	23
Walleye pollock	1	32	74	0	3	< 1	0
Pacific ocean perch	0	0	0	0	0	0	< 1
Northern rockfish	0	< 1	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	20	0	0	0	0	0
Arrowtooth flounder	326	< 1	247	0	32	0	650
Pacific halibut	153	22	16	107	26	27	47
Northern rock sole	3	12	1	61	0	3	0
Southern rock sole	1	4	< 1	93	0	36	1
Flathead sole	59	< 1	242	< 1	9	0	7
Rex sole	5	0	7	0	0	0	18
Dover sole	0	0	< 1	0	0	0	5
Yellowfin sole	0	< 1	0	0	0	0	0
Other flatfish	2	4	7	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	2	0	0	0	12	0	15
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	15	< 1	0	0	0	0	0
Bigmouth sculpin	0	0	1	0	0	0	0
Great sculpin	0	18	9	0	0	0	0
Other sculpins	0	18	4	0	< 1	< 1	0
Smelts	0	0	12	0	2	< 1	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	2	< 1	0	< 1	0
Bairdi Tanner crab	< 1	0	2	0	< 1	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	0	7	0	12	0	0
Sidestripe shrimp	0	0	0	0	1	0	0
Scallop unident.	< 1	< 1	0	0	0	< 1	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	< 1	< 1	0	0	< 1	0
Starfish	2	59	< 1	< 1	0	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	< 1	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	0	0	0	< 1	< 1
Other invertebrates	1	164	1	< 1	0	2	7
Total catch (kg)	579	362	646	264	98	70	774

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	101	102	103	104	105	106	107
Start date & time	06/12/01 15	06/12/01 17	06/13/01 06	06/13/01 09	06/13/01 11	06/13/01 15	06/13/01 18
Start latitude	N 5555.99	N 5557.66	N 5517.64	N 5517.80	N 5511.12	N 5526.30	N 5541.44
Start longitude	W 15729.16	W 15700.99	W 15632.51	W 15626.39	W 15621.71	W 15604.18	W 15556.58
End latitude	N 5555.38	N 5556.98	N 5517.08	N 5518.20	N 5510.84	N 5526.85	N 5540.85
End longitude	W 15728.25	W 15701.76	W 15633.59	W 15625.21	W 15622.97	W 15603.14	W 15555.58
Bottom depth (m)	85	110	142	160	414	192	155
Duration (minutes)	17.4	16.8	17.4	16.2	15.6	16.2	17.4
Distance fished (km)	1.518	1.545	1.581	1.466	1.467	1.525	1.562
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	67	15	0	3	37
Walleye pollock	1	0	0	2	0	5	13
Pacific ocean perch	< 1	< 1	2	207	0	381	20
Northern rockfish	< 1	7	< 1	29	0	12	6
Shortraker rockfish	0	0	0	0	9	0	0
Rougheye rockfish	0	0	0	0	2	4	0
Shortspine thornyhead	0	0	0	0	45	0	0
Light dusky rockfish	0	0	0	0	0	7	0
Other rockfish	0	0	0	1	0	2	0
Sablefish	0	0	4	30	97	50	8
Arrowtooth flounder	1	1600	139	221	14	18	508
Pacific halibut	14	34	89	15	0	35	17
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	8	0	0	0	0	0	0
Flathead sole	0	2	0	< 1	0	1	2
Rex sole	< 1	10	< 1	25	< 1	64	38
Dover sole	0	< 1	2	10	8	16	38
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	4	0	0	0	0
Skate unident.	0	0	21	3	2	0	9
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	< 1	0	0	< 1	< 1
Smelts	0	0	0	0	0	0	< 1
Giant grenadier	0	0	0	0	1579	0	0
Other fish	0	< 1	0	< 1	4	1	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	< 1	0	< 1	< 1
Sidestripe shrimp	0	0	0	< 1	0	0	0
Scallop unident.	< 1	< 1	1	< 1	0	0	0
Magistrate armhook squid	0	0	0	0	1	1	0
Sponges	< 1	< 1	4	< 1	0	< 1	< 1
Starfish	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	< 1	0	0	0	0	0
Snails	< 1	< 1	< 1	< 1	< 1	0	0
Other invertebrates	2	1	3	< 1	2	3	8
Total catch (kg)	28	1656	339	561	1764	604	705

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	108	109	110	111	112	113	114
Start date & time	06/14/01 06	06/14/01 09	06/14/01 13	06/14/01 14	06/14/01 16	06/14/01 18	06/15/01 06
Start latitude	N 5546.20	N 5601.56	N 5603.99	N 5606.70	N 5612.23	N 5621.51	N 5626.76
Start longitude	W 15611.01	W 15602.59	W 15552.39	W 15543.81	W 15543.64	W 15549.00	W 15556.87
End latitude	N 5546.64	N 5602.27	N 5604.40	N 5607.21	N 5612.47	N 5620.76	N 5627.49
End longitude	W 15612.26	W 15601.87	W 15553.53	W 15545.11	W 15545.04	W 15549.56	W 15556.02
Bottom depth (m)	234	143	72	60	69	108	228
Duration (minutes)	17.4	16.2	17.4	18	17.4	16.8	18
Distance fished (km)	1.563	1.564	1.426	1.688	1.538	1.545	1.668
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	4	2	0	0	2	7	21
Walleye pollock	5	0	0	0	1	0	45
Pacific ocean perch	1	< 1	0	0	0	0	2
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	1
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	20	0	0	0	0	0	165
Arrowtooth flounder	69	2698	7	0	22	109	825
Pacific halibut	6	18	6	41	26	11	0
Northern rock sole	0	0	16	< 1	15	0	0
Southern rock sole	0	0	48	5	33	0	0
Flathead sole	3	366	0	0	0	116	13
Rex sole	18	84	0	0	0	13	0
Dover sole	51	89	0	0	0	2	3
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	< 1	0	< 1	0	0
Salmon	0	0	0	0	0	5	0
Skate unident.	10	44	0	22	64	4	72
Shark unident.	0	400	204	0	0	0	0
Yellow Irish Lord	0	0	0	< 1	4	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	0	0	0	0	0	0
Smelts	29	0	0	0	0	0	5
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	0	0	0	7	0	< 1
Bairdi Tanner crab	< 1	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	0	0	0	0	0	2
Sidestripe shrimp	3	0	0	0	0	0	1
Scallop unident.	0	0	0	< 1	< 1	0	0
Magistrate armhook squid	< 1	0	0	0	0	0	0
Sponges	0	0	< 1	< 1	< 1	0	0
Starfish	5	< 1	0	< 1	< 1	0	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	< 1	2	< 1	< 1	< 1
Other invertebrates	1	2	4	27	21	7	< 1
Total catch (kg)	227	3,702	285	97	197	272	1,156



Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	115	116	117	118	119	120	121
Start date & time	06/15/01 08	06/15/01 10	06/15/01 13	06/15/01 15	06/15/01 17	06/15/01 19	06/16/01 06
Start latitude	N 5626.06	N 5636.03	N 5637.56	N 5642.43	N 5640.41	N 5630.05	N 5543.14
Start longitude	W 15553.03	W 15552.29	W 15539.23	W 15522.46	W 15524.32	W 15528.35	W 15533.74
End latitude	N 5626.81	N 5636.56	N 5638.15	N 5641.77	N 5641.01	N 5629.55	N 5543.31
End longitude	W 15552.40	W 15551.19	W 15538.14	W 15523.38	W 15523.35	W 15529.53	W 15532.35
Bottom depth (m)	210	259	227	174	157	65	57
Duration (minutes)	17.4	16.2	16.8	16.8	17.4	17.4	17.4
Distance fished (km)	1.569	1.53	1.591	1.581	1.531	1.574	1.519
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	3	16	0	0	< 1	18
Walleye pollock	3	24	3	< 1	66	175	0
Pacific ocean perch	3	0	< 1	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	3	1	11	10	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	1	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	72	36	23	0	0	0	0
Arrowtooth flounder	979	239	142	407	425	326	204
Pacific halibut	28	10	3	180	16	67	117
Northern rock sole	0	0	0	0	0	10	14
Southern rock sole	0	0	0	0	0	31	2
Flathead sole	24	4	4	35	17	< 1	0
Rex sole	7	2	6	2	< 1	0	0
Dover sole	14	5	0	6	10	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	28	0
Salmon	0	0	0	0	0	12	5
Skate unident.	71	< 1	18	40	31	52	0
Shark unident.	0	0	0	116	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	< 1	< 1	< 1	< 1	0	0
Smelts	1	4	2	13	< 1	0	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	1	< 1	< 1	0	0	< 1
Bairdi Tanner crab	< 1	< 1	< 1	< 1	< 1	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	< 1	< 1	2	0	< 1	0	0
Sidestripe shrimp	< 1	3	3	< 1	< 1	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	6	2	0	0	0	0
Sponges	0	0	0	0	0	0	0
Starfish	1	3	< 1	4	6	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	< 1	0	< 1	< 1	< 1	0
Other invertebrates	< 1	< 1	< 1	< 1	< 1	2	1
Total catch (kg)	1,206	344	238	814	575	704	362

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	122	123	124	125	126	127	128
Start date & time	06/16/01 08	06/16/01 10	06/16/01 13	06/16/01 14	06/16/01 18	06/17/01 06	06/17/01 08
Start latitude	N 5554.30	N 5604.11	N 5609.44	N 5612.13	N 5637.61	N 5643.33	N 5641.46
Start longitude	W 15517.63	W 15506.88	W 15504.54	W 15500.72	W 15501.98	W 15510.48	W 15511.93
End latitude	N 5553.79	N 5603.31	N 5610.17	N 5612.74	N 5638.42	N 5643.26	N 5642.29
End longitude	W 15518.80	W 15506.76	W 15503.90	W 15459.78	W 15502.63	W 15511.21	W 15511.65
Bottom depth (m)	62	58	38	34	39	80	78
Duration (minutes)	16.8	16.8	17.4	17.4	18	8.4	17.4
Distance fished (km)	1.57	1.518	1.547	1.528	1.685	0.77	1.595
Performance	0	0	0	0	-2.4	4	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	7	38	0	0	0	0	8
Walleye pollock	< 1	0	0	0	0	< 1	0
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	< 1	0
Arrowtooth flounder	1	29	0	0	0	595	1054
Pacific halibut	64	149	59	33	13	19	16
Northern rock sole	2	44	8	5	< 1	< 1	< 1
Southern rock sole	3	32	0	0	0	0	0
Flathead sole	0	0	0	0	0	56	124
Rex sole	0	0	0	0	0	15	49
Dover sole	0	0	0	0	0	73	53
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	1
Salmon	0	0	0	2	0	0	0
Skate unident.	25	68	62	40	0	17	22
Shark unident.	0	0	0	0	0	43	0
Yellow Irish Lord	0	0	0	0	0	4	1
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	0	< 1	0	< 1	< 1	0
Smelts	< 1	< 1	1	< 1	< 1	< 1	2
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	0	0	0	< 1	< 1	< 1
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	< 1	< 1	0	2	< 1	0
Starfish	< 1	12	2	< 1	< 1	< 1	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	0	0	0	2	1	< 1
Other invertebrates	18	2	< 1	< 1	5	16	4
Total catch (kg)	121	375	132	80	22	843	1336

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	129	130	131	132	133	134	135
Start date & time	06/17/01 10	06/17/01 12	06/17/01 15	06/17/01 16	06/17/01 18	06/18/01 06	06/18/01 12
Start latitude	N 5647.39	N 5652.83	N 5708.23	N 5710.37	N 5717.37	N 5713.07	N 5744.41
Start longitude	W 15456.54	W 15505.51	W 15535.77	W 15535.66	W 15533.24	W 15440.48	W 15413.12
End latitude	N 5648.20	N 5652.09	N 5709.04	N 5709.57	N 5716.77	N 5712.20	N 5743.100
End longitude	W 15456.56	W 15506.09	W 15536.10	W 15535.98	W 15534.22	W 15440.00	W 15414.33
Bottom depth (m)	56	111	269	271	274	62	181
Duration (minutes)	17.4	16.8	16.2	17.4	17.4	18	15.6
Distance fished (km)	1.499	1.54	1.567	1.547	1.52	1.723	1.457
Performance	0	0	-5.1	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	< 1	12	0	2	0	21	2
Walleye pollock	< 1	< 1	22	18	15	< 1	7
Pacific ocean perch	0	0	0	0	0	0	3
Northern rockfish	0	0	0	< 1	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	1	1	1	0	0
Shortspine thornyhead	0	0	2	< 1	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	24	33	59	0	4
Arrowtooth flounder	3	138	91	104	130	77	695
Pacific halibut	30	114	0	0	8	41	26
Northern rock sole	8	0	0	0	0	< 1	0
Southern rock sole	59	3	0	0	0	6	0
Flathead sole	0	60	2	4	11	81	67
Rex sole	0	13	< 1	1	< 1	1	< 1
Dover sole	0	11	0	0	0	< 1	11
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	< 1	0	0	0	0	4	0
Salmon	0	0	0	0	0	8	0
Skate unident.	0	0	20	4	18	0	< 1
Shark unident.	49	0	0	0	46	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	< 1	< 1	0	0
Smelts	< 1	< 1	3	3	4	< 1	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	0	3	1	< 1	< 1	0
Bairdi Tanner crab	0	0	< 1	< 1	< 1	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	1	2	2	0	< 1
Sidestripe shrimp	0	0	1	3	8	0	< 1
Scallop unident.	< 1	0	0	0	0	0	0
Magistrate armhook squid	0	0	4	8	5	< 1	0
Sponges	< 1	0	0	0	< 1	< 1	0
Starfish	< 1	< 1	1	3	5	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	1	< 1	0	< 1	0	< 1	< 1
Other invertebrates	12	111	13	8	< 1	< 1	< 1
Total catch (kg)	165	461	190	198	315	240	817

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	136	137	138	139	140	141	142
Start date & time	06/18/01 16	06/18/01 18	06/21/01 17	06/21/01 19	06/22/01 08	06/22/01 13	06/22/01 16
Start latitude	N 5815.01	N 5817.79	N 5757.52	N 5757.55	N 5807.69	N 5816.69	N 5758.04
Start longitude	W 15403.46	W 15401.13	W 15233.19	W 15233.21	W 15320.79	W 15405.10	W 15432.18
End latitude	N 5814.28	N 5817.03	N 5757.20	N 5757.20	N 5806.93	N 5815.96	N 5757.71
End longitude	W 15404.16	W 15401.70	W 15234.45	W 15234.55	W 15321.98	W 15405.38	W 15433.76
Bottom depth (m)	168	143	94	142	51	43	230
Duration (minutes)	17.4	16.8	15	16.8	20.4	15.6	18.6
Distance fished (km)	1.555	1.569	1.413	1.541	2.143	1.722	1.836
Performance	0	0	-6.1	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	4	4	0	57	0	12	18
Walleye pollock	57	57	90	85	0	0	13
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	< 1	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	6
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	8
Arrowtooth flounder	174	150	0	359	0	15	360
Pacific halibut	25	0	0	17	155	50	32
Northern rock sole	0	0	0	0	18	25	0
Southern rock sole	0	0	0	0	252	8	0
Flathead sole	1	11	0	176	0	< 1	3
Rex sole	< 1	0	0	9	0	< 1	< 1
Dover sole	12	< 1	0	< 1	0	0	2
Yellowfin sole	0	0	0	0	0	31	0
Other flatfish	0	0	0	0	4	2	0
Salmon	3	2	0	0	0	3	0
Skate unident.	13	25	0	0	8	10	52
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	3	0	0	0	1	0	0
Bigmouth sculpin	0	0	0	< 1	0	0	0
Great sculpin	0	0	0	0	0	7	0
Other sculpins	0	0	0	1	< 1	0	< 1
Smelts	32	54	0	0	< 1	1	35
Giant grenadier	0	0	0	0	0	0	0
Other fish	1	4	0	0	42	140	2
Bairdi Tanner crab	< 1	< 1	0	2	< 1	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	1	1	0	10	0	0	1
Sidestripe shrimp	1	< 1	0	2	0	0	1
Scallop unident.	0	0	0	0	< 1	0	0
Magistrate armhook squid	< 1	< 1	0	0	0	0	17
Sponges	0	0	0	0	0	0	0
Starfish	4	2	0	< 1	3	4	5
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	< 1	0	0	0	0	0
Snails	< 1	< 1	0	0	2	< 1	< 1
Other invertebrates	< 1	< 1	< 1	1	119	30	3
Total catch (kg)	334	315	90	723	605	340	560

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	143	144	145	146	147	148	149
Start date & time	06/23/01 07	06/23/01 10	06/23/01 12	06/23/01 13	06/23/01 15	06/23/01 17	06/23/01 20
Start latitude	N 5600.13	N 5601.63	N 5605.83	N 5607.66	N 5605.51	N 5611.21	N 5612.89
Start longitude	W 15441.56	W 15433.32	W 15427.14	W 15427.13	W 15424.97	W 15415.00	W 15413.40
End latitude	N 5600.58	N 5601.58	N 5605.11	N 5607.02	N 5604.70	N 5611.35	N 5612.84
End longitude	W 15440.35	W 15434.68	W 15427.40	W 15427.88	W 15424.86	W 15413.72	W 15412.02
Bottom depth (m)	337	281	156	157	131	111	128
Duration (minutes)	15.6	15.6	15.6	15.6	15.6	15	15
Distance fished (km)	1.705	1.546	1.462	1.543	1.604	1.509	1.45
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	< 1	0	0
Pacific cod	0	0	0	0	14	18	43
Walleye pollock	2	0	2	< 1	2	< 1	< 1
Pacific ocean perch	0	7	14	24	305	26	0
Northern rockfish	0	0	< 1	1	13	1521	0
Shortraker rockfish	21	42	0	0	0	0	0
Roughey rockfish	8	128	0	0	0	0	0
Shortspine thornyhead	47	38	0	0	< 1	0	0
Light dusky rockfish	0	0	0	0	1	29	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	76	51	2	4	0	0	8
Arrowtooth flounder	48	17	59	52	154	26	102
Pacific halibut	47	0	4	9	9	31	0
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	< 1	0	0
Flathead sole	0	0	0	0	0	0	38
Rex sole	46	9	30	9	12	2	42
Dover sole	23	16	1	0	< 1	3	7
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	3
Skate unident.	0	1	0	0	0	7	19
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	2	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	0	0	< 1	0	0
Smelts	0	0	< 1	0	0	1	< 1
Giant grenadier	431	586	0	0	0	0	0
Other fish	< 1	< 1	< 1	< 1	< 1	1	0
Bairdi Tanner crab	0	0	< 1	0	< 1	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	< 1	0	0	< 1
Sidestripe shrimp	< 1	< 1	< 1	< 1	< 1	0	< 1
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	5	3	< 1	0	0	0	0
Sponges	0	< 1	< 1	0	2	0	0
Starfish	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	< 1	0	< 1	< 1	< 1	< 1
Other invertebrates	2	2	< 1	< 1	< 1	3	2
Total catch (kg)	758	902	115	100	515	1,668	266

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	150	151	152	153	154	155	156
Start date & time	06/24/01 07	06/24/01 09	06/24/01 11	06/24/01 12	06/24/01 17	06/24/01 20	06/25/01 07
Start latitude	N 5616.64	N 5622.12	N 5621.16	N 5620.92	N 5607.94	N 5613.99	N 5622.43
Start longitude	W 15400.35	W 15402.97	W 15403.42	W 15407.15	W 15328.54	W 15318.98	W 15347.44
End latitude	N 5615.91	N 5621.49	N 5621.25	N 5620.85	N 5607.39	N 5613.29	N 5622.97
End longitude	W 15400.43	W 15402.30	W 15404.64	W 15408.57	W 15330.51	W 15319.85	W 15348.29
Bottom depth (m)	130	76	84	87	368	240	90
Duration (minutes)	15.6	14.4	13.8	15.6	22.8	16.2	15
Distance fished (km)	1.478	1.516	1.458	1.611	2.473	1.776	1.58
Performance	0	-1.11	1.11	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	82	15	14	34	0	0	4
Walleye pollock	0	2	< 1	1	< 1	1	< 1
Pacific ocean perch	6	< 1	0	0	0	14	0
Northern rockfish	5	42	3	0	0	< 1	0
Shortraker rockfish	0	0	0	0	96	145	0
Rougeye rockfish	0	0	0	0	17	13	0
Shortspine thornyhead	0	0	0	0	70	36	0
Light dusky rockfish	3	58	5	0	0	0	0
Other rockfish	0	< 1	0	0	0	3	0
Sablefish	24	0	0	0	186	15	0
Arrowtooth flounder	835	10	78	145	85	137	61
Pacific halibut	9	24	12	37	47	0	48
Northern rock sole	0	2	4	2	0	0	< 1
Southern rock sole	0	15	18	11	0	0	7
Flathead sole	81	0	0	12	0	23	0
Rex sole	4	0	< 1	0	21	67	0
Dover sole	0	0	0	0	21	36	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	< 1	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	4
Skate unident.	0	9	11	0	5	0	9
Shark unident.	0	0	50	0	4	0	0
Yellow Irish Lord	0	2	2	< 1	0	0	2
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	0	0	0	0	< 1
Smelts	0	0	0	< 1	0	0	0
Giant grenadier	0	0	0	0	614	0	0
Other fish	0	28	0	< 1	< 1	0	< 1
Bairdi Tanner crab	0	0	< 1	0	0	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	< 1	< 1	0
Scallop unident.	0	< 1	< 1	0	0	0	< 1
Magistrate armhook squid	0	0	0	0	< 1	1	0
Sponges	0	< 1	< 1	< 1	< 1	0	0
Starfish	0	< 1	3	2	< 1	< 1	< 1
Stony coral unident.	0	0	< 1	< 1	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	< 1	0	0
Snails	0	0	< 1	0	< 1	< 1	< 1
Other invertebrates	4	16	12	9	5	< 1	2
Total catch (kg)	1,053	224	214	255	1,174	495	138

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	157	158	159	160	161	162	163
Start date & time	06/25/01 08	06/25/01 10	06/25/01 14	06/25/01 16	06/25/01 18	06/26/01 07	06/26/01 09
Start latitude	N 5628.61	N 5632.08	N 5636.46	N 5643.55	N 5646.28	N 5642.01	N 5634.90
Start longitude	W 15344.59	W 15327.100	W 15400.38	W 15350.16	W 15349.42	W 15319.92	W 15254.010
End latitude	N 5627.98	N 5631.53	N 5637.26	N 5643.22	N 5645.94	N 5642.16	N 5635.29
End longitude	W 15345.41	W 15329.07	W 15400.71	W 15351.31	W 15348.05	W 15318.49	W 15255.29
Bottom depth (m)	91	120	35	40	39	125	88
Duration (minutes)	15.6	16.2	14.4	15	15	15	15.6
Distance fished (km)	1.594	1.577	1.733	1.57	1.718	1.612	1.679
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	108	0	0	0	0	16	4
Walleye pollock	< 1	< 1	0	0	0	4	4
Pacific ocean perch	0	0	0	0	0	< 1	0
Northern rockfish	1	< 1	0	0	0	1	< 1
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	82	469	0	0	0	526	27
Pacific halibut	19	0	82	25	29	0	33
Northern rock sole	77	0	56	3	22	0	< 1
Southern rock sole	8	0	12	35	36	0	3
Flathead sole	1	42	0	0	0	32	0
Rex sole	1	32	0	0	0	17	< 1
Dover sole	< 1	0	0	0	0	1	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	59	5	105	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	71	0	8	0	0
Shark unident.	0	4	3	0	6	0	0
Yellow Irish Lord	48	< 1	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	8	0	0	0	0	0	0
Other sculpins	0	< 1	0	0	0	< 1	< 1
Smelts	0	< 1	< 1	0	0	1	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	< 1	0	0	0	< 1	2
Bairdi Tanner crab	< 1	< 1	0	0	0	< 1	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	1	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	0	< 1	0	0	0	< 1
Magistrate armhook squid	0	< 1	0	0	0	0	0
Sponges	< 1	< 1	0	< 1	0	0	< 1
Starfish	< 1	< 1	16	5	4	0	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	0	< 1	0	0	< 1	< 1
Other invertebrates	13	1	3	19	5	3	1
Total catch (kg)	370	550	302	92	214	605	77

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	164	165	166	167	168	169	170
Start date & time	06/26/01 11	06/26/01 12	06/26/01 15	06/26/01 18	06/27/01 07	06/27/01 09	06/27/01 11
Start latitude	N 5628.18	N 5629.57	N 5636.40	N 5632.17	N 5642.30	N 5641.65	N 5641.54
Start longitude	W 15238.25	W 15237.100	W 15235.66	W 15219.56	W 15211.24	W 15154.69	W 15149.09
End latitude	N 5628.29	N 5628.70	N 5637.15	N 5631.98	N 5642.80	N 5641.79	N 5642.21
End longitude	W 15238.20	W 15238.12	W 15235.12	W 15218.58	W 15210.18	W 15153.70	W 15148.53
Bottom depth (m)	106	107	148	280	71	66	222
Duration (minutes)	3.6	15.6	16.8	11.4	15	12	15
Distance fished (km)	0.233	1.727	1.545	1.148	1.657	1.318	1.548
Performance	-1.2	0	0	0	0	1.12	0
Atka mackerel	0	0	0	0	0	0	1
Pacific cod	0	26	19	0	< 1	0	0
Walleye pollock	0	< 1	0	2	0	0	1
Pacific ocean perch	5	127	40	< 1	0	0	1657
Northern rockfish	12	1413	38	0	0	4	107
Shortraker rockfish	0	0	0	28	0	0	0
Rougheye rockfish	0	0	0	23	0	0	0
Shortspine thornyhead	0	0	0	39	0	0	20
Light dusky rockfish	0	22	7	0	0	< 1	30
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	30	141	25	0	0	169
Arrowtooth flounder	20	1833	313	128	0	0	87
Pacific halibut	10	50	91	0	128	55	9
Northern rock sole	0	0	< 1	0	5	< 1	0
Southern rock sole	0	2	0	0	24	< 1	0
Flathead sole	0	0	0	12	0	0	0
Rex sole	0	2	36	19	0	0	2
Dover sole	0	3	35	33	0	0	9
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	8	0	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	7	0	0	7
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	< 1	0	0	0	< 1
Smelts	0	0	< 1	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	1	13	9	< 1	< 1	10	14
Bairdi Tanner crab	0	0	0	0	< 1	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	< 1	0	0	0	0
Sidestripe shrimp	0	0	< 1	< 1	0	0	< 1
Scallop unident.	0	< 1	< 1	0	< 1	0	0
Magistrate armhook squid	0	0	0	2	< 1	0	0
Sponges	< 1	< 1	0	0	< 1	20	< 1
Starfish	0	< 1	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	2	< 1
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	1	< 1	< 1	0	< 1	< 1
Other invertebrates	< 1	6	13	21	65	13	< 1
Total catch (kg)	48	3537	742	340	224	106	2117



Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	171	172	173	174	175	176	177
Start date & time	06/27/01 14	06/27/01 20	06/28/01 07	06/28/01 09	06/28/01 11	06/28/01 13	06/28/01 17
Start latitude	N 5644.19	N 5706.75	N 5719.96	N 5719.54	N 5723.02	N 5721.64	N 5730.90
Start longitude	W 15154.08	W 15106.23	W 15042.41	W 15058.67	W 15105.48	W 15057.30	W 15132.98
End latitude	N 5644.69	N 5706.13	N 5720.53	N 5720.27	N 5722.78	N 5722.17	N 5731.33
End longitude	W 15153.57	W 15107.21	W 15041.57	W 15058.66	W 15104.12	W 15056.32	W 15134.19
Bottom depth (m)	70	404	228	100	93	100	154
Duration (minutes)	12	19.2	15	15.6	15.6	15.6	16.2
Distance fished (km)	1.287	2.032	1.557	1.434	1.546	1.505	1.575
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	5	12	48	62
Walleye pollock	0	0	12	0	0	< 1	104
Pacific ocean perch	0	0	283	5	0	0	< 1
Northern rockfish	2	0	2	64	0	0	0
Shortraker rockfish	0	33	0	0	0	0	0
Rougeye rockfish	0	5	0	0	0	0	< 1
Shortspine thornyhead	0	85	8	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	6
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	94	10	0	0	2	2
Arrowtooth flounder	0	7	43	45	55	67	82
Pacific halibut	156	12	6	2	13	0	9
Northern rock sole	0	0	0	1	29	< 1	0
Southern rock sole	0	0	0	41	128	59	0
Flathead sole	0	0	< 1	0	2	0	9
Rex sole	0	6	14	< 1	< 1	< 1	30
Dover sole	0	17	30	0	0	0	4
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	2	17	3	20	4
Skate unident.	0	24	0	0	0	0	0
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	< 1	< 1	< 1	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	< 1	0	0	0	< 1
Smelts	0	0	0	0	0	< 1	< 1
Giant grenadier	0	428	0	0	0	0	0
Other fish	< 1	1	0	1	0	< 1	0
Bairdi Tanner crab	0	0	0	0	0	0	< 1
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	3
Sidestripe shrimp	0	0	< 1	0	0	0	0
Scallop unident.	0	0	0	< 1	< 1	< 1	0
Magistrate armhook squid	0	1	< 1	0	0	0	0
Sponges	1	< 1	0	0	< 1	< 1	0
Starfish	< 1	< 1	< 1	< 1	0	0	0
Stony coral unident.	0	< 1	0	< 1	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	< 1	0	0	0	0
Snails	< 1	1	0	0	0	0	0
Other invertebrates	4	3	< 1	27	29	2	1
Total catch (kg)	165	720	413	209	272	200	317

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	178	179	180	181	182	183	184
Start date & time	06/30/01 07	06/30/01 09	06/30/01 11	06/30/01 16	06/30/01 18	07/01/01 07	07/01/01 09
Start latitude	N 5701.67	N 5656.86	N 5645.97	N 5701.08	N 5700.12	N 5648.74	N 5650.33
Start longitude	W 15256.87	W 15310.81	W 15316.68	W 15323.72	W 15324.18	W 15244.92	W 15252.88
End latitude	N 5701.67	N 5656.40	N 5646.69	N 5700.35	N 5659.35	N 5649.05	N 5649.92
End longitude	W 15255.51	W 15311.97	W 15316.05	W 15324.07	W 15324.53	W 15245.95	W 15251.66
Bottom depth (m)	87	91	139	61	62	70	64
Duration (minutes)	15.6	15.6	15.6	15.6	15.6	13.2	15.6
Distance fished (km)	1.58	1.611	1.571	1.496	1.567	1.375	1.564
Performance	0	0	0	0	0	-2.4	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	6	< 1	0	19	0	3	0
Walleye pollock	0	< 1	0	< 1	0	0	0
Pacific ocean perch	0	0	0	0	0	8	0
Northern rockfish	< 1	< 1	0	0	0	34	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	1	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	4	< 1	0	0	0	6	0
Other rockfish	0	0	0	0	0	< 1	0
Sablefish	0	0	0	0	0	0	0
Arrowtooth flounder	166	119	490	3	< 1	< 1	< 1
Pacific halibut	26	58	0	20	29	61	87
Northern rock sole	2	1	0	10	36	1	< 1
Southern rock sole	49	55	< 1	51	172	7	8
Flathead sole	< 1	0	56	0	0	0	0
Rex sole	< 1	0	6	0	0	0	0
Dover sole	< 1	< 1	0	0	0	0	0
Yellowfin sole	0	0	0	< 1	0	0	0
Other flatfish	0	0	0	110	19	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	11	< 1	15	15	0	0
Shark unident.	0	2	6	0	0	0	0
Yellow Irish Lord	1	< 1	0	0	0	< 1	0
Bigmouth sculpin	0	< 1	< 1	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	< 1	1	0	0	< 1	0
Smelts	0	0	< 1	0	0	0	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	< 1	0	15	0	5	0
Bairdi Tanner crab	< 1	0	< 1	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	1	< 1	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	< 1	< 1	0	0	0	0	< 1
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	< 1	0	0	< 1	< 1	0
Starfish	0	< 1	3	0	1	< 1	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	< 1	0	0	0	0
Other invertebrates	10	4	3	3	1	9	< 1
Total catch (kg)	269	257	568	246	274	137	97

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	185	186	187	188	189	190	191
Start date & time	07/01/01 11	07/01/01 14	07/01/01 16	07/01/01 18	07/02/01 07	07/02/01 10	07/02/01 13
Start latitude	N 5652.07	N 5700.34	N 5708.39	N 5709.53	N 5718.45	N 5729.62	N 5719.11
Start longitude	W 15236.24	W 15200.49	W 15202.70	W 15212.02	W 15231.010	W 15251.07	W 15218.62
End latitude	N 5652.62	N 5700.75	N 5709.08	N 5709.28	N 5717.74	N 5729.27	N 5719.26
End longitude	W 15235.24	W 15159.23	W 15203.46	W 15210.63	W 15231.85	W 15249.83	W 15217.41
Bottom depth (m)	146	83	81	84	103	82	48
Duration (minutes)	15	15.6	15.6	15	15.6	15.6	18
Distance fished (km)	1.626	1.51	1.616	1.604	1.602	1.512	1.639
Performance	0	0	0	0	0	0	1.12
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	22	28	5	119	14	35
Walleye pollock	0	0	0	0	165	179	< 1
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	2	0	0	0	0	0	< 1
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	< 1	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	2	0	0	0	0	3	0
Other rockfish	0	0	0	0	0	0	< 1
Sablefish	0	0	0	0	0	28	0
Arrowtooth flounder	499	23	39	31	211	24	0
Pacific halibut	< 1	81	12	49	53	0	35
Northern rock sole	0	< 1	15	6	3	0	< 1
Southern rock sole	0	54	78	23	< 1	0	< 1
Flathead sole	21	0	< 1	< 1	210	64	0
Rex sole	< 1	0	0	0	0	0	0
Dover sole	0	0	0	0	0	< 1	0
Yellowfin sole	0	0	0	0	0	233	0
Other flatfish	0	< 1	2	< 1	4	2	0
Salmon	0	0	0	0	0	0	0
Skate unident.	0	0	0	0	174	0	0
Shark unident.	4	3	3	0	0	0	3
Yellow Irish Lord	0	0	< 1	1	0	0	0
Bigmouth sculpin	0	0	0	0	0	< 1	0
Great sculpin	0	0	0	0	0	2	0
Other sculpins	< 1	0	0	0	0	16	2
Smelts	10	0	0	0	0	< 1	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	0	0	0	3	5	< 1
Bairdi Tanner crab	3	0	< 1	0	< 1	11	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	1	0	0	0	< 1	< 1	0
Sidestripe shrimp	3	0	0	0	0	0	0
Scallop unident.	0	< 1	< 1	0	< 1	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	0	0	0	0	0	1
Starfish	< 1	< 1	< 1	0	2	4	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	< 1	0
Snails	< 1	< 1	0	0	0	< 1	< 1
Other invertebrates	< 1	20	2	< 1	3	18	95
Total catch (kg)	546	205	180	118	949	606	174

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	192	193	194	195	196	197	198
Start date & time	07/02/01 16	07/03/01 07	07/03/01 12	07/03/01 15	07/04/01 10	07/04/01 13	07/04/01 16
Start latitude	N 5729.22	N 5742.36	N 5806.83	N 5807.48	N 5828.65	N 5826.20	N 5829.18
Start longitude	W 15209.47	W 15217.84	W 15214.11	W 15200.16	W 15150.84	W 15223.48	W 15221.73
End latitude	N 5729.94	N 5741.70	N 5806.37	N 5806.70	N 5829.13	N 5826.89	N 5828.58
End longitude	W 15209.02	W 15218.60	W 15215.22	W 15200.23	W 15149.72	W 15223.03	W 15222.55
Bottom depth (m)	64	136	158	61	205	145	154
Duration (minutes)	15.6	15.6	15	15.6	15	15.6	15
Distance fished (km)	1.641	1.506	1.432	1.661	1.486	1.463	1.538
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	15	25	40	4	17	32	78
Walleye pollock	0	98	91	< 1	24	180	78
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	< 1	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	2	0	0	0	< 1	11
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	< 1	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	0	0	5	0	30	0	0
Arrowtooth flounder	59	280	832	9	101	95	81
Pacific halibut	61	0	17	38	0	0	0
Northern rock sole	29	0	0	< 1	0	0	0
Southern rock sole	49	< 1	< 1	10	0	0	0
Flathead sole	0	343	100	0	13	262	160
Rex sole	0	4	2	0	29	5	4
Dover sole	0	0	0	0	12	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	120	0	0	0	0	< 1	< 1
Salmon	0	< 1	0	4	2	0	0
Skate unident.	84	12	14	0	1	11	24
Shark unident.	0	0	5	3	0	7	15
Yellow Irish Lord	0	1	0	< 1	0	< 1	0
Bigmouth sculpin	0	< 1	3	0	0	8	0
Great sculpin	0	34	2	0	0	0	0
Other sculpins	0	3	1	< 1	0	< 1	< 1
Smelts	0	3	< 1	< 1	1	< 1	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	3	< 1	< 1	0	5	23
Bairdi Tanner crab	0	55	< 1	< 1	0	2	2
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	24	15	0	< 1	8	2
Sidestripe shrimp	0	< 1	< 1	0	< 1	< 1	0
Scallop unident.	0	0	0	< 1	0	0	0
Magistrate armhook squid	0	0	0	0	1	< 1	0
Sponges	< 1	0	0	< 1	< 1	0	< 1
Starfish	0	0	0	< 1	< 1	< 1	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	3	16
Snails	0	0	0	6	< 1	0	0
Other invertebrates	19	6	2	6	4	5	4
Total catch (kg)	437	896	1131	84	237	626	500

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	199	200	201	202	203	204	205
Start date & time	07/05/01 07	07/05/01 09	07/05/01 11	07/05/01 14	07/06/01 07	07/06/01 09	07/08/01 08
Start latitude	N 5837.92	N 5835.83	N 5825.11	N 5819.83	N 5759.42	N 5755.89	N 5741.75
Start longitude	W 15240.07	W 15240.40	W 15255.67	W 15304.91	W 15144.29	W 15135.54	W 15125.39
End latitude	N 5837.23	N 5835.24	N 5824.47	N 5819.38	N 5759.89	N 5756.47	N 5741.80
End longitude	W 15240.64	W 15241.17	W 15256.48	W 15305.48	W 15143.18	W 15134.77	W 15127.07
Bottom depth (m)	68	52	60	89	112	72	64
Duration (minutes)	15.6	13.2	15.6	12	15.6	15.6	18
Distance fished (km)	1.653	1.418	1.511	1.15	1.425	1.441	1.706
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	10	0	0	3	20	105	1
Walleye pollock	0	0	0	0	130	0	< 1
Pacific ocean perch	0	0	0	0	0	0	0
Northern rockfish	0	0	0	< 1	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	0	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	< 1	0	0	0
Other rockfish	0	0	0	0	0	0	0
Sablefish	41	0	0	0	20	0	0
Arrowtooth flounder	241	1	0	127	552	231	6
Pacific halibut	33	13	45	40	7	6	42
Northern rock sole	0	2	0	0	0	5	32
Southern rock sole	130	70	31	1	0	42	50
Flathead sole	< 1	0	0	4	20	1	0
Rex sole	0	0	0	5	24	0	0
Dover sole	0	0	0	< 1	6	0	< 1
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	< 1	0	< 1	0
Salmon	38	0	0	0	0	3	0
Skate unident.	13	10	0	22	15	0	0
Shark unident.	0	0	0	0	2	3	81
Yellow Irish Lord	3	2	< 1	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	< 1	0	0	0	0	0
Smelts	2	0	0	0	0	< 1	< 1
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	2	14	2	< 1	0	< 1
Bairdi Tanner crab	0	0	0	0	< 1	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	< 1	0	0
Sidestripe shrimp	0	0	0	0	0	0	0
Scallop unident.	0	< 1	< 1	0	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	< 1	0	0	0	0	< 1
Starfish	0	< 1	< 1	< 1	0	0	12
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	1	< 1	< 1	< 1	0	0
Other invertebrates	4	36	10	2	1	1	3
Total catch (kg)	515	138	101	208	799	398	227

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	206	207	208	209	210	211	212
Start date & time	07/08/01 10	07/08/01 14	07/08/01 16	07/09/01 07	07/09/01 09	07/09/01 11	07/09/01 14
Start latitude	N 5747.32	N 5754.54	N 5807.01	N 5757.77	N 5753.77	N 5744.24	N 5740.29
Start longitude	W 15125.58	W 15117.15	W 15109.59	W 15040.03	W 15021.92	W 15020.57	W 14951.86
End latitude	N 5748.010	N 5754.100	N 5807.76	N 5758.48	N 5752.88	N 5745.08	N 5741.05
End longitude	W 15125.24	W 15115.62	W 15109.53	W 15039.40	W 15021.29	W 15020.42	W 14951.06
Bottom depth (m)	57	74	124	119	152	109	318
Duration (minutes)	16.8	17.4	14.4	16.2	18	17.4	18
Distance fished (km)	1.517	1.771	1.408	1.495	1.806	1.583	1.656
Performance	0	1.1	1.1	0	0	0	-2.4
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	3	28	13	29	0	0
Walleye pollock	0	3	0	< 1	16	0	0
Pacific ocean perch	0	0	12	207	541	15	40
Northern rockfish	0	0	6	0	0	193	0
Shortraker rockfish	0	0	0	0	0	0	164
Rougeye rockfish	0	0	0	0	< 1	0	91
Shortspine thornyhead	0	0	0	0	0	0	21
Light dusky rockfish	0	0	27	0	0	117	0
Other rockfish	0	0	0	0	0	15	0
Sablefish	0	0	564	1	49	0	18
Arrowtooth flounder	0	< 1	2717	53	127	< 1	8
Pacific halibut	83	65	24	39	20	7	0
Northern rock sole	7	13	0	0	0	0	0
Southern rock sole	< 1	79	1	0	0	1	0
Flathead sole	0	0	22	2	7	0	0
Rex sole	0	0	19	4	8	0	8
Dover sole	0	0	28	< 1	5	0	13
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	4	3	7	0	6	0
Skate unident.	0	0	24	0	12	0	0
Shark unident.	13	0	0	0	0	0	0
Yellow Irish Lord	0	< 1	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	< 1	0	0	< 1
Smelts	< 1	< 1	0	0	0	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	21	0	0	0	< 1	14	< 1
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	0	0	0	0	0	0	< 1
Scallop unident.	0	0	0	< 1	< 1	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	< 1	< 1	< 1	0	< 1	0
Starfish	4	5	4	< 1	0	0	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	< 1	< 1	< 1	0	0	< 1
Other invertebrates	17	29	11	4	16	< 1	3
Total catch (kg)	145	203	3492	333	831	369	368

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	213	214	215	216	217	218	219
Start date & time	07/09/01 18	07/10/01 07	07/10/01 11	07/10/01 15	07/10/01 18	07/11/01 07	07/11/01 10
Start latitude	N 5733.63	N 5732.73	N 5751.67	N 5800.39	N 5757.06	N 5801.17	N 5807.63
Start longitude	W 15029.69	W 15013.55	W 14943.93	W 14906.92	W 14955.15	W 14959.81	W 15000.53
End latitude	N 5734.36	N 5732.26	N 5751.51	N 5800.10	N 5757.06	N 5801.15	N 5807.62
End longitude	W 15028.63	W 15014.80	W 14945.47	W 14905.53	W 14953.65	W 15001.43	W 15002.18
Bottom depth (m)	116	302	262	139	261	283	245
Duration (minutes)	18.6	16.2	16.2	16.2	16.2	16.8	16.8
Distance fished (km)	1.769	1.56	1.575	1.519	1.501	1.622	1.634
Performance	0	2	1.1	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	0	0	0	0
Walleye pollock	0	1	8	0	5	6	8
Pacific ocean perch	0	12	759	< 1	6	< 1	38
Northern rockfish	0	0	0	0	0	0	0
Shortraker rockfish	0	37	0	0	0	0	0
Rougeye rockfish	0	9	7	0	0	0	0
Shortspine thornyhead	0	31	13	0	18	22	46
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	< 1	2	0	< 1	0	0
Sablefish	0	5	34	0	65	52	111
Arrowtooth flounder	23	16	15	73	43	147	63
Pacific halibut	28	0	7	23	21	12	23
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	5	0	0	1	0	0	0
Flathead sole	0	< 1	< 1	0	1	3	13
Rex sole	0	14	26	0	55	23	23
Dover sole	0	13	8	0	< 1	21	8
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	2
Salmon	0	0	0	0	0	0	0
Skate unident.	10	0	< 1	0	13	0	14
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	7	4
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	1	0	0	0	0
Smelts	< 1	0	0	0	34	13	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	0	0	1	0	0	0
Bairdi Tanner crab	0	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	< 1	0
Sidestripe shrimp	0	< 1	< 1	0	< 1	< 1	2
Scallop unident.	< 1	0	0	0	0	0	0
Magistrate armhook squid	0	< 1	< 1	0	0	11	0
Sponges	0	0	3	< 1	0	< 1	0
Starfish	0	< 1	< 1	< 1	0	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	1	0	0	0	0	0
Octopus	0	0	0	0	< 1	0	0
Snails	0	0	0	< 1	0	< 1	0
Other invertebrates	2	3	< 1	8	5	8	2
Total catch (kg)	68	144	882	108	268	328	357

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	220	221	222	223	224	225	226
Start date & time	07/11/01 13	07/11/01 16	07/11/01 18	07/12/01 07	07/12/01 09	07/12/01 16	07/13/01 07
Start latitude	N 5816.61	N 5818.62	N 5816.33	N 5825.42	N 5826.69	N 5848.83	N 5850.44
Start longitude	W 15031.36	W 15111.05	W 15113.07	W 15105.01	W 15128.29	W 15135.53	W 15116.96
End latitude	N 5816.62	N 5818.14	N 5815.76	N 5826.19	N 5827.09	N 5848.40	N 5849.89
End longitude	W 15033.13	W 15109.93	W 15114.23	W 15105.38	W 15129.59	W 15134.33	W 15115.76
Bottom depth (m)	60	86	128	78	173	137	134
Duration (minutes)	16.2	16.8	16.8	16.8	16.2	16.8	17.4
Distance fished (km)	1.744	1.445	1.585	1.506	1.487	1.451	1.591
Performance	0	0	0	0	0	6.1	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	56	6	57	0	2
Walleye pollock	0	0	0	0	117	0	0
Pacific ocean perch	0	0	1	0	0	0	6
Northern rockfish	0	0	< 1	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	0	0	2	0	0
Shortspine thornyhead	0	0	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	0	0	0	0	0	4
Sablefish	0	0	127	0	55	22	1317
Arrowtooth flounder	0	4	915	2	23	49	133
Pacific halibut	402	41	26	248	48	30	70
Northern rock sole	0	0	0	14	0	0	0
Southern rock sole	8	14	0	42	0	0	0
Flathead sole	0	0	0	0	10	0	0
Rex sole	0	0	1	0	27	3	0
Dover sole	0	0	2	0	26	2	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	3	0	0	0	15	3
Skate unident.	0	10	< 1	0	0	0	< 1
Shark unident.	17	7	5	22	3	1	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	10	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	0	< 1	0	0
Smelts	0	< 1	0	< 1	2	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	0	24	0	0	< 1	< 1	3
Bairdi Tanner crab	< 1	0	0	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	< 1	0	< 1	0	0
Sidestripe shrimp	0	0	0	0	< 1	0	0
Scallop unident.	0	< 1	< 1	0	0	0	0
Magistrate armhook squid	0	0	0	0	1	0	0
Sponges	< 1	< 1	< 1	0	0	< 1	1
Starfish	1	< 1	< 1	0	< 1	0	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	0	< 1	< 1	< 1	< 1	< 1
Other invertebrates	< 1	6	5	3	5	2	4
Total catch (kg)	429	111	1141	337	387	126	1544



Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	227	228	229	230	231	232	233
Start date & time	07/13/01 10	07/13/01 13	07/13/01 16	07/13/01 19	07/14/01 09	07/14/01 12	07/14/01 16
Start latitude	N 5853.03	N 5854.64	N 5846.33	N 5852.01	N 5850.15	N 5847.37	N 5849.05
Start longitude	W 15052.12	W 15019.30	W 15023.56	W 15017.88	W 15004.69	W 15001.01	W 14926.42
End latitude	N 5853.04	N 5854.26	N 5845.53	N 5851.100	N 5850.14	N 5847.37	N 5849.03
End longitude	W 15050.58	W 15021.42	W 15023.41	W 15016.39	W 15003.02	W 14959.21	W 14928.09
Bottom depth (m)	170	141	158	170	179	170	204
Duration (minutes)	16.8	16.8	16.2	16.2	17.4	18	16.8
Distance fished (km)	1.505	1.883	1.526	1.457	1.633	1.746	1.626
Performance	0	0	0	0	0	1.1	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	< 1	16	21	0	0	9	0
Walleye pollock	< 1	< 1	0	< 1	2	15	2
Pacific ocean perch	14	4629	0	2	93	617	7
Northern rockfish	< 1	7	0	< 1	0	2	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougeye rockfish	0	0	0	< 1	25	19	8
Shortspine thornyhead	0	0	0	0	0	0	38
Light dusky rockfish	0	20	0	2	2	223	0
Other rockfish	0	0	0	0	< 1	301	0
Sablefish	109	357	8	26	25	122	7
Arrowtooth flounder	24	440	10	44	67	89	60
Pacific halibut	0	38	299	0	9	38	0
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	0	0	0	0	0
Flathead sole	0	0	0	0	0	0	< 1
Rex sole	< 1	5	0	4	15	19	< 1
Dover sole	0	1	0	< 1	11	3	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	0	0	0	0	0
Salmon	0	0	0	0	8	21	0
Skate unident.	5	9	0	0	< 1	< 1	0
Shark unident.	0	4	0	3	0	2	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	8
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	< 1	0	0	0
Smelts	0	0	0	< 1	< 1	0	5
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	0	< 1	< 1	6	28	< 1
Bairdi Tanner crab	< 1	0	< 1	< 1	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	< 1	0	0	< 1	1	0	< 1
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	< 1	0	< 1	0	43	356	0
Starfish	< 1	< 1	0	0	< 1	2	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	< 1	0	0
Snails	0	0	0	0	0	0	< 1
Other invertebrates	< 1	< 1	4	4	2	2	15
Total catch (kg)	155	5528	341	87	312	1868	152

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	234	235	236	237	238	239	240
Start date & time	07/15/01 07	07/15/01 09	07/15/01 12	07/15/01 15	07/16/01 07	07/16/01 11	07/16/01 13
Start latitude	N 5844.31	N 5841.54	N 5835.20	N 5851.98	N 5858.36	N 5903.77	N 5901.60
Start longitude	W 14911.41	W 14911.66	W 14857.42	W 14841.30	W 14759.88	W 14802.83	W 14802.73
End latitude	N 5844.33	N 5841.09	N 5835.03	N 5851.36	N 5857.66	N 5903.80	N 5901.49
End longitude	W 14909.83	W 14910.31	W 14855.93	W 14840.01	W 14801.63	W 14801.18	W 14800.100
Bottom depth (m)	186	131	113	274	372	138	139
Duration (minutes)	17.4	16.8	16.2	18	21.6	17.4	18.6
Distance fished (km)	1.537	1.581	1.515	1.732	2.171	1.602	1.691
Performance	0	0	1.1	0	4.1	0	6.1
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	0	0	0	0
Walleye pollock	< 1	0	< 1	3	0	0	484
Pacific ocean perch	76	7	0	8	3	< 1	< 1
Northern rockfish	3	1	132	0	0	0	0
Shortraker rockfish	0	0	0	0	171	0	0
Roughey rockfish	3	0	0	20	432	0	0
Shortspine thornyhead	32	0	0	44	87	0	0
Light dusky rockfish	0	166	135	0	0	0	0
Other rockfish	0	63	34	< 1	0	2	< 1
Sablefish	13	0	0	46	51	0	0
Arrowtooth flounder	79	62	2	33	33	< 1	2
Pacific halibut	0	86	94	9	0	84	90
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	3	0	0	0	0
Flathead sole	2	5	0	0	0	0	0
Rex sole	< 1	27	0	5	6	0	0
Dover sole	13	10	0	2	64	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	< 1	0	0	0	0	0	0
Salmon	0	0	0	0	0	0	0
Skate unident.	3	34	16	0	0	0	21
Shark unident.	0	0	0	0	0	0	0
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	4	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	0	0	0	0
Smelts	104	0	0	< 1	0	0	0
Giant grenadier	0	0	0	0	149	0	0
Other fish	5	52	66	0	< 1	12	3
Bairdi Tanner crab	0	0	< 1	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	0	0	0	0	0
Sidestripe shrimp	1	0	0	0	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	< 1	< 1	0	< 1	10	0	< 1
Sponges	6	< 1	0	6	7	0	< 1
Starfish	< 1	0	< 1	< 1	< 1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	< 1	0	< 1	0	< 1	0	< 1
Other invertebrates	5	3	11	< 1	5	6	5
Total catch (kg)	350	516	493	179	1017	105	607

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	242	243	244	245	246	247	248
Start date & time	07/16/01 17	07/16/01 19	07/16/01 21	07/17/01 07	07/17/01 12	07/17/01 16	07/18/01 07
Start latitude	N 5914.12	N 5927.04	N 5936.78	N 5932.30	N 5946.58	N 5939.45	N 5956.51
Start longitude	W 14832.48	W 14830.97	W 14853.05	W 14657.94	W 14726.95	W 14808.56	W 14832.78
End latitude	N 5913.59	N 5926.40	N 5936.71	N 5933.03	N 5945.92	N 5938.78	N 5955.77
End longitude	W 14831.15	W 14830.04	W 14851.39	W 14659.10	W 14728.14	W 14807.63	W 14834.04
Bottom depth (m)	107	118	176	207	83	74	42
Duration (minutes)	17.4	15.6	16.8	17.4	16.8	15.6	19.2
Distance fished (km)	1.626	1.513	1.596	1.758	1.68	1.533	1.871
Performance	0	0	0	0	1.1	2.1	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	0	0	0	0
Walleye pollock	71	0	7	4	3	0	0
Pacific ocean perch	< 1	0	0	< 1	0	0	0
Northern rockfish	0	< 1	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Rougheye rockfish	0	0	2	7	0	0	0
Shortspine thornyhead	0	0	0	20	0	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	< 1	0	0	0	3	2	0
Sablefish	0	3	1	0	0	0	0
Arrowtooth flounder	16	419	28	20	64	0	5
Pacific halibut	9	0	3	0	14	151	101
Northern rock sole	0	0	0	0	0	0	5
Southern rock sole	0	0	0	0	0	0	308
Flathead sole	0	< 1	< 1	0	0	0	0
Rex sole	0	4	< 1	0	1	0	0
Dover sole	0	2	< 1	0	< 1	0	0
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	< 1	< 1	0	0	0	0
Salmon	0	0	0	5	16	0	2
Skate unident.	0	2	8	0	0	0	0
Shark unident.	0	5	5	4	28	3	2
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	0	0	0	0	0	0	0
Smelts	0	0	192	4	< 1	0	0
Giant grenadier	0	0	0	0	0	0	0
Other fish	< 1	0	< 1	1	24	16	28
Bairdi Tanner crab	0	0	< 1	0	0	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	0	0	1	< 1	0	0	0
Sidestripe shrimp	0	0	< 1	2	0	0	0
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	0	0	0	0	0
Sponges	0	0	0	0	0	0	0
Starfish	0	< 1	< 1	3	< 1	0	0
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	0	0	< 1	0	0	< 1
Other invertebrates	13	6	7	< 1	< 1	< 1	< 1
Total catch (kg)	109	443	259	71	153	172	451

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	249	250	251	252	253	254	255
Start date & time	07/18/01 09	07/18/01 13	07/18/01 15	07/18/01 21	07/19/01 11	07/19/01 17	07/19/01 21
Start latitude	N 5949.75	N 5929.62	N 5924.84	N 5946.80	N 5950.62	N 5910.66	N 5904.87
Start longitude	W 14852.10	W 14933.82	W 14944.78	W 14934.51	W 14931.61	W 15014.98	W 15049.09
End latitude	N 5950.27	N 5928.82	N 5924.06	N 5947.60	N 5949.78	N 5911.44	N 5905.25
End longitude	W 14850.77	W 14933.28	W 14944.74	W 14934.41	W 14931.45	W 15015.65	W 15050.61
Bottom depth (m)	174	103	188	111	181	141	201
Duration (minutes)	16.8	16.2	16.8	16.2	17.4	16.8	16.8
Distance fished (km)	1.593	1.688	1.513	1.499	1.604	1.619	1.645
Performance	0	0	0	0	0	0	0
Atka mackerel	0	0	0	0	0	0	0
Pacific cod	0	0	0	0	0	26	17
Walleye pollock	9	< 1	12	10	1	0	58
Pacific ocean perch	0	< 1	< 1	0	0	8	0
Northern rockfish	0	0	1	0	0	0	0
Shortraker rockfish	0	0	0	0	0	0	0
Roughey rockfish	2	0	3	7	16	0	0
Shortspine thornyhead	0	0	0	0	1	0	0
Light dusky rockfish	0	0	0	0	0	0	0
Other rockfish	0	4	0	0	0	0	0
Sablefish	2	0	4	4	6	17	4
Arrowtooth flounder	114	< 1	164	73	60	715	111
Pacific halibut	0	23	0	0	0	62	18
Northern rock sole	0	0	0	0	0	0	0
Southern rock sole	0	0	0	< 1	0	0	0
Flathead sole	15	0	4	55	48	< 1	0
Rex sole	5	< 1	< 1	11	11	9	32
Dover sole	8	0	< 1	12	< 1	< 1	28
Yellowfin sole	0	0	0	0	0	0	0
Other flatfish	0	0	1	< 1	0	0	0
Salmon	0	25	5	0	0	21	0
Skate unident.	33	0	12	11	15	0	< 1
Shark unident.	0	7	3	50	2	4	3
Yellow Irish Lord	0	0	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0	0	0
Great sculpin	0	0	0	0	0	0	0
Other sculpins	< 1	0	< 1	2	1	0	0
Smelts	27	2	26	4	2	< 1	79
Giant grenadier	0	0	0	0	0	0	0
Other fish	1	8	< 1	2	< 1	21	0
Bairdi Tanner crab	< 1	0	0	< 1	< 1	0	0
Golden king crab	0	0	0	0	0	0	0
Red king crab	0	0	0	0	0	0	0
Northern shrimp	2	0	1	< 1	10	0	< 1
Sidestripe shrimp	2	0	< 1	< 1	7	0	< 1
Scallop unident.	0	0	0	0	0	0	0
Magistrate armhook squid	0	0	< 1	< 1	< 1	0	0
Sponges	0	0	0	0	0	< 1	< 1
Starfish	2	< 1	< 1	1	1	< 1	< 1
Stony coral unident.	0	0	0	0	0	0	0
Soft coral	0	0	0	0	0	0	0
Octopus	0	0	0	0	0	0	0
Snails	0	0	0	0	0	0	0
Other invertebrates	4	< 1	3	9	5	3	3
Total catch (kg)	226	73	245	254	189	886	354

Fishing Log: F/V *Vesteraalen*, Cruise 2001-01.

Haul number	256	257	258	259	260
Start date & time	07/20/01 10	07/21/01 07	07/21/01 12	07/21/01 15	07/21/01 18
Start latitude	N 5949.42	N 5936.61	N 5906.04	N 5907.16	N 5846.56
Start longitude	W 15158.78	W 15315.30	W 15331.73	W 15249.80	W 15239.29
End latitude	N 5950.28	N 5936.62	N 5907.04	N 5907.19	N 5847.23
End longitude	W 15157.89	W 15313.54	W 15331.83	W 15251.45	W 15239.95
Bottom depth (m)	32	20	36	149	209
Duration (minutes)	18.6	18.6	18.6	16.8	16.2
Distance fished (km)	1.841	1.681	1.885	1.595	1.443
Performance	4.1	0	0	0	0
Atka mackerel	0	0	0	0	0
Pacific cod	0	0	< 1	38	22
Walleye pollock	0	0	< 1	73	38
Pacific ocean perch	0	0	0	0	0
Northern rockfish	0	0	0	0	0
Shortraker rockfish	0	0	0	0	0
Rougeye rockfish	0	0	0	0	3
Shortspine thornyhead	0	0	0	0	0
Light dusky rockfish	0	0	0	0	0
Other rockfish	0	0	0	0	0
Sablefish	0	0	0	4	18
Arrowtooth flounder	0	0	< 1	160	165
Pacific halibut	190	16	27	14	0
Northern rock sole	3	< 1	3	0	0
Southern rock sole	0	0	0	0	0
Flathead sole	0	0	7	34	34
Rex sole	0	0	0	4	2
Dover sole	0	0	< 1	2	24
Yellowfin sole	0	< 1	33	0	0
Other flatfish	873	20	10	0	0
Salmon	0	< 1	0	5	0
Skate unident.	19	0	50	0	0
Shark unident.	0	211	167	286	0
Yellow Irish Lord	0	0	0	0	0
Bigmouth sculpin	0	0	0	0	0
Great sculpin	0	0	0	0	0
Other sculpins	0	0	0	0	0
Smelts	0	0	0	8	3
Giant grenadier	0	0	0	0	0
Other fish	< 1	1	6	0	< 1
Bairdi Tanner crab	0	0	< 1	< 1	< 1
Golden king crab	0	0	0	0	0
Red king crab	0	0	0	0	0
Northern shrimp	0	0	0	3	< 1
Sidestripe shrimp	0	0	0	0	< 1
Scallop unident.	0	0	0	< 1	0
Magistrate armhook squid	0	0	0	0	7
Sponges	0	0	0	0	0
Starfish	0	0	0	< 1	< 1
Stony coral unident.	0	0	0	0	0
Soft coral	0	0	0	0	0
Octopus	0	0	0	0	0
Snails	< 1	0	< 1	0	< 1
Other invertebrates	4	0	< 1	7	22
Total catch (kg)	1090	249	305	638	339



**Section 3****Ranked Catch Per Unit Effort by Species or Species Group**

- The summary listings of catch rates for selected species are presented as kilograms of catch per hectare (kg/ha) trawled.
- Average individual animal weight (kg).
- Vessel codes (57 = *Morning Star* and 94 = *Vesteraalen*)
- Average bottom depth is in meters





Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Atka mackerel	4,606	1.10	94	3	83					
Pacific cod	873	3.01	57	2	50	42	1.45	94	157	91
	787	2.45	57	53	67	40	1.35	94	39	91
	351	2.68	57	109	139	39	2.80	94	20	47
	303	2.47	57	155	64	38	1.83	57	240	54
	267	1.08	57	86	106	36	2.60	57	208	147
	263	1.19	94	61	40	36	1.25	57	191	70
	227	3.53	57	16	57	35	2.84	94	150	130
	214	1.78	57	40	61	35	2.36	57	211	125
	188	2.09	57	178	24	33	3.43	57	190	104
	184	2.05	57	26	81	32	2.11	57	50	68
	168	2.44	94	43	70	30	2.22	94	198	154
	143	3.08	57	24	91	27	2.93	94	103	142
	124	7.00	94	3	83	26	1.64	57	41	85
	121	2.89	94	67	178	24	1.16	57	260	126
	108	2.08	57	225	134	24	2.60	94	177	154
	89	1.80	94	34	105	24	2.65	57	215	125
	84	1.19	57	19	79	24	2.27	57	235	156
	72	2.81	94	68	186	23	1.08	94	24	103
	67	1.27	94	21	77	23	2.83	94	224	173
	58	2.65	57	182	174	23	3.01	94	139	142
	56	2.86	57	159	87	22	0.88	94	222	128
	52	1.03	57	145	89	21	1.56	94	176	100
	51	1.97	57	263	111	21	2.33	57	257	173
	48	3.00	57	133	121	20	2.02	94	23	108
	47	2.15	94	204	72	20	1.74	94	37	92
	46	2.54	94	189	103					
Walleye pollock	938	0.88	94	68	186	52	0.05	57	184	78
	571	0.97	94	67	178	48	0.54	94	224	173
	420	1.41	57	190	104	46	0.18	94	138	94
	277	1.36	57	208	147	40	0.46	94	193	136
	215	0.07	57	185	80	40	0.91	94	177	154
	187	1.43	57	178	24	39	1.00	94	194	158
	170	0.04	94	240	139	37	0.16	94	40	66
	165	1.04	57	225	134	36	0.43	94	39	91
	159	1.31	94	64	124	34	0.17	57	46	43
	155	1.15	57	41	85	34	1.08	94	37	92
	119	0.98	57	204	227	34	1.82	94	139	142
	81	1.33	57	261	131	34	1.47	94	96	125
	79	0.66	57	176	179	33	1.26	94	26	101
	78	1.02	94	197	145	32	1.06	94	41	112
	77	0.70	94	190	82	30	0.28	94	66	170
	75	0.08	57	109	139	30	0.43	94	198	154
	74	0.54	94	120	65	29	1.09	94	259	149
	69	1.19	57	177	63	28	0.89	94	42	102
	68	1.23	57	182	174	28	1.11	94	9	322
	64	1.43	94	189	103	27	0.04	94	242	107
	61	0.75	57	254	121	26	0.69	57	49	77
	56	1.32	94	203	112	26	1.22	57	23	65
	52	1.20	57	256	152	25	0.08	94	119	157

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	Individual weight			Gear depth			Individual weight			Gear depth		
	CPUE (kg/ha)	(kg)	Vessel	Haul	(m)	CPUE (kg/ha)	(kg)	Vessel	Haul	(m)		
Walleye pollock	24	0.85	57	246	239	21	1.55	57	187	134		
	23	0.17	57	199	197	21	0.11	57	162	187		
	22	0.48	94	137	143	20	1.08	94	255	201		
	22	0.38	94	136	168	20	0.96	57	200	186		
Pacific ocean perch	3,070	0.44	57	4	107	113	0.62	57	221	167		
	3,026	0.82	57	225	134	107	0.69	94	173	228		
	2,277	0.52	57	1	237	105	0.66	57	205	179		
	1,968	0.63	57	203	120	98	0.79	57	220	168		
	1,472	0.82	94	228	141	92	0.70	94	104	160		
	654	0.69	94	170	222	90	0.71	94	209	119		
	573	0.58	57	61	112	87	0.09	94	76	92		
	489	0.79	57	103	178	57	0.86	57	160	179		
	394	0.81	57	208	147	53	0.50	57	95	127		
	287	0.64	94	215	262	43	0.34	94	165	107		
	272	0.49	94	3	83	42	0.77	57	154	179		
	234	0.67	57	230	224	39	0.67	57	14	247		
	213	0.67	57	232	277	36	0.47	94	5	110		
	209	0.77	94	232	170	34	0.63	57	29	306		
	190	0.77	94	84	156	33	0.60	94	231	179		
	184	0.64	94	210	152	32	0.13	57	142	85		
	177	0.76	57	210	109	31	0.65	94	83	206		
160	0.66	94	106	192	29	0.66	94	234	186			
133	0.67	94	13	261	27	0.31	57	90	102			
121	0.72	57	204	227	26	0.67	57	69	209			
117	0.68	94	147	131	20	0.81	57	249	156			
Northern rockfish	8,744	0.82	57	203	120	60	0.80	57	51	74		
	721	0.57	94	3	83	55	0.81	94	89	87		
	688	0.78	57	4	107	51	0.87	94	236	113		
	628	0.81	94	148	111	48	0.34	94	76	92		
	482	0.74	94	165	107	43	0.99	94	5	110		
	298	1.53	94	23	108	42	0.61	94	170	222		
	160	0.68	57	183	82	39	0.73	57	94	121		
	84	0.68	57	90	102	36	0.85	57	67	108		
	82	0.86	94	88	117	30	0.65	94	164	106		
	78	0.71	94	211	109	28	0.50	94	174	100		
	64	0.68	94	75	96	25	1.24	94	50	83		
	64	0.62	57	225	134	24	0.90	57	156	91		
Shortraker rockfish	71	2.91	57	152	256	14	3.05	94	214	302		
	60	4.21	94	212	318	14	4.64	94	167	280		
	47	4.84	94	155	240	10	4.40	57	223	227		
	44	2.71	94	238	372	9	4.74	94	172	404		
	34	4.41	57	237	391	7	2.29	94	53	273		
	33	3.47	57	29	306	7	2.87	57	13	315		
	32	3.04	57	28	314	7	3.55	94	143	337		
	28	2.37	94	9	322	7	2.19	94	85	373		
	28	2.68	57	147	366	6	2.37	94	56	280		
	21	2.67	94	154	368	6	3.06	57	148	251		
	19	2.21	94	54	393	4	2.10	94	52	400		
	18	2.45	57	93	359	4	3.47	57	146	297		
16	2.46	94	144	281	4	1.84	94	105	414			

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	Individual weight			Gear depth			Individual weight			Gear depth		
	CPUE (kg/ha)	(kg)	Vessel	Haul	(m)	CPUE (kg/ha)	(kg)	Vessel	Haul	(m)		
Rougheye rockfish	112	1.25	94	238	372	11	1.39	57	13	315		
	95	1.18	57	29	306	10	1.04	57	242	198		
	93	1.28	57	28	314	9	0.29	94	231	179		
	73	0.78	57	239	212	9	0.86	57	241	209		
	48	1.49	94	144	281	8	0.96	57	246	239		
	37	1.29	57	233	448	7	0.71	94	237	274		
	35	1.10	57	237	391	7	1.23	57	93	359		
	33	1.14	94	212	318	6	0.31	94	253	181		
	29	1.55	94	9	322	6	0.72	57	223	227		
	28	1.57	57	152	256	6	0.33	94	232	170		
	27	0.89	57	231	275	6	1.58	94	85	373		
	20	1.34	57	147	366	6	0.43	57	84	153		
	12	0.92	57	1	237	6	0.75	57	63	250		
	12	1.91	94	167	280							
Shortspine thornyhead	40	0.22	57	28	314	12	0.23	94	214	302		
	34	0.37	57	92	440	12	0.21	94	155	240		
	31	0.22	94	54	393	12	0.25	57	152	256		
	30	0.22	57	29	306	12	0.34	57	69	209		
	29	0.23	57	237	391	11	0.35	57	223	227		
	27	0.21	94	87	257	10	0.26	94	52	400		
	27	0.26	57	63	250	10	0.32	94	85	373		
	26	0.27	94	53	273	10	0.33	57	70	206		
	24	0.19	57	14	247	9	0.36	57	224	220		
	23	0.22	94	56	280	8	0.42	94	218	283		
	23	0.17	94	238	372	8	0.22	94	212	318		
	23	0.19	57	148	251	8	0.30	94	9	322		
	23	0.24	94	172	404	8	0.17	94	170	222		
	21	0.16	57	13	315	8	0.28	94	83	206		
	21	0.24	94	86	275	7	0.39	94	217	261		
	20	0.24	94	167	280	7	0.35	57	158	269		
	20	0.22	57	146	297	7	0.30	57	101	283		
	18	0.24	94	105	414	7	0.29	57	231	275		
	16	0.32	94	219	245	7	0.20	57	230	224		
	16	0.26	57	93	359	6	0.29	94	245	207		
	16	0.27	94	143	337	6	0.30	57	232	277		
	15	0.32	94	237	274	5	0.17	94	215	262		
	15	0.26	94	13	261	4	0.28	57	149	166		
	15	0.16	57	147	366	3	0.26	94	173	228		
	15	0.22	57	96	243	3	0.36	57	238	196		
	15	0.19	94	154	368	3	0.42	57	222	230		
14	0.36	94	233	204	2	0.16	94	14	221			
14	0.22	94	144	281	2	0.43	57	241	209			
13	0.24	57	8	288	2	0.22	94	78	196			
13	0.17	57	233	448	2	0.44	57	239	212			
12	0.24	94	234	186								
Dusky rockfish	376	0.88	57	183	82	47	1.62	94	211	109		
	162	1.40	57	203	120	41	0.88	57	263	111		
	76	1.15	94	232	170	25	0.75	94	151	76		
	62	1.78	94	235	131	19	1.40	94	5	110		
	58	0.99	57	4	107	19	1.20	94	88	117		
	52	1.55	94	236	113							

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Other	102	0.36	94	232	170	13	0.56	94	236	113
rockfish	63	0.39	57	4	107	12	1.34	57	51	74
	39	0.63	57	203	120	8	0.69	94	23	108
	24	0.84	94	235	131	6	0.43	94	211	109
	22	0.31	57	229	126	6	0.49	57	221	167
Sablefish	605	1.89	57	210	109	39	2.27	94	219	245
	484	1.67	94	226	134	38	1.91	57	101	283
	240	1.75	94	208	124	38	3.12	94	105	414
	227	1.78	57	208	147	37	2.02	57	70	206
	202	3.16	57	230	224	35	3.47	57	152	256
	165	1.96	57	103	178	32	2.29	57	129	261
	158	4.64	57	233	448	29	2.09	57	63	250
	113	1.84	94	228	141	28	2.13	57	148	251
	110	2.23	57	69	209	27	2.10	57	218	181
	85	2.39	57	220	168	26	1.99	94	115	210
	84	2.28	57	68	205	26	4.09	94	172	404
	72	2.10	94	86	275	26	2.63	94	143	337
	69	1.33	57	205	179	25	2.70	94	217	261
	67	3.20	94	170	222	24	2.36	94	133	274
	59	2.22	57	96	243	22	2.48	94	224	173
	59	3.13	94	166	148	22	1.68	94	14	221
	59	2.65	57	219	183	22	2.54	57	223	227
	56	2.20	94	114	228	21	0.20	57	46	43
	50	1.83	57	209	158	21	2.19	94	106	192
	49	1.67	94	222	128	20	2.18	57	126	250
	44	1.85	94	87	257	20	3.23	57	237	391
	41	1.78	94	227	170	20	2.70	57	158	269
	41	3.27	94	154	368	20	1.67	94	83	206
	41	2.96	94	232	170	20	2.56	57	221	167
	40	2.53	57	131	212					
Arrowtooth flounder	2,926	2.25	57	133	121	281	1.07	94	114	228
	1,153	1.20	94	208	124	264	0.85	94	254	141
	1,090	1.44	94	109	143	252	1.20	57	265	122
	996	1.37	57	210	109	242	1.41	57	125	185
	742	1.00	57	215	125	236	0.80	94	203	112
	715	1.45	57	219	183	214	0.72	94	107	155
	675	0.64	94	102	110	212	0.63	57	207	148
	625	1.55	94	165	107	205	0.87	57	208	147
	547	0.51	57	111	118	202	0.79	94	162	125
	511	0.87	57	209	158	186	0.56	94	180	139
	483	1.14	94	127	80	185	0.68	94	185	146
	446	2.03	94	15	173	180	1.02	57	102	152
	424	0.84	94	128	78	177	1.12	57	182	174
	360	1.09	94	194	158	174	0.69	94	158	120
	353	0.75	94	150	130	174	0.95	94	88	117
	353	1.21	94	115	210	170	0.57	94	243	118
	351	1.08	94	222	128	163	1.20	94	119	157
	320	1.16	57	144	103	158	0.47	57	179	146
	319	1.23	94	135	181	158	0.48	94	78	196
	287	0.94	57	109	139	157	0.44	57	86	106
	282	0.70	94	100	117	155	0.61	94	79	153

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Arrowtooth	151	1.03	94	118	174	81	0.76	94	91	137
flounder	149	1.69	57	191	70	80	1.14	57	129	261
	149	0.53	57	57	105	75	1.94	57	29	306
	145	0.37	57	81	124	74	1.05	57	128	263
	145	0.83	57	235	156	74	0.84	57	110	184
	144	1.03	94	139	142	73	1.69	94	260	209
	141	0.91	57	217	179	73	0.79	57	195	176
	140	0.80	94	228	141	73	0.37	57	79	117
	140	0.39	94	57	109	70	0.29	94	202	89
	137	0.41	94	120	65	70	0.17	57	112	111
	136	0.59	57	77	180	70	0.42	57	82	121
	136	0.64	57	66	144	69	0.94	94	67	178
	135	0.69	57	187	134	69	0.74	57	122	154
	132	0.50	57	65	118	67	0.89	94	251	188
	131	1.30	57	131	212	67	1.15	94	136	168
	130	1.32	94	166	148	66	1.01	94	68	186
	127	0.65	94	94	127	66	0.49	94	178	87
	125	0.63	57	234	147	64	2.50	94	167	280
	123	0.71	94	46	154	64	0.61	57	67	108
	122	0.65	94	48	134	63	0.59	57	218	181
	119	2.32	57	263	111	62	1.22	94	259	149
	119	0.48	57	180	151	62	0.65	57	266	128
	118	0.95	57	190	104	61	0.58	57	121	105
	116	0.84	57	123	181	59	0.65	94	147	131
	116	0.61	94	193	136	59	1.39	94	137	143
	116	0.64	94	92	105	58	1.04	57	260	126
	116	0.68	94	77	191	58	1.43	94	130	111
	115	1.18	94	142	230	56	0.54	94	153	87
	115	0.70	94	96	125	56	0.38	94	33	110
	113	0.56	94	8	161	56	0.89	94	103	142
	111	0.78	57	145	89	55	0.40	94	24	103
	107	1.16	57	132	189	55	1.01	94	117	227
	104	0.99	94	66	170	55	0.41	94	37	92
	104	1.24	94	204	72	54	1.08	94	133	274
	103	0.74	57	58	89	53	0.38	57	61	112
	102	1.00	57	124	192	52	0.89	57	200	186
	101	0.86	57	126	250	51	0.99	94	56	280
	98	0.44	94	49	149	51	1.05	57	264	153
	98	1.02	94	104	160	51	1.51	94	218	283
	95	0.68	94	64	124	51	1.16	94	164	106
	95	0.58	94	32	111	49	0.51	57	261	131
	95	0.72	57	211	125	49	0.43	94	226	134
	94	1.26	57	103	178	49	0.31	57	9	172
	93	0.78	94	199	68	49	1.09	57	220	168
	93	0.67	94	121	57	48	0.95	57	164	208
	91	1.16	94	10	106	48	1.09	94	84	156
	91	1.08	94	116	259	47	0.36	57	248	161
	89	0.77	94	81	96	47	0.75	94	82	131
	88	1.03	57	199	197	47	1.31	57	236	182
	88	0.29	94	69	127	46	0.28	94	113	108
	87	0.99	57	95	127	46	1.21	57	162	187
	85	0.63	57	78	190	45	0.85	94	55	144
	81	0.84	94	189	103	45	0.37	94	179	91

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Arrowtooth flounder	45	0.66	57	108	212	30	0.16	57	173	72
	45	0.66	57	107	216	30	0.71	94	232	170
	44	0.34	94	70	167	30	1.59	94	83	206
	44	1.91	94	155	240	29	0.41	94	41	112
	44	1.91	57	63	250	29	0.51	94	176	100
	44	0.44	57	60	146	29	0.23	94	134	62
	43	0.67	94	210	152	28	1.92	57	28	314
	42	0.80	94	249	174	28	0.55	57	150	64
	41	1.04	94	132	271	27	0.33	94	71	92
	41	0.45	94	197	145	27	0.17	57	130	64
	41	1.58	94	196	205	27	1.26	57	256	152
	40	1.01	57	242	198	26	1.47	57	201	70
	40	0.48	57	84	153	26	1.83	57	158	269
	39	0.78	94	255	201	26	0.75	57	240	54
	39	2.34	57	146	297	26	0.91	94	108	234
	39	0.34	57	85	144	25	0.32	57	34	114
	38	0.33	94	34	105	25		57	135	49
	38	0.42	57	228	147	25	1.35	94	145	156
	37	1.09	57	255	72	25	0.75	57	157	135
	37	0.60	57	243	145	24	0.45	94	231	179
	37	0.16	57	116	87	24	0.33	94	156	90
	36	0.50	57	268	87	24	0.53	57	221	167
	36	1.07	94	131	269	23	1.01	94	246	83
	36	0.50	57	250	165	23	0.30	57	192	79
	36	0.64	57	134	201	23	0.25	94	235	131
	36	0.99	57	163	193	23	0.39	94	209	119
	36	1.75	57	152	256	23	0.27	94	175	93
	36	0.95	57	241	209	23	0.98	94	192	64
	36	1.81	57	101	283	23	1.48	57	230	224
	36	0.35	94	51	128	22	0.72	94	253	181
	36	0.19	57	64	111	22	0.41	94	58	93
	35	1.66	57	148	251	22	0.27	94	47	157
	34	0.71	57	27	92	22	0.33	94	233	204
	34	1.04	94	11	97	22	0.32	94	219	245
	34	1.61	94	170	222	22	2.65	57	147	366
	34	0.22	94	152	84	21	0.82	57	194	56
	33	0.40	94	36	105	21	0.75	57	156	91
	33	0.72	94	157	91	21	0.26	57	115	151
	32	1.36	94	198	154	21	0.27	57	83	152
	32	0.54	57	94	121	20	0.26	94	35	99
	31	0.21	94	42	102	20	0.48	94	174	100
	31	1.05	94	177	154	20	1.34	57	149	166
	30	0.85	94	252	111	20	0.89	94	146	157
	30	0.47	94	234	186	20	1.98	57	178	24
	30	0.35	94	216	139	20	0.90	94	225	137
	30	0.24	57	12	109					
Pacific halibut	468	4.13	57	214	83	103	2.64	94	223	78
	183	5.46	57	213	68	100	6.59	57	174	47
	149	3.61	57	24	91	87	2.61	57	178	24
	147	2.77	94	220	60	81	3.28	57	171	46
	120	10.66	94	229	158	77	4.50	57	212	55
	118	9.75	57	133	121	76	12.99	94	171	70

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Pacific halibut	72	6.13	94	256	32	32	3.48	94	240	139
	68	1.74	57	23	65	32	9.54	94	235	131
	67	14.98	94	118	174	32	5.53	94	36	105
	66	1.62	94	123	58	32	3.40	57	170	37
	62	5.02	94	247	74	32	5.19	57	168	56
	61	5.89	57	259	57	32	6.49	57	111	118
	61	3.61	57	159	87	31	11.93	94	239	138
	60	17.05	94	94	127	31	13.05	57	182	174
	58	1.83	57	120	75	30	3.84	57	50	68
	54	4.38	57	45	42	30	1.53	94	44	63
	53	3.07	94	121	57	30	15.50	57	215	125
	53	8.01	57	61	112	30	12.10	94	37	92
	51	3.17	94	65	27	30	8.44	57	216	128
	50	2.41	94	168	71	29	1.82	57	47	43
	50	7.15	57	161	145	29	10.65	57	75	52
	49	7.37	94	140	51	29	6.42	57	211	125
	48	4.37	94	130	111	28	8.34	94	52	400
	46	3.33	57	87	106	28	2.70	94	120	65
	46	1.14	94	97	45	28	5.21	57	142	85
	45	2.08	94	43	70	27	12.57	57	144	103
	44	4.18	57	27	92	27	3.37	94	183	70
	44	8.59	57	139	61	27	2.92	94	122	62
	43	20.49	57	263	111	27	3.49	57	114	95
	43	4.40	57	119	78	26	5.73	57	41	85
	42	2.59	94	17	60	26	11.74	94	226	134
	41	9.28	94	2	85	26	6.91	94	169	66
	41	2.81	57	97	89	26	4.44	57	65	118
	40	8.89	57	42	46	26	3.54	57	35	84
	40	3.53	57	130	64	26	2.17	94	124	38
	40	1.25	57	53	67	25	0.66	94	61	40
	40	10.63	57	86	106	25	9.83	94	164	106
	39	7.43	57	268	87	24	3.04	57	46	43
	38	5.59	57	37	95	24	1.94	94	30	59
	38	4.91	94	81	96	24	5.98	94	11	97
	38	8.31	94	166	148	24	5.26	94	1	79
	38	4.28	57	104	93	24	5.86	57	183	82
	38	6.24	57	88	107	24	5.89	94	207	74
	38	2.73	57	62	73	24	2.45	94	192	64
	37	23.58	94	236	113	24	9.38	57	234	147
	37	9.80	57	125	185	23	8.81	94	254	141
	37	4.16	94	206	57	23	2.59	94	59	68
	36	1.68	94	184	64	23	4.86	57	255	72
	36	13.11	57	91	161	23	1.82	57	17	87
	36	8.91	94	103	142	23	9.82	57	102	152
	35	2.47	57	2	50	22	1.26	94	73	63
	35	3.01	94	186	83	22	6.64	94	56	280
	35	2.40	57	113	54	22	9.69	94	50	83
	35	10.42	57	99	91	22	4.96	94	202	89
	35	3.50	57	137	83	22	3.86	94	179	91
	34	1.88	94	248	42	22	6.07	57	79	117
	34	4.28	57	258	27	21	1.98	94	63	72
	34	3.61	57	55	85	21	2.97	57	173	72
	34	0.60	94	159	35	21	6.66	57	163	193

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	Individual		Gear			Individual		Gear		
	CPUE (kg/ha)	weight (kg)	Vessel	Haul	depth (m)	CPUE (kg/ha)	weight (kg)	Vessel	Haul	depth (m)
Pacific halibut	21	7.35	94	88	117	20	16.10	94	224	173
	21	9.75	57	69	209	20	1.37	57	117	37
	20	9.88	94	46	154	20	6.59	94	189	103
	20	9.31	57	208	147	20	3.73	94	15	173
	20	5.32	57	265	122	20	7.83	94	100	117
Northern rock sole	120	0.65	94	61	40	13	0.48	94	20	47
	57	0.61	57	113	54	12	0.27	94	59	68
	51	0.47	57	47	43	12	0.42	94	175	93
	47	0.57	57	191	70	12	0.39	94	205	64
	44	0.49	94	39	91	12	0.29	94	192	64
	42	0.59	57	192	79	12	0.32	94	38	45
	38	0.29	94	65	27	11	0.42	57	56	86
	37	0.37	57	45	42	10	0.26	57	40	61
	37	0.78	57	159	87	10	0.29	94	141	43
	36	0.41	94	44	63	10	0.63	57	186	79
	35	0.69	57	196	45	10	0.49	94	37	92
	32	0.47	57	194	56	9	0.36	57	43	44
	31	0.41	57	48	42	9	0.61	94	161	39
	31	0.52	94	157	91	9	1.08	57	178	24
	30	0.88	94	29	61	8	0.24	94	35	99
	29	0.40	94	36	105	8	0.39	94	6	67
	29	0.51	94	1	79	7	0.41	94	45	70
	26	1.44	57	171	46	7	0.38	94	26	101
	26	0.76	94	97	45	7	0.63	94	23	108
	24	0.98	57	16	57	7	0.79	57	2	50
	24	0.45	57	53	67	7	0.40	94	10	106
	23	0.47	57	150	64	7	0.49	94	110	72
	23	0.28	94	159	35	7	0.27	57	155	64
	22	0.28	57	27	92	7	0.28	94	95	23
	22	0.45	94	43	70	6	0.28	94	72	57
	20	0.99	57	168	56	6	0.70	94	67	178
20	0.45	94	123	58	6	0.64	57	49	77	
19	0.40	57	23	65	6	0.92	94	223	78	
16	0.55	94	182	62	6	0.63	57	3	64	
16	0.42	57	184	78	6	0.49	57	135	49	
15	0.39	94	31	94	6	0.69	94	8	161	
15	0.34	94	24	103	6	0.37	57	197	30	
15	0.42	57	201	70	6	0.47	94	187	81	
15	0.34	57	167	49	6	0.33	94	140	51	
14	0.48	94	60	44	6	0.23	94	112	69	
14	0.75	57	9	172	6	0.41	94	121	57	
14	0.53	94	93	69	6	0.75	57	61	112	
14	0.44	57	54	94						
Southern rock sole	153	0.76	94	61	40	65	0.50	57	193	75
	105	1.08	94	248	42	63	0.88	57	43	44
	94	0.67	57	40	61	62	0.87	57	186	79
	84	0.93	57	53	67	53	0.71	94	175	93
	82	0.51	94	93	69	51	0.79	57	113	54
	79	1.51	57	16	57	50	0.74	94	199	68
	79	0.74	94	140	51	49	0.47	57	191	70
75	0.79	94	182	62	48	0.84	57	201	70	



Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Southern rock sole	40	0.63	94	97	45	15	0.84	94	19	85
	39	0.82	94	73	63	15	0.96	94	161	39
	39	0.96	57	48	42	15	1.68	94	160	40
	39	0.73	94	63	72	15	0.39	94	99	78
	36	0.59	57	194	56	14	0.43	57	7	98
	36	1.07	57	3	64	14	0.92	94	112	69
	35	0.49	57	192	79	14	0.70	57	116	87
	35	0.74	94	6	67	14	0.91	94	123	58
	34	0.82	94	43	70	13	1.31	57	259	57
	34	0.66	94	38	45	13	0.52	57	253	32
	32	1.22	94	62	40	13	1.30	94	120	65
	32	0.67	94	200	52	13	0.70	57	98	90
	31	0.51	57	135	49	12	0.66	57	42	46
	31	0.69	94	187	81	12	0.55	57	202	75
	30	0.73	57	198	58	12	0.51	57	10	78
	29	0.40	57	137	83	12	0.49	94	201	60
	29	0.79	94	207	74	12	0.32	57	136	79
	27	1.16	57	262	60	11	0.69	94	72	57
	27	0.72	94	129	56	11	0.82	57	27	92
	26	0.95	57	2	50	11	0.92	94	22	103
	26	0.80	94	176	100	11	0.66	57	35	84
	24	0.88	57	19	79	11	0.82	57	183	82
	23	0.80	94	11	97	10	0.78	94	44	63
	23	0.48	94	186	83	10	0.68	57	120	75
	22	0.82	94	181	61	10	1.17	57	171	46
	21	1.03	94	60	44	10	0.89	57	58	89
	21	0.72	57	197	30	9	0.80	94	36	105
	21	0.97	94	179	91	9	1.00	94	21	77
	21	0.68	57	150	64	9	0.57	57	6	108
	21	1.58	94	110	72	9	0.64	57	59	87
	20	0.21	94	192	64	9	0.93	94	188	84
	20	0.69	57	73	73	9	0.61	94	168	71
	19	0.99	94	205	64	8	0.86	94	71	92
19	0.84	94	204	72	8	0.74	94	58	93	
19	0.80	94	178	87	8	1.34	57	44	24	
18	0.72	94	174	100	8	0.07	57	33	75	
18	1.18	57	184	78	8	0.58	94	35	99	
17	0.82	94	223	78	8	0.86	94	27	101	
17	0.50	94	45	70	8	0.97	57	5	116	
17	0.82	57	15	87	8	1.25	94	152	84	
17	0.49	57	138	78	8	0.95	57	188	36	
16	0.78	94	10	106	8	0.77	57	181	78	
16	1.00	94	1	79	8	1.08	57	174	47	
16	1.48	57	178	24	8	0.55	94	12	83	
16	0.73	57	72	90						
Flathead sole	235	0.42	57	49	77	110	0.33	94	66	170
	148	0.58	94	109	143	99	0.21	57	261	131
	144	0.47	94	37	92	93	0.30	94	46	154
	142	0.27	94	193	136	93	0.30	57	185	80
	134	0.23	94	40	66	89	0.62	57	56	86
	114	0.26	94	197	145	88	0.16	57	196	45
	113	0.39	94	96	125	83	0.31	94	41	112

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Flathead sole	81	0.57	94	189	103	23	0.42	94	94	127
	80	0.37	57	187	134	22	0.28	94	252	111
	77	0.38	57	34	114	22	0.38	57	176	179
	76	0.26	94	42	102	22	0.23	57	173	72
	71	0.30	94	139	142	21	0.30	94	34	105
	62	0.54	94	198	154	21	0.17	94	180	139
	61	0.39	57	200	186	19	0.16	57	177	63
	57	0.36	94	32	111	19	0.30	57	82	121
	55	0.41	57	199	197	18	0.34	94	253	181
	55	0.32	94	39	91	18	0.28	94	49	149
	55	0.43	94	33	110	17	0.30	57	207	148
	50	0.38	57	190	104	17	0.24	57	245	89
	50	0.33	94	128	78	17	0.37	94	149	128
	48	0.54	94	113	108	16	0.17	57	180	151
	45	0.28	57	41	85	16	0.19	57	179	146
	45	0.34	94	127	80	16	0.41	94	77	191
	43	0.24	94	194	158	16	0.20	57	84	153
	40	0.27	94	48	134	15	0.45	94	260	209
	39	0.36	57	263	111	15	0.22	57	195	176
	37	0.24	57	60	146	15	1.03	94	44	63
	34	0.15	94	64	124	15	0.54	57	256	152
	34	0.56	94	150	130	15	0.31	94	158	120
	32	0.49	94	59	68	15	0.23	94	92	105
	31	0.36	94	135	181	14	0.22	94	78	196
	31	0.39	94	134	62	13	0.42	94	259	149
	30	0.52	57	59	87	13	0.25	94	70	167
	28	0.32	57	78	190	13	0.27	57	252	75
28	0.16	94	190	82	13	0.28	94	118	174	
27	0.29	57	268	87	13	0.71	57	54	94	
27	0.37	57	254	121	12	0.50	57	130	64	
26	0.29	94	130	111	12	0.22	94	162	125	
24	0.28	57	77	180						
Rex sole	34	0.50	94	109	143	12	0.31	57	14	247
	27	0.52	94	106	192	12	0.72	94	196	205
	25	0.40	57	109	139	12	0.84	94	158	120
	23	0.46	94	13	261	12	0.75	94	127	80
	22	0.31	94	155	240	12	0.39	57	158	269
	22	0.37	57	79	117	12	0.22	57	152	256
	21	0.41	94	217	261	11	0.47	94	255	201
	20	0.63	94	128	78	11	0.60	57	13	315
	20	0.38	57	146	297	11	0.27	94	224	173
	20	0.55	57	89	225	11	0.62	94	177	154
	19	0.46	57	164	208	11	0.71	57	162	187
	18	0.47	94	149	128	11	0.55	57	154	179
	18	0.79	57	187	134	11	0.52	94	84	156
	17	0.50	57	207	148	11	0.42	94	104	160
	16	0.31	94	107	155	11	0.42	57	66	144
	15	0.63	94	166	148	11	0.65	94	79	153
	15	0.35	94	143	337	10	0.32	94	56	280
	14	0.17	57	252	75	10	0.37	94	235	131
13	0.49	94	145	156	10	0.31	94	215	262	
13	0.40	57	101	283	10	0.54	57	8	288	

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	Individual weight			Gear depth			Individual weight			Gear depth		
	CPUE (kg/ha)	(kg)	Vessel	Haul	(m)	CPUE (kg/ha)	(kg)	Vessel	Haul	(m)		
Rex	10	0.35	94	203	112	4	0.10	94	253	181		
sole	10	0.44	57	65	118	4	0.37	94	54	393		
	10	0.57	57	211	125	4	0.23	94	46	154		
	9	0.46	57	29	306	4	0.51	57	250	165		
	9	0.59	57	208	147	4	0.48	57	248	161		
	9	0.31	94	167	280	4	0.32	57	256	152		
	9	0.32	57	215	125	4	0.27	57	237	391		
	9	0.50	57	110	184	4	0.43	94	144	281		
	9	0.64	57	107	216	4	0.37	57	243	145		
	9	0.73	94	77	191	4	0.23	57	240	54		
	8	0.62	94	49	149	4	0.46	57	91	161		
	8	0.27	94	219	245	4	0.17	94	139	142		
	8	0.52	94	218	283	4	0.34	94	102	110		
	8	0.45	94	208	124	4	0.52	57	216	128		
	8	0.58	94	9	322	3	0.32	94	254	141		
	8	0.74	57	95	127	3	0.26	94	68	186		
	8	0.27	57	149	166	3	0.33	94	212	318		
	8	0.20	57	241	209	3	0.33	94	210	152		
	8	0.29	94	100	117	3	0.58	57	249	156		
	8	0.41	94	86	275	3	0.41	57	128	263		
	7	0.36	94	53	273	3	0.24	57	122	154		
	7	0.24	94	14	221	3	0.14	94	202	89		
	7	0.56	57	160	179	3	0.48	94	8	161		
	7	0.21	57	148	251	3	0.51	57	144	103		
	7	0.71	94	108	234	3	0.44	94	146	157		
	7	0.42	94	87	257	3	0.41	57	103	178		
	7	0.54	57	70	206	3	0.39	57	92	440		
	7	0.40	57	225	134	3	0.13	94	96	125		
	6	0.44	57	28	314	3	0.20	57	60	146		
	6	0.49	57	205	179	3	0.29	57	236	182		
	6	0.24	94	162	125	3	0.49	57	219	183		
	6	0.40	57	182	174	3	0.43	57	209	158		
	6	0.82	57	108	212	2	0.36	94	228	141		
	6	0.45	94	15	173	2	0.24	94	259	149		
	6	0.52	94	232	170	2	0.86	94	55	144		
	6	0.49	57	69	209	2	0.09	94	249	174		
	6	0.32	57	230	224	2	0.26	94	243	118		
	5	0.06	94	252	111	2	0.29	57	267	158		
	5	0.44	94	231	179	2	0.30	57	263	111		
	5	0.31	94	34	105	2	0.15	57	261	131		
	5	0.24	94	214	302	2	0.18	94	238	372		
	5	0.28	57	254	121	2	0.28	94	237	274		
	5	0.23	57	81	124	2	0.45	94	32	111		
	5	0.42	94	154	368	2	0.29	94	24	103		
	5	0.43	94	147	131	2	0.25	94	48	134		
	5	0.47	57	163	193	2	0.59	94	209	119		
	5	0.30	94	130	111	2	0.56	57	9	172		
	5	0.26	94	113	108	2	0.24	57	133	121		
	5	0.26	57	112	111	2	0.40	57	125	185		
	5	0.24	57	111	118	2	0.29	94	198	154		
	5	0.23	94	173	228	2	0.19	94	197	145		
	5	0.25	94	51	128	2	0.11	94	193	136		
	5	0.55	57	220	168	2	0.13	94	180	139		

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	Individual			Gear			Individual			Gear
	CPUE (kg/ha)	weight (kg)	Vessel	Haul	depth (m)	CPUE (kg/ha)	weight (kg)	Vessel	Haul	depth (m)
Rex sole	2	1.12	94	117	227	2	0.30	94	57	109
	2	0.83	94	115	210	2	0.17	57	84	153
	2	0.40	57	157	135	2	0.12	57	77	180
	2	0.77	57	156	91	2	0.30	57	64	111
	2	0.16	57	242	198	2	0.36	57	57	105
	2	0.84	57	102	152	2	0.84	57	54	94
	2	0.71	94	33	110	2	0.32	57	235	156
	2	0.29	94	94	127	2	0.24	57	232	277
	2	0.35	94	172	404	2	0.41	57	221	167
Dover sole	59	1.74	94	127	80	6	1.70	57	108	212
	36	1.06	94	109	143	6	1.62	57	102	152
	21	1.61	94	128	78	6	1.43	57	89	225
	20	0.94	57	237	391	6	0.97	57	225	134
	19	1.25	57	158	269	5	1.02	94	252	111
	19	0.76	57	93	359	5	1.63	94	234	186
	19	1.69	94	108	234	5	0.68	94	214	302
	18	0.93	57	146	297	5	0.90	94	212	318
	17	1.28	57	208	147	5	1.74	94	196	205
	17	0.75	94	238	372	5	1.02	94	154	368
	17	1.28	94	167	280	5	1.04	57	164	208
	16	0.96	94	107	155	5	0.88	94	135	181
	15	0.95	94	54	393	5	0.71	94	130	111
	15	0.98	57	148	251	5	2.04	94	115	210
	14	1.82	94	166	148	5	1.24	57	242	198
	14	0.71	57	92	440	5	1.05	57	109	139
	12	1.25	94	208	124	5	0.92	94	86	275
	11	2.39	94	260	209	5	0.74	94	172	404
	11	0.77	94	224	173	4	1.08	94	235	131
	11	1.27	94	155	240	4	1.55	94	231	179
	11	0.84	94	173	228	4	1.05	94	170	222
	10	0.69	94	255	201	4	0.64	94	136	168
	10	1.61	57	107	216	4	2.40	94	119	157
	10	0.76	57	232	277	4	0.74	94	104	160
	10	1.65	57	209	158	4	1.03	57	219	183
	9	1.00	57	207	148	3	0.58	94	249	174
	8	0.87	57	233	448	3	0.83	57	204	227
	8	1.04	57	215	125	3	0.44	57	263	111
	8	1.06	57	241	209	3	1.17	94	219	245
	8	1.09	94	143	337	3	0.59	94	215	262
7	0.85	94	218	283	3	1.38	57	124	192	
7	0.59	57	132	189	3	0.78	57	147	366	
7	0.50	57	256	152	3	0.42	57	95	127	
7	0.94	57	101	283	3	0.31	57	244	75	
7	1.05	94	106	192	3	1.50	57	149	166	
7	0.92	94	87	257	3	1.03	94	149	128	
7	0.73	94	85	373	3	1.06	57	103	178	
7	1.99	57	217	179	3	0.67	94	105	414	
6	1.03	94	144	281	3	0.88	94	83	206	
6	1.58	57	162	187	3	1.23	57	230	224	

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Yellowfin sole	587	0.45	94	40	66	50	0.56	94	42	102
	455	0.52	94	39	91	43	0.47	57	47	43
	144	0.35	57	196	45	39	0.41	57	45	42
	121	0.41	57	49	77	29	0.94	94	37	92
	100	0.44	94	190	82	26	0.65	57	185	80
	74	0.38	57	46	43					
Other flatfish	330	1.77	94	256	32	37	2.56	94	59	68
	220	1.22	57	196	45	37	1.36	94	39	91
	184	1.50	94	40	66	34	2.12	94	65	27
	109	0.51	57	43	44	27	2.68	57	155	64
	62	0.98	57	135	49	25	1.28	94	159	35
	48	0.83	94	181	61	24	1.02	94	37	92
	48	1.17	94	192	64	22	1.88	94	61	40
	44	2.63	94	161	39	22	0.37	57	130	64
	42	0.71	57	255	72					
Salmon	15	4.21	94	199	68	1	2.51	57	37	95
	10	4.23	94	250	103	1	2.17	57	34	114
	9	2.81	94	176	100	1	2.87	94	226	134
	8	4.27	94	254	141	1	3.43	94	221	86
	8	2.89	94	174	100	1	1.76	94	31	94
	7	6.98	94	232	170	1	2.76	94	26	101
	6	3.20	94	246	83	1	2.96	94	208	124
	6	3.77	94	225	137	1	2.36	57	15	87
	5	2.07	94	120	65	1	3.14	94	175	93
	4	4.22	57	249	156	1	1.64	57	130	64
	3	8.26	94	231	179	1	3.38	57	121	105
	3	3.30	94	209	119	1	2.64	94	204	72
	3	4.04	94	134	62	1	1.96	94	196	205
	3	3.05	57	151	75	1	3.62	94	195	61
	3	3.86	94	79	153	1	1.66	94	8	161
	3	4.10	57	227	136	1	1.60	94	7	114
	2	4.99	94	259	149	1	2.82	57	198	58
	2	4.82	94	251	188	1	2.21	57	201	70
	2	4.80	94	245	207	1	3.76	94	156	90
	2	3.59	57	205	179	1	3.13	94	149	128
	2	4.75	57	248	161	1	2.96	94	141	43
	2	5.40	94	2	85	1	2.21	94	137	143
	2	3.93	94	177	154	1	3.40	57	171	46
2	4.00	57	118	75	1	2.54	94	136	168	
2	5.00	94	113	108	1	2.44	94	125	34	
2	1.83	57	240	54	1	3.30	57	152	256	
2	2.73	94	121	57	1	2.69	57	104	93	
2	2.91	94	211	109	1	3.60	94	207	74	
2	1.90	94	103	142	1	2.18	94	173	228	
2	3.67	57	209	158	1	2.16	57	234	147	
1	2.26	94	71	92	1	1.46	57	224	220	
1	1.64	94	248	42						
Skate unident.	142	23.05	57	171	46	38	45.00	57	201	70
	67	21.77	94	189	103	34	21.00	94	192	64
	39	29.67	94	72	57	32	24.90	57	172	46

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Skate	30	23.67	94	159	35	13	10.10	57	138	78
unident.	30	33.83	94	123	58	12	4.64	94	249	174
	27	30.94	94	124	38	12	10.82	94	202	89
	27	31.95	94	112	69	12	7.87	94	119	157
	26	29.55	94	6	67	11	27.40	94	60	44
	25	10.08	94	115	210	11	15.35	57	21	91
	25	8.03	94	114	228	11	11.18	57	200	186
	22	52.10	94	120	65	11	6.53	57	134	201
	21	3.87	57	133	121	11	6.25	57	188	36
	21	16.93	94	3	83	10	21.62	94	70	167
	19	21.35	57	254	121	10	8.03	94	208	124
	18	16.54	94	258	36	10	20.80	57	20	78
	18	39.20	94	66	170	10	5.08	94	137	143
	18	22.15	57	268	87	10	12.47	94	122	62
	18	20.94	57	78	190	9	20.30	57	43	44
	18	39.54	94	125	34	9	11.25	57	206	116
	18	10.91	94	109	143	9	8.11	94	198	154
	17	10.35	57	190	104	9	7.27	94	128	78
	17	8.74	94	142	230	9	11.55	57	88	107
	17	42.00	57	212	55	9	4.53	57	217	179
	16	35.80	94	65	27	8	7.10	94	240	139
	15	18.30	57	255	72	8	18.40	57	191	70
	15	35.80	94	31	94	8	6.62	94	131	269
	15	20.40	57	262	60	8	11.75	57	2	50
	15	39.60	94	118	174	8	6.29	94	149	128
	14	17.00	94	127	80	8	19.00	57	170	37
	13	8.27	57	195	176	8	22.00	94	111	60
	13	17.24	94	235	131	8	6.94	94	103	142
	13	1.09	57	132	189	8	18.30	94	82	131
Shark	162	200.00	94	109	143	31	3.11	94	205	64
unident.	126	141.00	57	40	61	24	56.00	57	37	95
	112	143.10	94	259	149	22	50.00	94	152	84
	101	122.00	94	64	124	22	48.90	94	129	56
	92	68.07	94	110	72	20	2.64	94	252	111
	91	3.76	94	257	20	19	45.60	94	133	274
	61	3.89	94	258	36	16	40.80	94	63	72
	49	116.00	57	133	121	14	3.30	57	212	55
	44	89.00	57	200	186	13	2.70	57	240	54
	43	116.00	94	118	174	10	2.78	94	246	83
	35	43.30	94	127	80	9	3.14	94	223	78
Yellow	171	0.95	57	23	65	16	0.68	94	67	178
Irish	110	0.84	57	16	57	15	0.44	94	36	105
Lord	19	0.96	57	2	50	15	0.58	57	47	43
	19	0.54	94	157	91	13	0.55	94	3	83
	18	1.19	57	258	27	9	0.88	57	24	91
	17	0.76	94	62	40	9	0.73	57	263	111
Bigmouth	23	1.95	57	263	111	4	8.40	57	29	306
sculpin	9	10.80	57	124	192	4	5.20	57	207	148
	7	7.45	57	70	206	4	9.68	94	224	173
	6	6.90	57	157	135	4	7.47	94	167	280

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Bigmouth sculpin	4	8.80	57	151	75	3	7.57	57	217	179
	3	7.21	57	208	147	2	4.30	94	234	186
	3	4.05	94	233	204	2	4.38	94	219	245
	3	7.23	94	218	283	2		57	121	105
	3	1.53	94	197	145	2	1.96	57	190	104
	3	8.50	94	7	114	2	4.52	57	153	117
	3	3.33	94	170	222	2	3.67	57	93	359
Great sculpin	14	3.43	94	193	136	2	5.40	57	45	42
	12	3.96	57	173	72	2	6.00	57	44	24
	10	9.10	94	95	23	2	3.31	57	23	65
	8	0.55	57	196	45	1	1.37	57	49	77
	7	5.39	94	61	40	1	1.69	57	21	91
	7	1.76	94	65	27	1	1.18	57	258	27
	7	1.79	57	185	80	1	1.39	94	42	102
	5	1.80	57	190	104	1	1.08	57	16	57
	4	2.60	57	261	131	1	2.77	57	251	67
	4	2.10	57	135	49	1	1.58	94	194	158
	4	4.40	94	96	125	1	3.59	57	198	58
	3	2.50	57	24	91	1	2.70	57	184	78
	3	8.65	94	41	112	1	1.57	57	182	174
	3	4.15	94	157	91	1	0.55	57	176	179
	3	2.19	94	141	43	1	2.57	94	37	92
2	5.12	94	72	57	1	2.42	94	190	82	
Other sculpins	10	0.19	94	95	23	1	0.20	94	74	74
	7	1.25	94	190	82	1	0.05	94	70	167
	6	1.05	57	49	77	1	0.19	94	67	178
	4	0.77	94	39	91	1	0.74	94	62	40
	2	0.85	57	46	43	1	0.87	57	45	42
	2	0.15	57	263	111	1	0.11	57	14	247
	2	0.50	94	40	66	1	0.11	94	194	158
	2	0.14	57	1	237	1	0.16	94	13	261
	2	0.11	57	190	104	1	0.16	94	193	136
	2	0.29	57	182	174	1	0.29	94	191	48
	2	0.12	57	176	179	1	0.36	94	127	80
	2	0.62	94	96	125	1	0.10	57	89	225
	2	0.13	57	69	209	1	0.07	94	139	142
1	0.06	94	252	111	1	0.06	57	63	250	
Smelts	72	0.03	94	244	176	22	0.04	94	137	143
	66	0.01	94	78	196	19	0.03	57	108	212
	64	0.03	57	217	179	17	0.03	57	242	198
	51	0.03	57	222	230	15	0.03	57	107	216
	50	0.02	94	79	153	13	0.05	94	217	261
	40	0.04	94	234	186	13	0.05	57	134	201
	35	0.02	57	78	190	13	0.05	57	132	189
	29	0.04	57	131	212	13	0.04	57	223	227
	29	0.03	57	218	181	12	0.03	94	66	170
	28	0.04	94	255	201	12	0.05	94	136	168
	26	0.04	57	241	209	11	0.04	94	251	188
	25	0.03	57	123	181	11	0.01	94	70	167
	24	0.02	57	77	180	11	0.05	94	142	230

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Smelts	11	0.03	94	108	234	5	0.05	94	218	283
	10	0.04	94	249	174	5	0.04	57	164	208
	10	0.06	57	257	173	5	0.02	94	118	174
	8	0.05	57	246	239	5	0.03	94	96	125
	7	0.05	57	195	176	5	0.04	57	221	167
	7	0.06	57	268	87	4	0.05	94	185	146
	7	0.03	94	77	191	4	0.03	57	238	196
	6	0.02	57	199	197	4	0.03	57	224	220
	6	0.02	57	84	153					
Giant grenadier	1,184	3.36	94	54	393	134	3.61	94	85	373
	626	3.45	94	105	414	116	3.08	94	172	404
	614	3.90	57	237	391	114	3.56	57	93	359
	380	4.18	57	233	448	92	3.67	94	53	273
	221	3.09	94	144	281	82	3.72	57	92	440
	191	3.92	57	13	315	49	3.33	94	56	280
	145	2.89	94	143	337	39	3.73	94	238	372
	143	2.91	94	52	400	25	4.29	57	147	366
	141	4.02	57	28	314	21	3.93	57	8	288
136	3.04	94	154	368						
Other fish	648	0.24	57	178	24	27	0.11	57	244	75
	55	0.05	94	141	43	26	5.99	94	236	113
	55	0.20	57	176	179	21	4.20	57	213	68
	29	3.52	57	4	107	20	2.59	94	235	131
Bairdi Tanner crab	33	0.06	57	190	104	4	0.31	57	254	121
	23	0.33	94	193	136	4	0.15	57	173	72
	5	0.45	94	39	91	3	0.26	57	199	197
	5	0.62	94	190	82	3	0.10	57	82	121
	4	0.44	57	261	131	2	0.16	57	176	179
Golden king crab	4	1.96	57	93	359	1	3.00	57	128	263
	2	2.13	57	95	127	1	0.46	57	126	250
	1	1.30	94	54	393	1	2.05	57	158	269
	1	2.25	57	13	315	1	1.27	94	86	275
	1	1.01	57	1	237					
Red king crab	4	2.23	94	40	66					
Northern shrimp	10	0.00	94	193	136	3	0.00	94	70	167
	9	0.01	57	200	186	3	0.00	94	67	178
	6	0.01	57	199	197	3	0.01	57	195	176
	6	0.01	94	194	158	3	0.01	57	261	131
	5	0.01	57	182	174	3	0.01	94	96	125
	5	0.00	94	98	166	2	0.00	94	68	186
	4	0.01	94	66	170	2	0.01	57	268	87
	4	0.01	94	197	145	2	0.01	57	78	190
	4	0.01	94	139	142	2	0.01	57	190	104
	4	0.00	94	57	109	2	0.01	57	176	179
	3	0.01	94	253	181	1	0.00	94	259	149



Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Northern shrimp	1	0.01	94	249	174	1	0.00	94	136	168
	1	0.00	94	244	176	1	0.00	94	133	274
	1	0.01	57	263	111	1	0.03	94	117	227
	1	0.00	94	40	66	1	0.00	94	114	228
	1	0.00	94	132	271	1	0.01	57	242	198
	1	0.00	57	248	161	1	0.01	57	115	151
	1	0.01	57	246	239	1	0.00	94	37	92
	1	0.00	57	134	201	1	0.00	94	69	127
	1	0.00	57	132	189	1	0.00	94	91	137
	1	0.00	57	128	263	1	0.00	94	77	191
	1	0.00	94	198	154	1	0.01	57	84	153
	1	0.00	94	177	154	1	0.01	57	83	152
	1	0.01	57	180	151	1	0.00	57	77	180
	1	0.01	57	179	146	1	0.00	94	78	196
1	0.01	57	177	63	1	0.01	57	209	158	
Sidestripe shrimp	4	0.01	57	128	263	1	0.01	57	126	250
	4	0.01	94	133	274	1	0.01	57	124	192
	3	0.01	57	246	239	1	0.01	57	223	227
	3	0.01	57	131	212	1	0.01	94	185	146
	2	0.01	94	253	181	1	0.01	57	218	181
	2	0.01	57	134	201	1	0.01	57	78	190
	2	0.01	57	132	189	1	0.01	57	176	179
	1	0.02	94	249	174	1	0.01	94	117	227
	1	0.01	94	245	207	1	0.01	94	116	259
	1	0.01	57	200	186	1	0.01	57	107	216
	1	0.01	57	199	197	1	0.01	94	139	142
	1	0.02	57	195	176	1	0.02	94	108	234
	1	0.02	94	234	186	1	0.01	94	98	166
	1	0.01	94	131	269	1	0.01	57	77	180
	1	0.02	94	219	245	1	0.02	94	78	196
1	0.01	94	132	271	1	0.01	57	224	220	
1	0.01	57	129	261	1	0.01	57	217	179	
1	0.01	57	127	284						
Scallop unident.	18	0.36	57	177	63	1	0.33	57	178	24
	3	0.39	57	173	72	1	0.03	57	174	47
	1	0.02	94	74	74	1	0.04	57	72	90
	1	0.02	57	182	174					
Magistrate armhook squid	46	0.13	94	85	373	3	0.46	94	260	209
	5	0.30	94	142	230	3	0.22	57	29	306
	5	0.22	57	68	205	3	0.18	57	13	315
	4	0.02	94	218	283	3	0.19	94	132	271
	4	0.18	57	96	243	3	0.40	57	127	284
	4	0.17	94	87	257	3	0.29	94	9	322
	4	0.03	57	222	230	3	0.20	57	147	366
Sponges	120		94	232	170	21		94	17	60
	104	28.24	94	3	83	16	9.99	94	12	83
	57		57	7	98	15		57	21	91
	49	124.23	57	24	91	15		94	231	179
	23		57	170	37	11	5.33	94	5	110

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Sponges	11	1.53	57	182	174	6		57	10	78
	10		94	169	66	6		57	221	167
	7		57	243	145					
Starfish	36	0.14	94	40	66	2	0.03	94	67	178
	33	0.46	94	95	23	2	0.61	94	65	27
	8	1.21	57	135	49	2	0.05	57	24	91
	8	0.36	57	17	87	2	0.13	57	21	91
	7	1.61	57	191	70	2	0.19	94	43	70
	7	2.29	94	159	35	2	0.12	94	41	112
	6	0.01	57	84	153	2	0.53	94	208	124
	5	0.22	94	42	102	2	0.01	57	127	284
	5	2.01	94	39	91	2	0.54	94	206	57
	5	1.12	94	123	58	2	2.37	94	7	114
	4	0.40	57	263	111	2	0.54	57	198	58
	4	0.89	94	205	64	2	0.01	57	78	190
	4	0.29	57	18	78	2	0.80	94	160	40
	4	2.61	57	177	63	2	0.14	94	142	230
	3	0.02	94	66	170	2	0.40	94	141	43
	3	0.37	57	49	77	2	0.01	94	133	274
	3	0.48	57	202	75	2	0.01	94	119	157
	3	1.70	57	192	79	2	0.60	94	37	92
	3	7.10	57	20	78	2	0.74	94	207	74
3	0.00	57	129	261	2	1.31	94	190	82	
3	1.22	57	159	87	2	0.01	94	108	234	
3	0.01	57	83	152	2	0.01	57	77	180	
Stony coral unident.	5	12.23	94	3	83	1		94	169	66
	2		94	5	110					
Soft coral	7		94	5	110	3		57	227	136
	3		57	7	98	1	0.43	94	3	83
	3	3.42	57	103	178					
Octopus	7	15.10	94	36	105	1	3.54	57	245	89
	6	15.95	94	198	154	1	1.49	57	121	105
	5	12.10	57	183	82	1	2.73	94	197	145
	4	9.90	57	17	87	1	1.85	57	75	52
	2	5.60	57	21	91					
Snails	2	0.03	94	195	61	1	0.24	57	2	50
	2	0.10	57	47	43	1	0.05	94	63	72
	2	0.06	57	190	104	1	0.02	94	200	52
	1	0.04	94	74	74	1	0.02	57	17	87
	1	0.05	94	67	178	1	0.03	94	140	51
	1	0.06	94	66	170	1	0.04	57	174	47
	1	0.06	57	28	314	1	0.11	57	167	49
	1	0.04	57	24	91	1	0.06	94	129	56
	1	0.04	57	268	87	1	0.06	94	127	80
	1	0.07	57	265	122	1	0.06	94	126	39
	1	0.05	57	14	247	1	0.06	94	111	60
	1	0.10	57	13	315	1	0.04	57	86	106

Principal species CPUE and average individual weight by vessel, haul, and depth during the 2001 Gulf of Alaska survey.

Species	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)	CPUE (kg/ha)	Individual weight (kg)	Vessel	Haul	Gear depth (m)
Snails	1	0.05	57	71	75					
Other	179	0.37	94	67	178	12	0.06	57	202	75
invertebrates	105	0.43	57	263	111	12	0.50	57	8	288
	94	0.64	57	47	43	12	0.36	94	175	93
	93	0.07	94	95	23	12	0.26	94	63	72
	47	0.13	94	130	111	12	0.40	94	174	100
	38	0.22	94	191	48	12	0.13	94	141	43
	37	0.26	94	140	51	11	0.23	57	49	77
	33	0.04	57	28	314	11	0.28	57	46	43
	31	0.56	57	43	44	11	0.32	57	261	131
	30	0.06	57	24	91	11	0.19	57	251	67
	27	0.58	94	45	70	11	1.95	94	167	280
	26	0.75	57	256	152	11	0.32	57	150	64
	25	0.31	94	168	71	11	0.32	94	207	74
	23	0.32	57	45	42	10	1.40	94	260	209
	23	0.35	57	194	56	10	0.04	57	223	227
	22	0.18	57	7	98	10	0.01	94	111	60
	21	0.12	57	253	32	9	0.09	94	68	186
	21	0.04	57	224	220	9	0.28	94	65	27
	18	0.81	94	93	69	9	0.23	57	258	27
	16	0.39	57	48	42	9	0.27	57	11	73
	16	0.11	57	117	37	9	0.52	94	186	83
	16	0.23	94	200	52	9	0.18	94	112	69
	15	0.49	57	156	91	9	0.74	94	38	45
	13	0.27	57	245	89	9	0.05	57	222	230
	13	0.27	57	167	49	9	0.15	57	213	68
	13	0.27	94	127	80					



**Section 4**

**Trawl and Accessories**  
**Specifications and Diagrams**

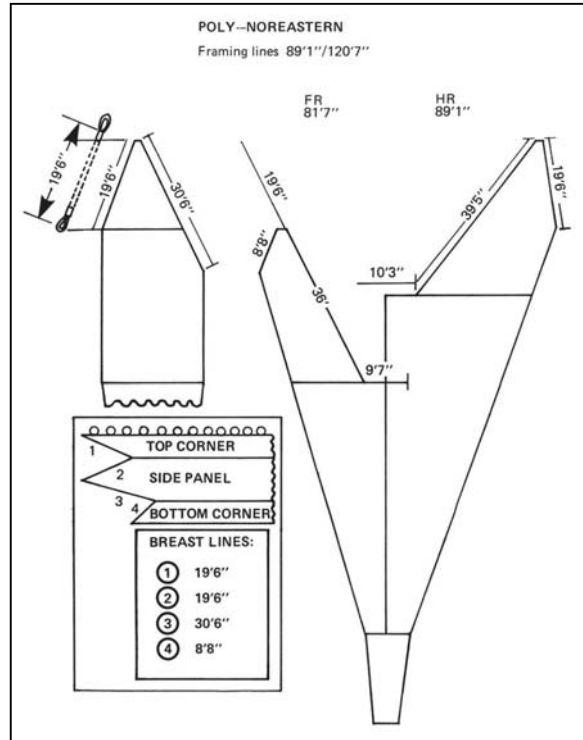
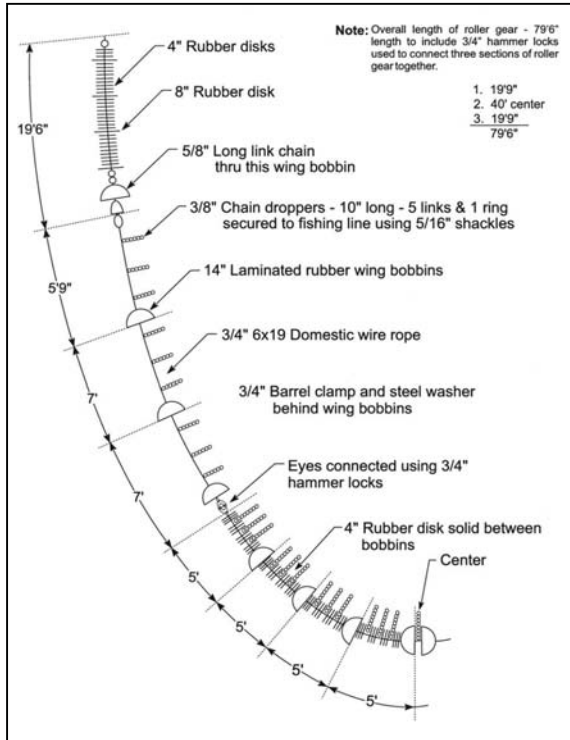


Specifications of the trawl, otter doors, and accessory gear used by the chartered trawlers, *Morning Star* and *Vesteraalen* during the 2001 bottom trawl survey of the Gulf of Alaska.

<b>Equipment</b>	<b>Specifications</b>
Netting -	Polyethylene, 12.7 cm (5 in), 4 & 5 millimeter (mm) twine.
Headrope -	27.2 m (89 ft-1 in), 1.3 cm (1/2 in) 6 x 19 gauge galvanized wire rope, wrapped with 1 cm (3/8 in) 3-strand polypropylene rope.
Footrope -	24.9 m (81 ft-7 in), 1 cm (3/8 in) 6 x 19 gauge galvanized wire rope wrapped with polypropylene rope.
Fishing line -	24.3 m (79 ft-7 in), shot-peened long-link chain. Safe working load 5.1 metric tons (t).
Roller gear -	24.2 m (79 ft-6 in), 1.9 cm (3/4 in) diameter, 6 x 19 gauge galvanized wire rope strung through 10.2 cm (4 in) diameter rubber disks, 16 rubber wing bobbins 35.6 cm (14 in) in diameter and 34 galvanized rings hung with 30.5 cm (12 in) long dropper chain.
Breastlines -	1 cm (3/8 in) 6 x 19 gauge galvanized wire rope wrapped with 1 cm polypropylene. Top corner 5.9 m (19 ft-6 in); bottom corner 2.6 m (8 ft-8 in); top side panel 5.9 m; bottom side panel 9.3 m (30 ft-6 in).
Riblines -	1.9 cm (3/4 in) Sampson <sup>*/</sup> 2 & 1 Duralon <sup>*/</sup> . Top two 34.8 m (114.17 ft) and bottom two 31.8 m (104.45 ft), hung 98% of stretched seam length.
Flotation -	Cycolac <sup>*/</sup> trawl floats, 30.5 cm (12 in) diameter, 21 pieces. Buoyancy 10.2 kg (22.4 lb.) each and rated for 800 m (400 fm) depth.
Codend liner -	Nylon, no. 18, 3.2 cm (1-1/4 in) stretched mesh (M), 315 M circumference and 200 M deep, laced to inner bag. When stretched the liner protrudes 61-91 cm (2 to 3 ft) beyond codend.
Restrictors -	Polypropylene rope, 2.5 cm (1 in) diameter, 4.3 m (14 ft) circumference and secured loosely to codend at each ribline, 1.2 m (4 ft) apart, 5 pieces.
Splitting gear -	1.3 cm (1/2 in) diameter 6.4 m (21 ft) long galvanized wire rope is passed through 4 galvanized steel rings which are secured to the codend with 1.3 cm diameter braided nylon "spiders".
Side seams -	Panels are joined to each other gathering 3 M (4 knots) from each panel. Panels that are secured to framing lines have a selvaged edge created by gathering 3 M.
Rigging -	3 dandyines each side, 1.6 cm (5/8 in) diameter galvanized wire rope, 54.9 m (30 fm) long.
Doors -	1.8 m x 2.7 m (6 x 9 ft), steel V-doors, approximately 800 kg (1,800 lb) each.
Chafing gear -	Polypropylene 10 in M, 1 cm (3/8 in) polyrope hog-ringed (or interwoven) together, 46 M circumference and 21 M deep, laced to outer bag 68.5 M up from the pucker rings.

<sup>\*/</sup>Reference to trade names does not imply endorsement by the National Marine Fisheries Service, NOAA

Figure 10.--Trawl accessories diagrams



**Gulf of Alaska Survey (GOA) Rigging Plan**

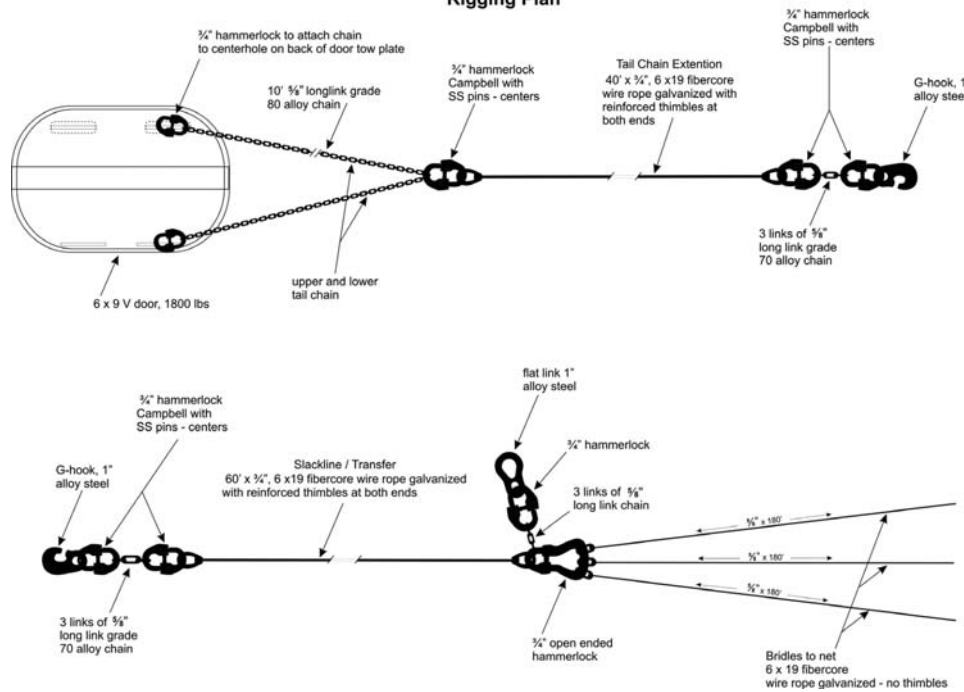




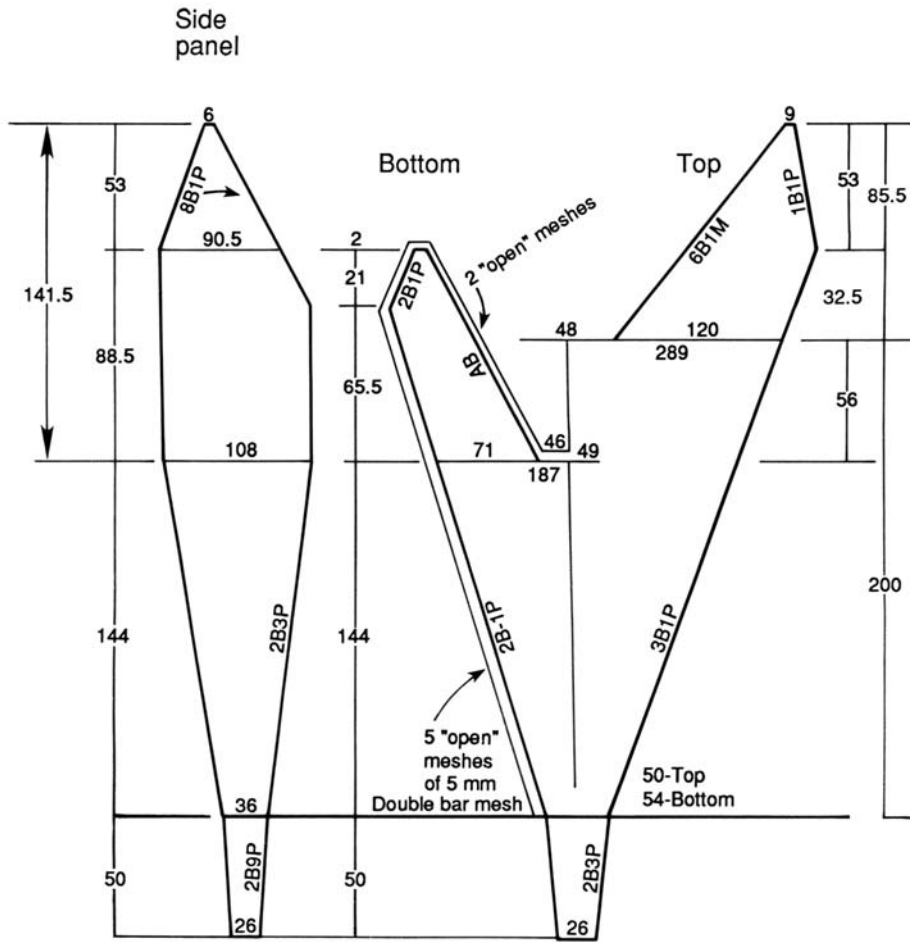
Figure 11.--Poly Nor'Eastern Diagram

POLY-NOREASTERN (Race)

Total mesh counts

Twine sizes: top and sides 4mm

bottom and intermediate 5mm



**Web:** Chaffing strip along inside of Bottom wings and Busom. Cut 8 meshes wide. 5 mm Double Bar mesh, goring 3 meshes on each side (leaving 2 open meshes). Secure 3 mesh of gore on inside (Bar Cut) of Bottom wings, and securing other gore to footrope (Bolsh).

Date: 3/93