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**Data Collected During Rockfish
(*Sebastes* Spp.) Assessments of the
West Langara Island and West Coast
Vancouver Island Fishing Grounds
in 1979.**

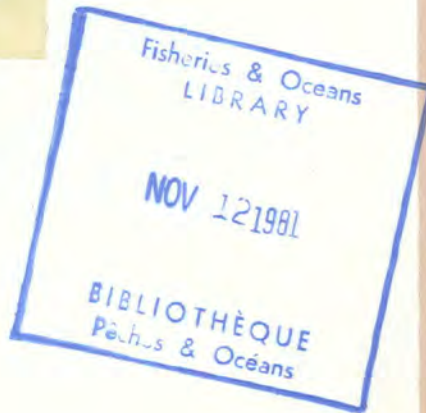
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Les numéros 1 à 25 de cette série ont été publiés à titre de Records statistiques, Service des pêches et de la mer. Les numéros 26-160 ont été publiés à titre de Rapports statistiques du Service des pêches et de la mer, Ministère des Pêches et de l'Environnement. Le nom de la série a été modifié à partir du numéro 161.

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Canadian Data Report of Fisheries
and Aquatic Sciences No. 286

August 1981

DATA COLLECTED DURING ROCKFISH (SEBASTES SPP.) ASSESSMENTS
OF THE WEST LANGARA ISLAND AND WEST COAST
VANCOUVER ISLAND FISHING GROUNDS IN 1979

by

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ABSTRACT

Lapi, L. A., and J. E. Richards. 1981. Data collected during rockfish (Sebastes spp.) assessments of west Langara Island and west coast Vancouver Island fishing grounds in 1979. Can. Data Rep. Fish. Aquat. Sci. 286: 113 p.

Commercial trawlers were chartered to survey two rockfish fishing areas off the west coast of Canada. The area west of Langara Island and north of 54°N latitude was surveyed simultaneously by the M/V BLUE WATERS and the M/V SCOTIA BAY. The area extending along the west coast of Vancouver Island was surveyed by the M/V ARCTIC HARVESTER. The primary objective was to determine the biomass of Pacific ocean perch (Sebastes alutus) stocks in these areas and to collect biological information.

This report presents haul location, catch, and biological data collected during these cruises.

Key words: Sebastes alutus, rockfishes, biological data, assessment.

RESUME

Lapi, L. A., and J. E. Richards. 1981. Data collected during rockfish (Sebastes spp.) assessments of west Langara Island and west coast Vancouver Island fishing grounds in 1979. Can. Data Rep. Fish. Aquat. Sci. 286: 113 p.

On a affrété des chalutiers commerciaux afin d'étudier deux zones de pêche des scorpènes au large de la côte ouest du Canada. Le BLUE WATERS et le SCOTIA BAY ont étudié simultanément la zone à l'ouest de l'île Langara et celle au nord du 54° de latitude Nord. L'ARCTIC HARVESTER a étudié la zone qui longe la côte ouest de l'île Vancouver. Le principal objectif était d'évaluer la biomasse des populations de scorpènes du Pacifique (Sebastes alutus) de ces régions et de recueillir des données biologiques.

Les endriots de chalutage, les prises ainsi que les données biologiques recueillies au cours de ces expéditions ont indiqués dans le présent rapport.

Mots clés: Sebastes alutus, scorpènes, données biologiques, évaluation.

INTRODUCTION

During 1979, three commercial trawlers were chartered to collect catch and biological data to estimate the biomass of rockfish populations in two areas off the west coast of Canada (Fig. 1). The M/V BLUE WATERS (July 15-24 and July 25-August 2, 1979) and the M/V SCOTIA BAY (July 20-29 and July 30-August 8, 1979) independently surveyed the west Langara study area. The M/V ARCTIC HARVESTER (September 4-13 and September 17-26, 1979) conducted the survey off the west coast of Vancouver Island.

This report details the haul locations and catch information as well as the biological data collected by the three vessels. Methods of analysis used to estimate biomass and the calculated values are presented in a separate report.

VESSEL AND TRAWL GEAR SPECIFICATIONS

Specifications for the three vessels are listed in Table 1. The M/V BLUE WATERS and M/V SCOTIA BAY both used Western III bottom trawls rigged for hard bottom (Fig. 2, 3). The M/V ARCTIC HARVESTER used an Engel bottom trawl rigged for hard bottom during the west coast Vancouver Island survey (Fig. 4).

SURVEY AREAS

The west Langara Island survey area extended north of 54°N latitude to the U.S.A. fishing zone and west of 133°W longitude to a depth of 549 m (300 fm). The west coast Vancouver Island survey area extended north from the U.S.A. fishing zone (48°10' Lat.) to Estevan Pt. between 183 m (100 fm) and 366 m (200 fm). Each survey area was stratified into subareas according to depth and bottom topography. During each survey the direction, duration, and location of each tow in a given subarea was left to the skipper's discretion.

SAMPLING METHODS

The method used to determine the species composition of each tow depended on the size of the catch and the vessel. A random portion of the catches aboard the M/V BLUE WATERS was shoveled into tubs (~43 kg each) after the net was emptied on deck. Catches of the M/V SCOTIA BAY were dumped into a fish bin aft of the tween deck. From this compartment a subsample was removed and placed in tubs. Similarly, catches of the M/V ARCTIC HARVESTER were also emptied into a fish holding bin. The fish

are then removed by a conveyor system. Subsamples on this vessel were obtained by filling tubs as the fish moved along the conveyor system. In all cases, the size of the subsample was proportionate to the size of the catch; usually representing about 10% of the total catch by weight except in extreme cases. Catches <0.5 t were completely sampled while the number of tubs in a subsample of large catches (>5 t) was limited to 12. Subsamples were sorted according to species and weighed on a platform scale. The relative proportions of each species in the subsample were then applied to the skippers estimated total weight of the catch. Biological data in the form of length/sex or length/sex/double otoliths were collected from the most abundant rockfish species in each catch. Otoliths were stored in 1 dram vials along with 20% ethanol and transported to the Pacific Biological Station for age determination. Fork length of each fish was measured to the nearest cm. A list of common and scientific names of species captured during these surveys is presented in Table 2.

WEST LANGARA SURVEY

The M/V BLUE WATERS and the M/V SCOTIA BAY completed a total of 107 tows in the west Langara Island survey area (Fig. 5, 6) and landed a total of 132.7 t of fish; 97% was Pacific ocean perch and other commercially valuable rockfish. The area was stratified into 6 subareas (Fig. 7). A breakdown of the total catch by subarea and species for each boat is included in Table 3.

Only Subareas A and D harboured commercial quantities of rockfish. Pacific ocean perch was the most abundant species in Subarea A comprising about 90% of the catch. The species composition in Subarea D was S. alutus (26%), S. reedi (23%), S. variegatus (14%), and S. zacentrus (27%).

Biological data were obtained for 7 species of rockfish. Length-sex were recorded for 2,442 S. alutus (Tables 4, 5), 490 S. proriger, 316 S. aleutianus, 297 S. zacentrus, 286 S. reedi, and 194 S. brevispinis (Table 6). Details of haul data are presented in Appendices A and B.

WEST COAST VANCOUVER ISLAND SURVEY

The M/V ARCTIC HARVESTER completed 55 tows during the west Vancouver Island survey (Fig. 8). Untrawlable bottom restricted tows to areas within the 192-365 m (100-200 fm) depth contours (N. Sigmund, pers. comm.). A total of 285 t of fish were caught during the survey; 75% was of commercial value (Table 7).

The most abundant rockfish species were S. alutus (38%) and S. diploproa (11%). The greatest quantity of S. alutus (31 t) was caught in the south Cape Flattery area; 75% of these fish were found within the 292-365 m (160-200 fm) depth interval. The lowest S. alutus catches

occurred in north Cape Flattery and north Deep Bank areas; 0.2 t and 0.5 t respectively. The most prominent species of fish in the catches other than rockfish was sablefish (37 t), however approximately 50% (by weight) were under legal size of 55 cm.

During this survey, 6,089 S. alutus were sampled for length/sex (Table 8); double otoliths were removed from 2,000 of these fish to be used for ageing. Length/sex frequencies for 236 S. diploproa, 171 S. crameri, and 300 sablefish were also recorded (Table 9). Details of haul locations and species composition of the catch are presented in Appendix C.

ACKNOWLEDGMENTS

We would like to thank Captains Don Vaccher, Vagn Mark, and Jim Trimm of the M/V BLUE WATERS, M/V SCOTIA BAY, and M/V ARCTIC HARVESTER for sharing their fishing knowledge and expertise during their respective cruises. The contributions of Norm Sigmund from the Industrial Development Program during the M/V ARCTIC HARVESTER cruise were indispensable. The technical assistance provided by D. Yao, R. Piercey, and J. Cooper was also appreciated. Financial assistance was provided by the Province of British Columbia Marine Resources Branch of the Ministry of Environment.

Table 1. Vessel and net specifications for the three vessels used in the assessment of rockfish biomass of west Langara Island and west coast Vancouver Island fishing grounds in 1979.

Vessel:	M/V SCOTIA BAY	M/V BLUE WATERS	M/V ARCTIC HARVESTER
Skipper:	Vagn Mark	Don Vaccher	Jim Trimm
Landing port:	Prince Rupert	Prince Rupert	Vancouver
Gross tons:	390	180	696
Length (m):	36	28	43
HP:	765	640	975
Crew:	8	4	6
<u>Electronic Aids</u>			
Depth sounder:	Simrad, Elac flash sounder	Elac, Simrad	Simrad
Radar:	Furuno, CMC Voyager	Furuno	Furuno
Autopilot:	Sperry	Decca	Sperry
Loran:	Decca (LC), DX Navigator (AXC)	Internav, Bendix	Internav
<u>Net Specifications</u>			
Type:	Western III	Western III	Engel Highlift
Headrope length (m):	24	24	29
Footrope length (m):	35	35	44
Bridle length (m):	28	27	46
Sweep length (m):	13	55	9
Vertical net opening (m):	7	7	6
Horizontal net opening (m):	16	16	18
Distance between doors (m):	29	45	51
Trawl door type:	Grimsby (1.8mX3.2m)	V-shape (1.9mX2.9m)	Polyvalent (2mX3m)
weight (kg):	1090	1043	1000
Trawling speed (naut h)	3	3	3

Table 2. Common and scientific names of species captured.

Common name	Scientific name
FLATFISH	
Dover sole	<u>Microstomus pacificus</u>
English sole	<u>Parophrys vetulus</u>
Halibut	<u>Hippoglossus stenolepis</u>
Petrable sole	<u>Eopsetta jordani</u>
Rex sole	<u>Glyptocephalus zachirus</u>
Rock sole	<u>Lepidopsetta bilineata</u>
Turbot	<u>Atheresthes stomias</u>
ROUNDFISH	
Rougheye rockfish	<u>Sebastes aleutianus</u>
Pacific ocean perch	<u>S. alutus</u>
Red banded or convict rockfish	<u>S. babcocki</u>
Shorthead rockfish	<u>S. borealis</u>
Silvergray rockfish	<u>S. brevispinis</u>
Dusky rockfish	<u>S. ciliatus</u>
Dark blotched rockfish	<u>S. crameri</u>
Splitnose rockfish	<u>S. diploproa</u>
Greenstriped rockfish	<u>S. elongatus</u>
Widow rockfish	<u>S. entomelas</u>
Yellowtail rockfish or greenies	<u>S. flavidus</u>
Rosethorn rockfish	<u>S. helvomaculatus</u>
Bocaccio rockfish or long jaw	<u>S. paucispinis</u>
Canary rockfish	<u>S. pinniger</u>
Redstripe rockfish	<u>S. proriger</u>
Yellowmouth rockfish	<u>S. reedi</u>
Harlequin rockfish	<u>S. variegatus</u>
Sharpchin rockfish	<u>S. zacentrus</u>
Idiot or shortspine thornyhead	<u>Sebastolobus alascanus</u>
Hake	<u>Merluccius productus</u>
Herring	<u>Clupea harengus pallasii</u>
Lingcod	<u>Ophiodon elongatus</u>
Pacific cod	<u>Gadus macrocephalus</u>
Sablefish	<u>Anoplopoma fimbria</u>
Walleye pollock	<u>Theragra chalcogramma</u>
SELACHII	
Skates	Rajidae
Spiny dogfish	<u>Squalus acanthias</u>
Ratfish	<u>Hydrolagus colliei</u>

Table 3. Species composition of catches by vessel from each subarea during the west Langara Island survey. All values expressed in kg; see Fig. 7 for reference to subareas.

Species	M/V BLUE WATERS						Total
	Area						
	A	B	C	D	E	F	
<u>Sebastes aleutianus</u>	14	2286	121	31	203	3	2658
<u>S. alutus</u>	20222	144	1613	4944	1358	466	28747
<u>S. babcocki</u>	11	--	7	135	39	76	268
<u>S. borealis</u>	--	145	--	--	46	6	197
<u>S. brevispinis</u>	1750	--	300	547	17	374	2988
<u>S. crameri</u>	91	--	--	--	--	--	91
<u>S. ciliatus</u>	--	--	--	--	--	--	--
<u>S. entomelas</u>	--	--	--	--	5	2	7
<u>S. flavidus</u>	--	--	--	--	--	5	5
<u>S. paucispinis</u>	--	--	--	--	--	43	43
<u>S. pinniger</u>	--	--	--	--	--	474	474
<u>S. proriger</u>	1506	--	116	177	4	23	1826
<u>S. reedi</u>	696	--	--	5761	123	4	6584
<u>S. ruberrimus</u>	--	--	--	--	--	--	--
<u>S. variegatus</u>	--	--	--	--	--	--	--
<u>S. zacentrus</u>	1970	--	263	1350	59	38	3680
<u>Sebastolobus alascanus</u>	23	301	178	173	814	172	1661
Dover sole	--	172	56	16	436	27	707
Lingcod	--	--	--	--	--	57	57
Pacific cod	--	--	--	486	--	49	535
Ratfish	3	--	--	167	11	59	240
Rex sole	1	27	88	--	471	15	602
Sablefish	--	145	233	--	349	68	795
Skate	--	--	--	--	60	--	60
Turbot	166	43	32	--	420	621	1282
Walleye pollock	93	--	21	51	130	188	483
Total catch (kg)	26546	3263	3028	13838	4545	2770	53990
Total effort (h)	12.0	4.1	8.9	5.6	15.1	4.9	50.6
CPUE (t/h)	2.2	0.8	0.4	2.5	0.3	0.6	1.1

Table 3 (cont'd)

Species	M/V SCOTIA BAY						Total
	Area						
	A	B	C	D	E	F	
<u>Sebastes aleutianus</u>	331	1128	56	--	504	76	2095
<u>S. alutus</u>	33416	3028	2149	12604	882	626	52705
<u>S. babcocki</u>	16	--	69	887	95	103	1170
<u>S. borealis</u>	863	492	--	--	198	379	1932
<u>S. brevispinis</u>	381	4	451	564	29	843	2272
<u>S. cramerii</u>	--	--	--	--	--	--	--
<u>S. ciliatus</u>	16	--	--	789	--	144	949
<u>S. entomelas</u>	--	--	--	--	--	11	11
<u>S. flavidus</u>	--	--	--	--	13	--	13
<u>S. paucispinis</u>	--	--	--	--	--	11	11
<u>S. pinniger</u>	--	--	--	--	27	97	124
<u>S. proriger</u>	749	--	63	1453	--	88	2353
<u>S. reedi</u>	--	--	92	10140	--	--	10232
<u>S. ruberrimus</u>	--	--	21	819	--	--	840
<u>S. variegatus</u>	31	--	--	6269	--	--	6300
<u>S. zacentrus</u>	642	16	787	12387	--	11	13843
<u>Sebastolobus alascanus</u>	5	65	228	--	180	147	625
Dover sole	--	46	82	--	425	119	672
Lingcod	--	--	--	--	--	171	171
Pacific cod	--	--	48	372	--	92	512
Ratfish	--	--	--	--	--	65	65
Rex sole	--	10	113	--	390	87	600
Sablefish	--	39	75	65	561	65	805
Skate	--	--	--	--	--	--	--
Turbot	290	7	201	372	1262	2539	4671
Walleye pollock	--	--	102	--	154	497	753
Total catch (kg)	36740	4835	4537	46721	4720	6171	103724
Total effort (h)	7.0	9.1	11.7	5.8	12.2	6.6	52.4
CPUE (t/h)	5.3	0.5	0.4	8.1	0.4	0.9	2.0

Table 4. Length/sex frequency of Pacific ocean perch (Sebastes alutus), by haul, collected aboard the M/V BLUE WATERS in the west Langara Island survey, July-August 1979.

Fork Length (cm)	Haul no.																							
	25			28			35			50			53			62			64			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	1
32	-	-	-	1	-	1	-	-	-	1	1	2	2	3	5	-	1	1	-	-	-	4	5	9
33	4	-	4	0	-	0	-	-	-	1	2	3	1	2	3	-	0	0	-	1	1	6	5	11
34	6	3	9	2	-	2	-	-	-	4	5	9	6	9	15	1	0	1	1	0	1	20	17	37
35	10	2	12	1	2	3	1	-	1	4	9	13	14	12	26	7	2	9	0	2	2	37	29	66
36	15	7	22	9	1	10	0	-	0	17	9	26	24	25	49	6	2	8	0	3	3	71	47	118
37	19	7	26	3	1	4	0	-	0	9	15	24	11	25	36	12	3	15	1	0	1	55	51	106
38	9	3	12	6	2	8	0	-	0	11	28	39	2	16	18	20	1	21	5	1	6	53	51	104
39	15	5	20	20	3	23	3	-	3	4	17	21	2	15	17	18	2	20	1	3	4	63	45	108
40	7	5	12	26	2	28	12	-	12	2	20	22	4	12	16	14	3	17	10	0	10	75	42	117
41	2	3	5	29	2	31	10	-	10	0	8	8	-	0	0	9	4	13	20	5	25	70	22	92
42	1	1	2	18	9	27	14	6	20	1	2	3	-	2	2	5	4	9	16	0	16	55	24	79
43	-	4	4	11	12	23	8	8	16	0	0	0	-	-	-	1	2	3	7	3	10	27	29	56
44	-	3	3	5	22	27	6	12	18	0	1	1	-	-	-	1	0	1	3	7	10	15	45	60
45	-	1	1	1	24	25	6	4	10	1	-	1	-	-	-	-	2	2	1	12	13	9	43	52
46	-	1	1	0	18	18	-	7	7	0	-	0	-	-	-	-	1	1	-	4	4	0	31	31
47	-	-	-	1	9	10	-	7	7	1	-	1	-	-	-	-	-	-	-	1	1	2	17	19
48	-	-	-	-	4	4	-	1	1	-	-	-	-	-	-	-	-	-	-	0	0	-	5	5
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	2	2
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	88	45	133	133	111	244	60	45	105	56	118	174	66	121	187	94	27	121	65	44	109	562	511	1073

1
8
1

Table 5. Length/sex frequency of Sebastes alutus, by haul, collected aboard the M/V SCOTIA BAY during the west Langara Island survey, July-August 1979.

Fork Length (cm)	Haul No.											
	1			4			8			14		
	M	F	T	M	F	T	M	F	T	M	F	T
25	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-
32	1	-	1	-	-	-	-	-	-	-	-	-
33	1	-	1	1	-	1	-	-	-	-	-	-
34	2	-	2	2	-	2	-	-	-	3	1	4
35	3	-	3	0	-	0	-	-	-	4	2	6
36	8	5	13	7	1	8	-	-	-	9	1	10
37	7	5	12	5	4	9	1	-	1	7	6	13
38	11	6	17	7	12	19	1	-	1	2	12	14
39	4	8	12	1	16	17	4	-	4	8	17	25
40	0	9	9	3	17	20	2	-	2	7	20	27
41	0	4	4	-	14	14	5	-	5	4	14	18
42	2	3	5	-	4	4	3	2	5	4	12	16
43	-	3	3	-	4	4	6	4	10	-	15	15
44	-	1	1	-	1	1	3	11	14	-	9	9
45	-	1	1	-	1	1	3	11	14	-	3	3
46	-	-	-	-	-	-	1	21	22	-	-	-
47	-	-	-	-	-	-	1	9	10	-	-	-
48	-	-	-	-	-	-	-	3	3	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-
Total	39	45	84	26	74	100	30	61	91	48	112	160

Table 5 (cont'd)

Fork Length (cm)	Haul No.											
	16			17			20			24		
	M	F	T	M	F	T	M	F	T	M	F	T
25	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	1	1	-	-	-	-	-	-
31	-	-	-	-	0	0	1	-	1	-	-	-
32	-	-	-	1	1	2	0	-	0	-	-	-
33	1	-	1	0	0	0	1	2	3	-	-	-
34	1	1	2	1	2	3	3	1	4	2	-	2
35	11	2	13	9	2	11	6	10	16	2	1	3
36	9	6	15	9	1	10	8	8	16	9	2	11
37	13	7	20	12	3	15	12	13	25	9	1	10
38	17	7	24	9	5	14	11	13	24	15	4	19
39	9	15	24	10	13	23	4	19	23	27	7	34
40	5	17	22	0	15	15	5	15	20	19	4	23
41	5	12	17	1	4	5	3	7	10	12	6	18
42	1	10	11	-	1	1	1	3	4	4	5	9
43	-	8	8	-	-	-	1	4	5	3	2	5
44	-	6	6	-	-	-	-	2	2	3	1	4
45	-	1	1	-	-	-	-	2	2	0	2	2
46	-	-	-	-	-	-	-	-	-	1	-	1
47	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-
Total	72	92	164	52	48	100	56	99	155	106	35	141

Table 5 (cont'd)

Fork Length (cm)	Haul no.								
	32			33			Total		
	M	F	T	M	F	T	M	F	T
25	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-
30	-	-	-	1	-	1	1	1	2
31	-	-	-	0	-	0	1	0	1
32	-	1	1	3	5	8	5	7	12
33	5	3	8	9	5	14	18	10	28
34	5	6	11	16	11	27	35	22	57
35	11	15	26	25	14	39	71	46	117
36	17	20	37	22	17	39	100	61	161
37	18	19	37	14	22	36	98	80	178
38	11	13	24	13	14	27	95	86	181
39	3	19	22	1	9	10	71	123	194
40	3	12	15	4	2	6	48	111	159
41	1	4	5	1	1	2	32	66	98
42	-	2	2	1	1	2	16	43	59
43	-	4	4	-	-	-	10	44	54
44	-	-	-	-	-	-	6	31	37
45	-	-	-	-	-	-	3	22	25
46	-	-	-	-	-	-	2	21	23
47	-	-	-	-	-	-	1	9	10
48	-	-	-	-	-	-	-	3	3
49	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-
Total	74	118	192	110	101	211	613	786	1399

Table 6 (cont'd)

Fork Length (cm)	<u>S. proriger</u>						<u>S. zacentrus</u>								
	SCOTIA BAY			SCOTIA BAY			BLUE WATERS			SCOTIA BAY			SCOTIA BAY		
	Haul no.						Haul no.								
	6			39			14			25			34		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	278	56	134	53	44	97	3	26	49	33	67	100	69	79	148

Table 6 (cont'd)

Fork Length (cm)	<u>S. aleutianus</u>									<u>S. proriger</u>					
	BLUE WATERS			BLUE WATERS			SCOTIA BAY			BLUE WATERS			BLUE WATERS		
	Haul no.									Haul no.					
	24			59			21			32			56		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-
30	-	-	-	-	-	-	-	-	-	4	-	4	1	1	2
31	-	-	-	-	-	-	-	-	-	4	2	6	6	0	6
32	-	-	-	-	-	-	-	-	-	16	0	43	8	1	9
33	-	-	-	-	-	-	-	-	-	40	3	28	15	0	15
34	-	1	1	-	-	-	-	-	-	26	2	15	5	4	9
35	-	1	1	-	-	-	-	-	-	10	5	6	3	8	11
36	-	0	0	-	-	-	-	-	-	2	4	10	0	22	22
37	1	1	2	1	-	1	-	-	-	-	10	5	1	14	15
38	0	0	0	0	-	0	-	-	-	-	5	9	-	9	9
39	1	3	4	0	1	1	-	-	-	-	9	8	-	2	2
40	1	1	2	0	1	1	2	-	2	-	8	7	-	-	-
41	2	4	6	0	1	1	0	-	0	-	7	0	-	-	-
42	8	5	13	0	1	1	0	2	2	-	0	1	-	-	-
43	10	3	13	1	1	2	4	3	7	-	1	-	-	-	-
44	5	7	12	3	0	3	2	3	5	-	-	-	-	-	-
45	5	12	17	3	10	13	6	2	8	-	-	-	-	-	-
46	10	8	18	6	12	18	8	4	12	-	-	-	-	-	-
47	7	7	14	8	10	18	3	4	7	-	-	-	-	-	-
48	4	4	8	7	11	18	9	6	15	-	-	-	-	-	-
49	4	6	10	5	8	13	8	5	13	-	-	-	-	-	-
50	5	6	11	7	10	17	7	5	12	-	-	-	-	-	-

Table 6 (cont'd)

Fork Length (cm)	<u>S. aleutianus</u>									<u>S. proriger</u>					
	BLUE WATERS			BLUE WATERS			SCOTIA BAY			BLUE WATERS			BLUE WATERS		
	Haul no.									Haul no.					
	24			59			21			32			56		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
51	0	2	2	6	2	8	3	1	4	-	-	-	-	-	-
52	3	3	6	1	1	2	5	1	6	-	-	-	-	-	-
53	3	-	3	-	3	3	-	-	-	-	-	-	-	-	-
54	1	2	3	-	2	2	-	-	-	-	-	-	-	-	-
55	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-
56	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
57	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
58	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-
59	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	74	79	153	48	74	122	57	36	93	103	56	159	39	61	100

Table 6 (cont'd)

Fork Length (cm)	<u>S. brevispinis</u>			<u>S. reedi</u>											
	BLUE WATERS			SCOTIA BAY			SCOTIA BAY			BLUE WATERS			BLUE WATERS		
	Haul no.			Haul no.											
	41			7			26			28			29		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
51	13	5	18	-	-	-	-	-	-	-	-	-	-	-	-
52	5	8	13	-	-	-	-	-	-	-	-	-	-	-	-
53	5	12	17	-	-	-	-	-	-	-	-	-	-	-	-
54	9	8	17	-	-	-	-	-	-	-	-	-	-	-	-
55	5	7	12	-	-	-	-	-	-	-	-	-	-	-	-
56	6	2	8	-	-	-	-	-	-	-	-	-	-	-	-
57	1	4	5	-	-	-	-	-	-	-	-	-	-	-	-
58	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-
59	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
60	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
61	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
62	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Total	96	98	194	38	60	98	40	60	100	15	17	32	31	25	56

Table 7. Species composition of total catch of the M/V ARCTIC HARVESTER, by subarea, during the west coast Vancouver Island survey September 1979. All values are expressed in kg. Location of subareas are shown in Fig. 8.

Species	Subarea								Total
	Cape Flattery		Deep Bank		Clayoquot		Estevan		
	South	North	South	North	South	North	South	North	
<u>Sebastes aleutianus</u>	94	-	79	130	7,385	353	180	582	8,803
<u>S. alutus</u>	30,509	205	15,372	478	18,223	1,205	4,059	38,019	108,070
<u>S. babcocki</u>	123	8	478	37	375	127	847	765	2,760
<u>S. borealis</u>	358	-	309	133	17	-	56	1,029	1,902
<u>S. brevispinus</u>	357	-	355	-	101	124	156	28	1,121
<u>S. crameri</u>	123	-	2,030	-	200	-	110	458	2,921
<u>S. diploproa</u>	6,718	262	4,698	451	6,307	103	842	12,906	32,287
<u>S. elongatus</u>	28	-	223	-	196	19	111	115	692
<u>S. entomelas</u>	50	-	-	-	-	-	70	-	120
<u>S. helvomaculatus</u>	-	-	77	9	60	32	28	-	206
<u>S. paucispinis</u>	13,228	-	-	-	-	-	-	-	13,228
<u>S. pinniger</u>	-	-	-	-	60	37	91	3	191
<u>S. proriger</u>	1,779	-	454	-	-	74	726	199	3,232
<u>S. reedi</u>	623	-	-	-	-	1,387	67	-	2,077
<u>S. zacentrus</u>	659	-	122	148	521	387	388	377	2,602
<u>Sebastolobus alascanus</u>	379	8	1,087	69	553	107	410	2,320	4,933
Sablefish	18,662	8	4,922	363	1,385	985	2,795	7,946	37,066
Pacific cod	-	-	135	-	-	31	-	480	646
Turbot	4,308	23	2,200	216	826	87	6,876	9,220	23,756
Petrале sole	-	-	106	12	-	-	12	-	130
Rex sole	87	6	215	29	84	25	612	762	1,820
Dover sole	999	37	963	164	373	105	2,348	7,630	12,619
Walleye pollock	110	14	289	-	-	-	49	49	511
Hake	1,545	110	3,071	24	448	63	994	3,895	10,150
Dogfish	869	-	259	-	-	-	114	383	1,630
Skates	40	-	112	-	299	130	61	826	1,468
Total catch (kg)	81,648	681	37,556	2,263	37,413	5,381	22,002	87,997	274,441
Total effort (h)	12.5	0.4	20.0	2.8	14.2	2.8	18.4	23.2	94.8

Commercial total (kg) = 206,498.2

Table 8. Length/sex frequency of Pacific ocean perch (Sebastes alutus), by haul, collected aboard M/V ARCTIC HARVESTER during the west coast Vancouver Island survey, September 1979.

Fork Length (cm)	Haul no.																				
	1			2			3			4			5			8			9		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	0	-	0	-	-	-	-	-	1	-	1	-	-	-	-
29	-	-	-	-	-	-	0	-	0	-	-	-	-	-	0	-	0	-	-	-	-
30	-	-	-	-	-	-	0	-	0	-	-	-	-	-	0	1	1	1	1	1	2
31	-	-	-	-	3	3	2	-	2	-	-	-	-	-	0	0	0	0	1	1	1
32	-	-	-	-	0	0	0	-	0	1	-	1	-	-	4	0	4	1	1	2	2
33	-	-	-	3	1	4	1	2	3	6	1	7	1	-	1	2	0	2	3	0	3
34	-	-	-	2	4	6	0	1	1	4	0	4	3	-	3	4	1	5	5	0	5
35	-	1	1	1	1	2	4	1	5	10	3	13	18	1	19	1	3	4	12	5	17
36	2	1	3	10	3	13	6	1	7	16	5	21	25	8	33	9	2	11	29	6	35
37	4	2	6	17	4	21	7	6	13	24	7	31	37	2	39	20	6	26	31	10	41
38	5	1	6	26	8	34	16	4	20	26	9	35	22	8	30	21	11	32	38	14	52
39	5	3	8	21	6	27	6	17	23	16	22	38	16	16	32	20	17	37	22	16	38
40	8	6	14	15	13	28	9	12	21	12	33	45	12	24	36	9	20	29	12	25	37
41	7	10	17	9	5	13	6	15	21	9	21	30	7	19	26	6	15	21	5	15	20
42	3	8	11	3	11	14	4	10	14	1	18	19	0	19	19	6	13	19	1	5	6
43	1	8	9	1	10	11	2	10	12	1	15	16	2	18	20	0	16	16	-	9	9
44	-	8	8	1	3	4	0	27	27	2	13	15	1	5	6	1	20	21	-	1	1
45	-	5	5	-	9	9	1	9	10	-	4	4	-	5	5	-	10	10	-	3	3

Table 8 (cont'd)

Fork Length (cm)	Haul no.																				
	1			2			3			4			5			8			9		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
46	-	4	4	-	6	6	-	16	16	-	2	2	-	2	2	-	8	8	-	2	2
47	-	8	8	-	3	3	-	3	3	-	1	1	-	-	-	-	2	2	-	2	2
48	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	3	3	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	35	65	100	110	90	200	65	135	200	128	154	282	144	127	271	104	148	252	160	116	276

Table 8 (cont'd)

Fork Length (cm)	Haul no.																				
	10			11			12			14			16			17			19		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
20	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
21	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
22	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
23	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
24	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
25	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
26	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
27	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	1	1
28	1	~	1	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	2	0	2
29	0	~	0	~	~	~	~	~	~	~	~	~	~	~	1	~	1	1	0	1	1
30	0	~	0	1	~	1	~	~	~	~	~	~	~	~	0	1	1	0	1	1	1
31	0	~	0	3	3	6	1	~	1	~	~	1	2	~	2	0	1	1	3	2	5
32	3	~	3	6	1	7	0	~	0	1	~	0	4	1	5	1	1	2	0	1	1
33	0	1	1	10	5	15	2	~	2	0	~	0	1	1	2	6	1	7	0	1	1
34	1	1	2	22	1	23	2	1	3	0	~	0	7	4	11	8	2	10	0	0	0
35	7	2	9	25	10	35	13	11	24	0	~	2	6	1	7	10	3	13	1	1	2
36	10	4	14	29	17	46	16	15	31	2	~	3	11	5	12	22	20	42	5	0	5
37	27	7	34	25	21	46	14	23	37	3	~	4	19	8	27	17	19	36	13	2	15
38	25	10	35	10	22	32	19	18	37	4	~	5	12	9	21	7	15	32	13	2	15
39	26	11	37	5	14	19	8	17	25	5	~	14	6	10	16	2	20	22	15	1	16
40	17	23	40	3	16	19	4	29	33	14	~	8	2	12	14	2	18	20	5	3	8
41	9	20	29	2	11	13	1	18	19	6	2	11	2	17	19	0	15	15	4	2	6
42	4	13	17	1	13	14	1	14	15	7	4	12	4	12	16	1	10	11	1	4	5
43	1	11	12	0	5	5	1	12	13	8	4	10	1	8	9	~	5	5	~	8	8
44	0	4	4	1	4	5	0	6	6	5	5	11	~	5	5	~	1	1	~	6	6
45	2	2	4	~	2	2	2	5	7	3	8	20	~	8	8	~	3	3	~	10	10

Table 8 (cont'd)

Fork Length (cm)	Haul no.																				
	10			11			12			14			16			17			19		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
46	-	4	4	-	1	1	-	4	4	1	19	7	-	5	5	-	-	-	-	5	5
47	-	-	-	-	-	-	-	1	1	1	6	6	-	1	1	-	-	-	-	6	6
48	-	-	-	-	-	-	-	-	-	-	6	4	-	1	1	-	-	-	-	3	3
49	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	133	113	246	143	146	289	84	174	258	60	58	118	77	108	185	77	135	212	63	68	131

Table 8 (cont'd)

Fork Length (cm)	Haul no.																	
	20			21			24			25			26			29		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-
28	1	-	1	1	-	1	-	-	-	0	-	0	-	-	-	-	-	-
29	0	-	0	1	-	1	-	-	-	0	1	1	-	-	-	-	-	-
30	0	-	0	0	1	1	-	-	-	2	0	2	-	-	-	-	-	-
31	0	-	0	0	0	0	1	1	2	3	0	3	-	-	-	-	-	-
32	0	-	0	1	1	2	0	0	0	3	1	4	-	1	1	-	-	-
33	1	-	1	0	1	1	0	0	0	4	3	7	2	1	3	1	-	1
34	4	2	6	9	3	12	1	0	1	4	3	7	3	0	3	2	-	2
35	5	1	6	8	1	9	4	1	5	13	3	16	2	1	3	2	-	2
36	9	1	10	17	7	24	12	6	18	17	10	17	2	2	4	0	-	0
37	6	2	8	12	7	19	14	8	22	18	13	31	4	2	6	1	-	1
38	4	2	6	11	7	18	32	12	44	15	10	25	10	4	14	8	-	8
39	2	7	9	4	9	13	17	18	35	14	19	33	6	5	11	12	3	15
40	-	5	5	5	10	15	11	22	33	6	16	22	7	2	9	10	2	12
41	-	7	7	1	8	9	2	19	21	2	8	10	5	4	9	3	4	7
42	-	1	1	-	2	2	1	20	21	2	9	11	-	2	2	3	1	4
43	-	1	1	-	4	4	1	10	11	-	12	12	1	3	4	3	5	8
44	-	2	2	-	1	1	2	9	11	-	8	8	1	1	2	0	8	8
45	-	1	1	-	-	-	-	8	8	-	12	12	-	1	1	1	1	2

Table 8 (cont'd)

Fork Length (cm)	Haul no.																	
	20			21			24			25			26			29		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
46	-	-	-	-	-	-	1	2	3	-	6	6	-	-	-	-	3	3
47	-	-	-	-	-	-	-	2	2	-	2	2	-	-	-	-	3	3
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	31	32	63	70	62	132	99	138	237	104	136	240	43	29	72	46	30	76

Table 8 (cont'd)

Fork Length (cm)	Haul no.														
	30			31			32			33			34		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	2	1	3	-	-	-	-	-	-	-	-	-
22	-	-	-	1	1	2	-	-	-	-	-	-	-	-	-
23	-	-	-	2	2	4	-	-	-	-	-	-	-	-	-
24	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-
25	-	-	-	2	2	4	-	-	-	-	-	-	-	-	-
26	-	-	-	2	0	2	-	-	-	-	-	-	-	-	-
27	-	-	-	4	6	10	-	-	-	-	-	-	-	-	-
28	-	-	-	2	7	9	-	-	-	-	-	-	-	-	-
29	-	-	-	13	7	20	-	-	-	-	-	-	-	-	-
30	-	-	-	8	9	17	-	-	-	1	-	1	-	-	-
31	-	-	-	3	7	10	-	-	-	1	-	1	-	-	-
32	-	-	-	2	1	3	1	-	1	1	-	1	-	-	-
33	1	-	1	0	5	5	3	3	6	1	1	2	1	-	1
34	0	-	0	1	3	4	15	2	17	5	3	8	3	-	3
35	0	-	0	1	1	2	14	4	18	9	6	17	10	3	13
36	2	-	2	5	3	8	27	10	37	18	8	26	11	4	15
37	3	-	3	4	1	5	29	10	39	18	17	35	24	3	27
38	4	1	5	6	2	8	26	11	37	17	25	42	11	5	16
39	3	1	4	4	2	6	4	19	23	3	20	23	3	7	10
40	3	1	4	5	1	6	2	5	7	5	12	17	3	9	12
41	1	2	3	4	5	9	1	5	6	1	6	7	2	2	4
42	1	1	2	1	2	3	-	6	6	1	5	6	-	3	3
43	0	3	3	2	2	4	-	1	1	-	1	1	-	1	1
44	0	3	3	-	1	1	-	1	1	-	-	-	-	-	-
45	1	1	2	-	4	4	-	0	0	-	-	-	-	-	-

Table 8 (cont'd)

Fork Length (cm)	Haul no.														
	30			31			32			33			34		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
46	0	4	4	-	-	-	-	0	0	-	-	-	-	-	-
47	1	0	1	-	-	-	-	1	1	-	-	-	-	-	-
48	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
49	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	20	20	40	74	77	151	122	78	200	81	104	185	68	37	105

Table 8 (cont'd)

Fork Length (cm)	Haul no.														
	36			38			40			41			43		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
20	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
21	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
22	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
23	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
24	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
25	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
26	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
27	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
28	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
29	~	~	~	~	~	~	~	~	~	~	~	~	1	~	1
30	~	~	~	~	~	~	~	1	1	~	~	~	0	~	0
31	~	~	~	3	1	4	~	3	3	~	~	~	4	~	4
32	~	~	~	0	0	0	1	2	3	~	~	~	3	1	4
33	5	~	5	3	1	4	2	2	4	~	~	~	1	1	2
34	5	2	7	3	1	4	3	0	3	~	1	1	6	0	6
35	15	2	17	5	5	10	6	7	13	~	0	0	7	5	12
36	17	9	28	12	3	15	16	4	20	5	0	5	8	6	14
37	17	23	40	24	6	30	14	15	29	8	3	11	10	6	16
38	20	19	39	34	8	42	15	11	26	7	4	11	10	7	17
39	10	34	44	23	6	29	5	11	16	7	2	9	0	7	7
40	5	22	27	7	4	11	4	4	8	1	13	14	0	2	2
41	4	15	19	1	7	8	5	2	7	0	17	17	0	6	6
42	2	17	19	1	4	5	~	8	8	1	9	10	1	2	3
43	~	10	10	~	4	4	~	0	0	~	7	7	~	1	1
44	~	2	2	~	2	2	~	0	0	~	~	~	~	1	1
45	~	3	3	~	2	2	~	1	1	~	~	~	~	~	~

Table 8 (cont'd)

Fork Length (cm)	Haul no.														
	36			38			40			41			43		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
46	-	0	0	-	5	5	-	-	-	-	-	-	-	-	-
47	-	2	2	-	6	6	-	-	-	-	-	-	-	-	-
48	-	2	2	-	3	3	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	100	162	262	116	68	184	71	71	142	29	56	85	52	43	95

Table 8 (cont'd)

Fork Length (cm)	Haul no.														
	49			50			51			54			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
22	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2
23	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4
24	-	-	-	-	-	-	-	-	-	-	-	-	0	2	2
25	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4
26	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
27	-	-	-	-	-	-	-	-	-	-	-	-	6	7	13
28	-	-	-	-	-	-	-	-	-	-	-	-	8	7	15
29	-	-	-	-	-	-	-	-	-	2	3	5	19	11	30
30	-	-	-	1	1	2	-	-	-	4	0	4	18	15	33
31	1	-	1	1	1	2	-	-	-	5	5	10	33	28	61
32	1	-	1	0	0	0	-	1	1	2	1	2	36	14	50
33	3	2	5	4	1	5	2	0	2	3	2	5	72	36	108
34	4	3	7	6	5	11	9	1	10	8	1	9	149	44	193
35	6	1	7	5	2	7	11	3	14	3	2	5	234	93	327
36	17	0	17	7	0	7	21	5	26	4	3	7	418	168	586
37	22	7	29	15	4	19	25	15	40	20	2	22	546	261	807
38	39	8	47	14	4	18	17	16	32	21	3	24	565	290	855
39	40	11	51	15	7	22	12	17	29	22	6	28	379	381	760
40	21	13	34	13	10	23	12	10	22	3	15	18	248	412	660
41	11	9	20	5	9	14	5	5	10	6	8	14	133	333	466
42	4	8	12	6	4	10	3	7	10	1	11	12	65	276	341
43	1	6	7	1	3	4	1	5	6	1	7	8	29	225	254
44	-	2	2	1	3	4	1	2	3	-	5	5	16	159	175
45	-	4	4	-	4	4	-	3	3	-	4	4	-	132	142

Table 8 (cont'd)

Fork Length (cm)	Haul no.														
	49			50			51			54			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
46	-	1	1	-	-	-	-	1	1	-	5	5	-	105	107
47	-	0	0	-	-	-	-	-	-	-	2	2	-	49	51
48	-	1	1	-	-	-	-	-	-	-	-	-	-	32	32
49	-	1	1	-	-	-	-	-	-	-	-	-	-	6	6
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	170	77	247	94	58	152	119	91	210	105	85	190	2997	3092	6089

Table 9. Length/sex frequency of splitnose rockfish (Sebastes diploproa) and darkblotched rockfish (Sebastes crameri) during the west coast Vancouver Island survey, September 1979.

<u>S. diploproa</u> Haul 40				<u>S. crameri</u> Haul 52			
Length	Male	Female	Total	Length	Male	Female	Total
19	1	-	1	19	-	-	-
20	0	-	0	20	-	-	-
21	0	-	0	21	4	-	4
22	0	-	0	22	5	-	5
23	0	-	0	23	14	2	16
24	4	-	4	24	23	6	29
25	3	-	3	25	13	9	22
26	8	2	10	26	14	10	24
27	16	4	20	27	7	12	19
28	28	3	31	28	7	7	14
29	27	18	45	29	11	3	14
30	22	26	48	30	6	1	7
31	12	17	39	31	3	3	6
32	5	8	13	32	1	2	3
33	1	5	6	33	1	0	1
34	1	4	5	34	-	4	4
35	-	4	4	35	-	3	3
36	-	3	3	36	-	-	-
37	-	3	3	37	-	-	-
38	-	1	1	38	-	-	-
39	-	-	-	39	-	-	-
40	-	-	-	40	-	-	-
41	-	-	-	41	-	-	-
42	-	-	-	42	-	-	-
43	-	-	-	43	-	-	-
44	-	-	-	44	-	-	-
45	-	-	-	45	-	-	-
46	-	-	-	46	-	-	-
Total	128	98	236	Total	109	62	171

Table 10. List of species sampled during the west Langara Island and west coast Vancouver Island surveys.

Vessel	Location	Species	Length/sex	Length/sex/otolith	Total
M/V Scotia Bay	N.W. Queen Charlotte Is. July 20-August 4	<u>Sebastes aleutianus</u>	-	94	94
		<u>S. alutus</u>	1,199	200	1,399
		<u>S. proriger</u>	134	97	231
		<u>S. reedi</u>	98	100	198
		<u>S. varigatus</u>	-	100	100
		<u>S. zacentrus</u>	148	100	248
					<u>2,270</u>
M/V Blue Waters	N.W. Queen Charlotte Is. July 11-August 2	<u>S. aleutianus</u>	122	100	223
		<u>S. alutus</u>	855	218	1,073
		<u>S. borealis</u>	-	10	10
		<u>S. brevispinis</u>	94	100	194
		<u>S. proriger</u>	59	200	259
		<u>S. reedi</u>	32	56	88
		<u>S. zacentrus</u>	-	49	49
					<u>1,895</u>
M/V Arctic Harvester	S.W. Vancouver Is. September 4-26	<u>S. alutus</u>	4,089	2,000	6,089
		<u>S. crameri</u>	161	-	161
		<u>S. diploproa</u>	216	-	216
		*sablefish		300	300
					<u>6,766</u>

*An additional 300 fish were sampled for length/sex/otoliths by port sampler.

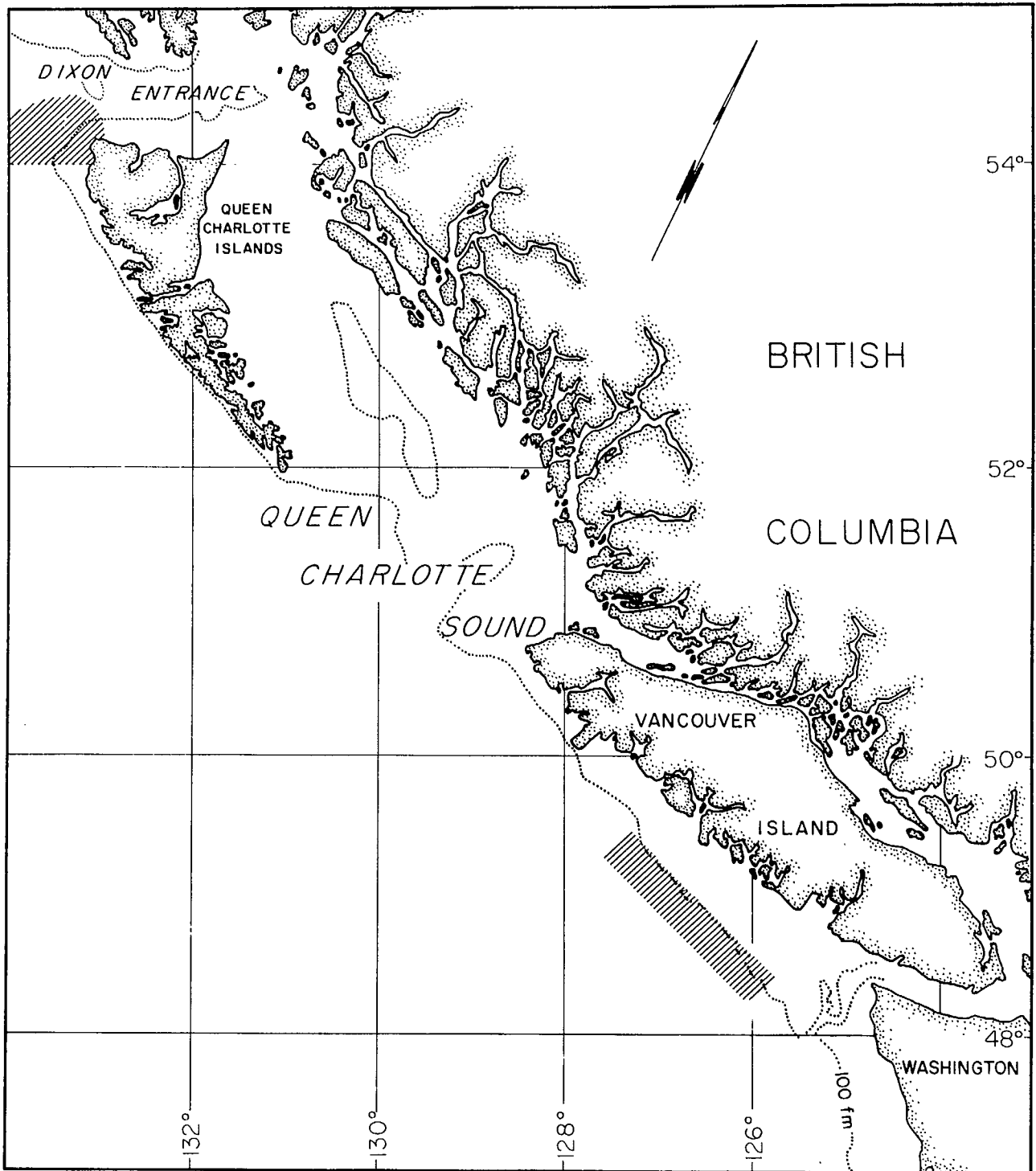


Fig. 1. West coast of Canada showing the areas (shaded) which were surveyed for rockfish biomass in 1979 by the M/V BLUE WATERS, M/V SCOTIA BAY, and the M/V ARCTIC HARVESTER.

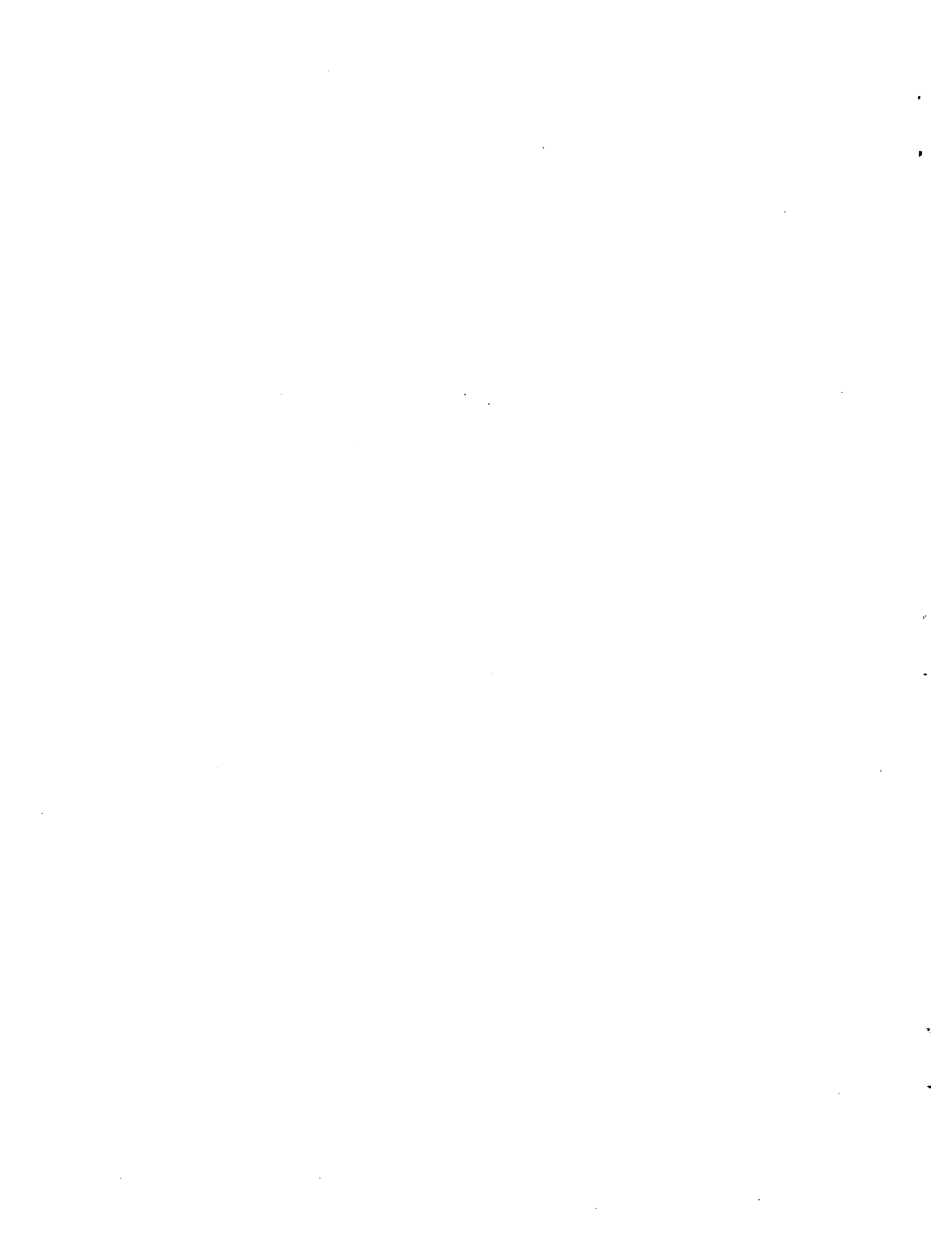


Fig. 2. NET DIMENSIONS AND CHARACTERISTICS FOR BOTTOM TRAWL
 VESSEL M/V BLUE WATERS NET Atlantic Western III
 OBSERVATION PERIOD July 15-24, July 25-August 2, 1979

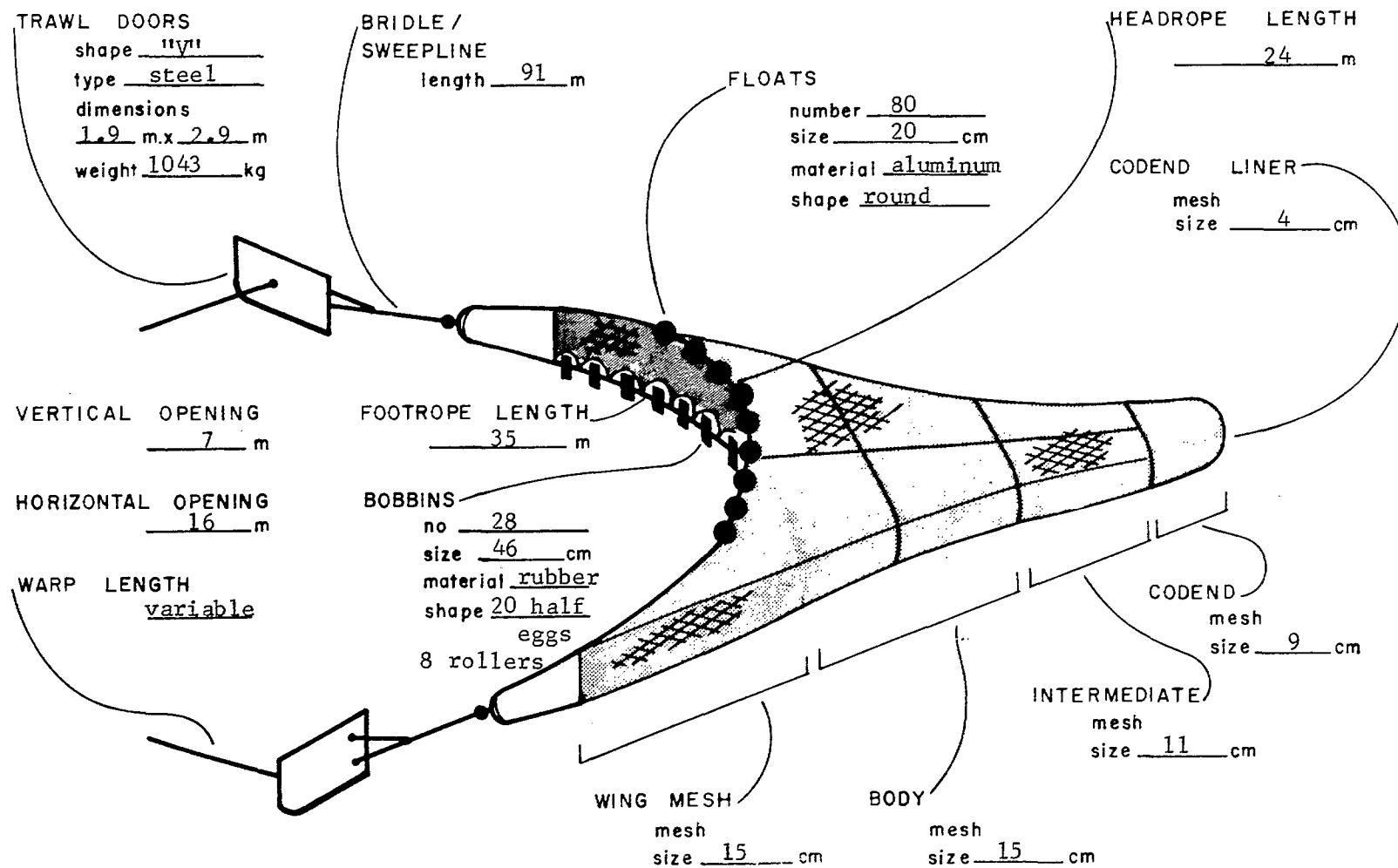


Fig. 2. Gear configuration used by the M/V BLUE WATERS during the west Langara Island survey.

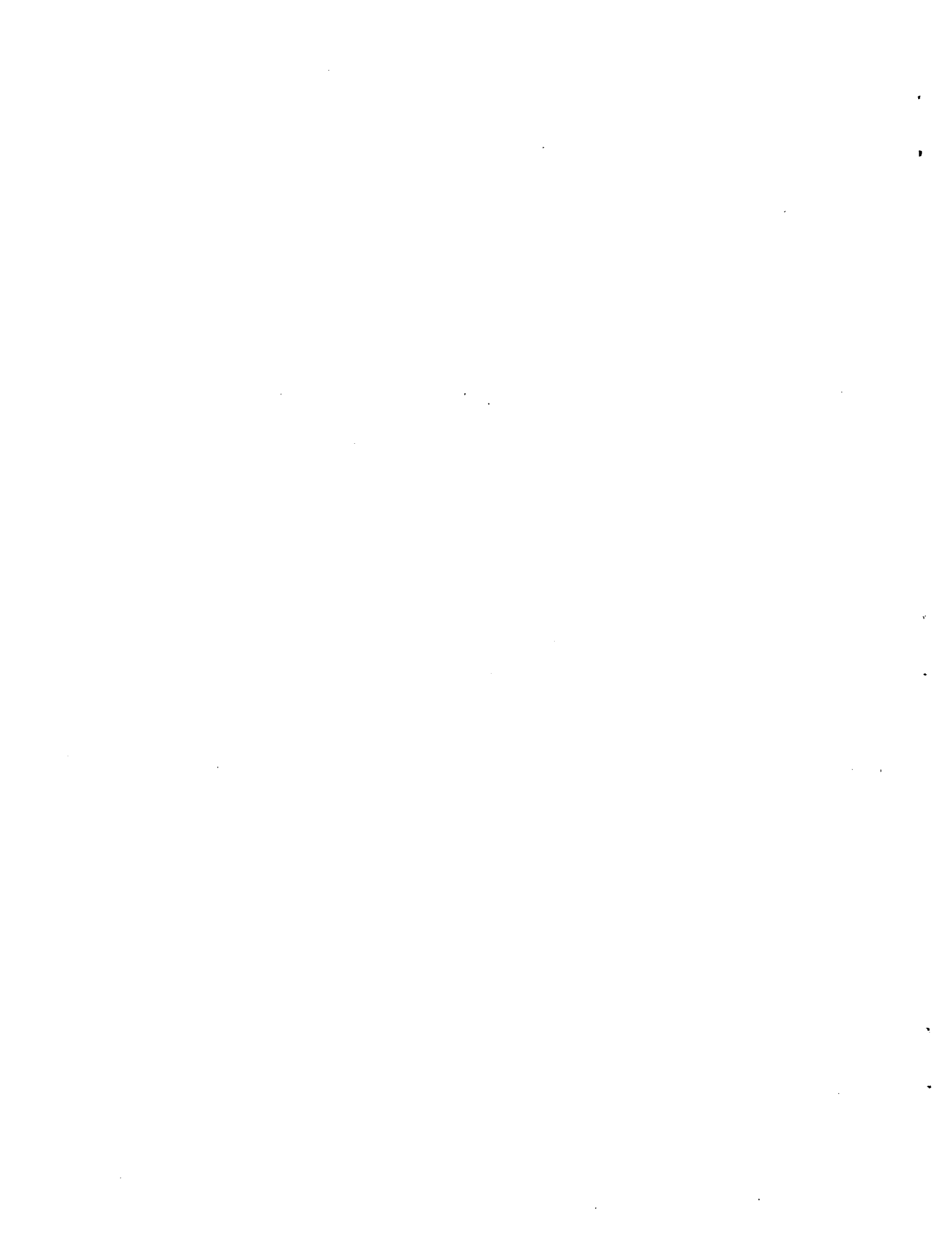


Fig. 3. NET DIMENSIONS AND CHARACTERISTICS FOR BOTTOM TRAWL

VESSEL M/V SCOTIA BAY NET Western III

OBSERVATION PERIOD July 20-29, July 30-August 8, 1979

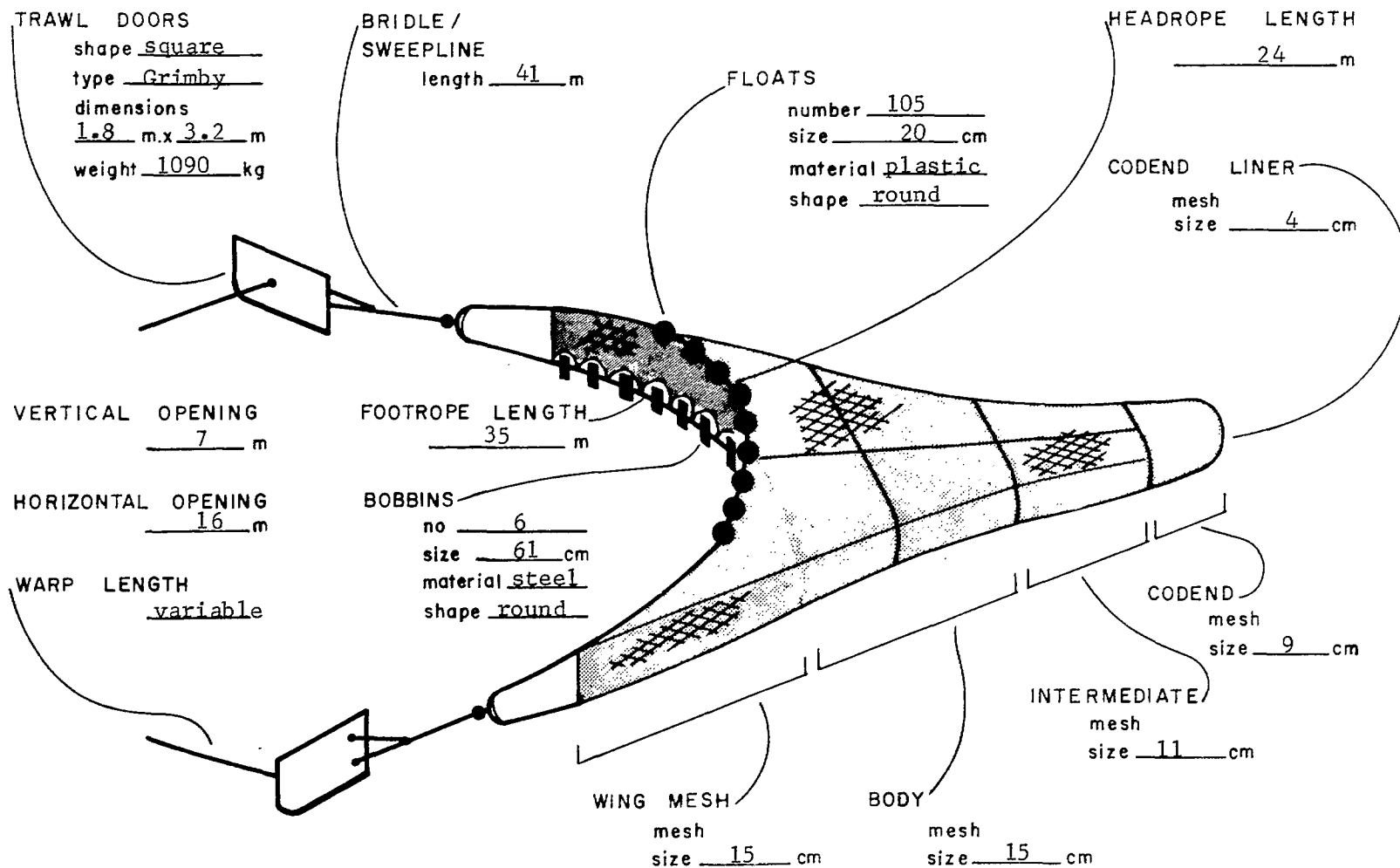


Fig. 3. Gear configuration used by the M/V SCOTIA BAY during the west Langara Island survey.

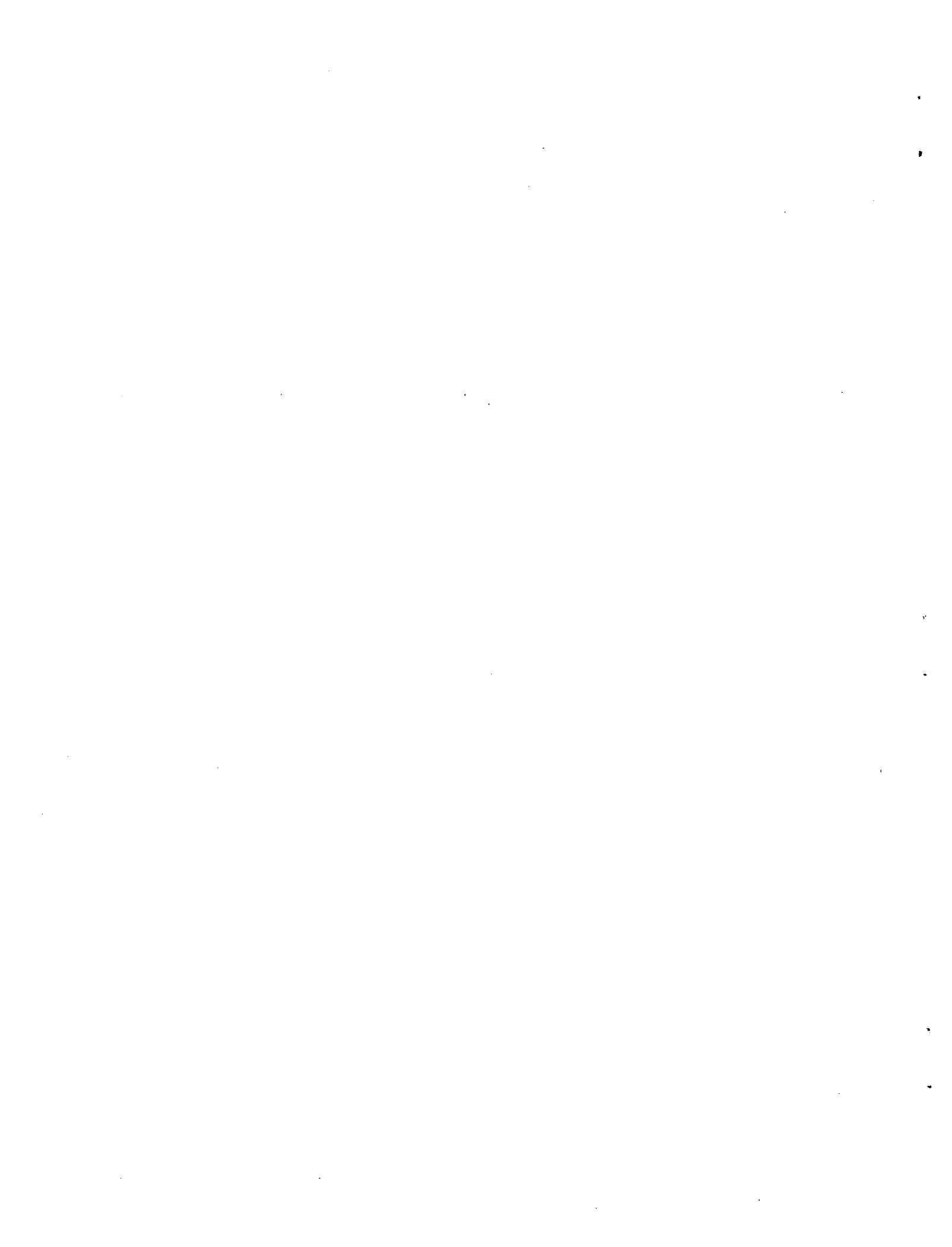


Fig. 4. NET DIMENSIONS AND CHARACTERISTICS FOR BOTTOM TRAWL
 VESSEL M/V ARCTIC HARVESTER NET Engle High Lift
 OBSERVATION PERIOD September 4-13, September 17-26, 1979

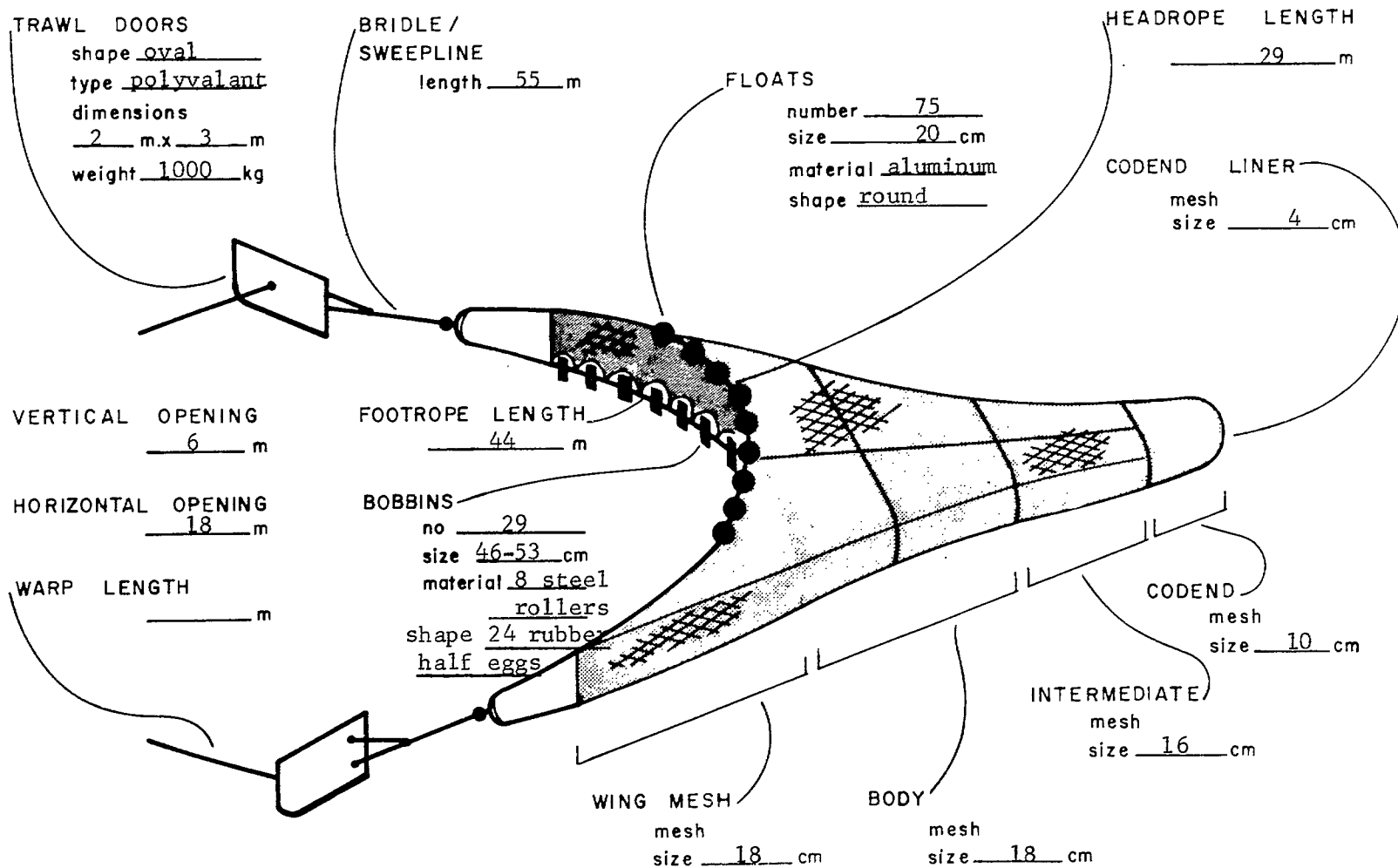
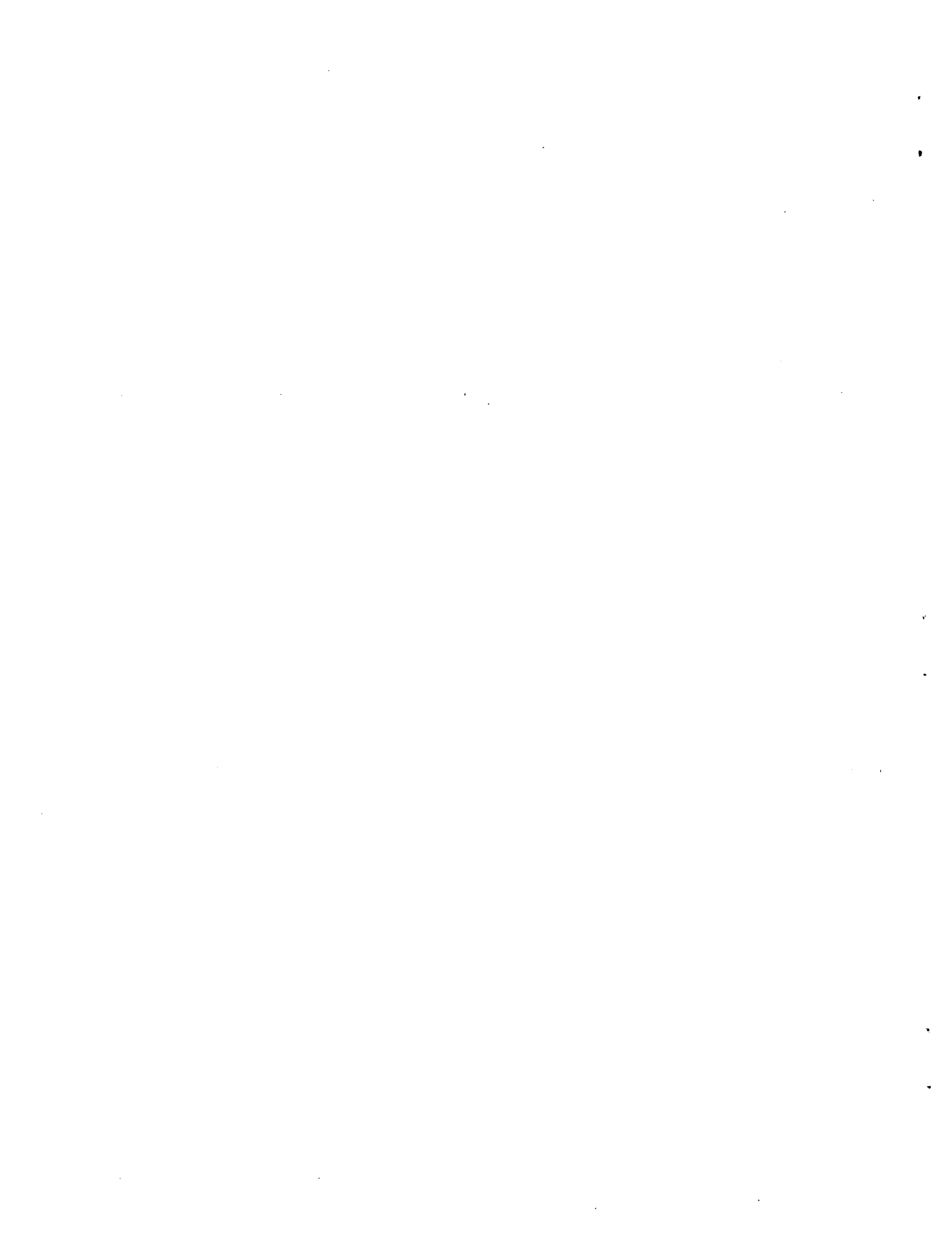


Fig. 4. Gear configuration used by the M/V ARCTIC HARVESTER during the west Langara Island survey.



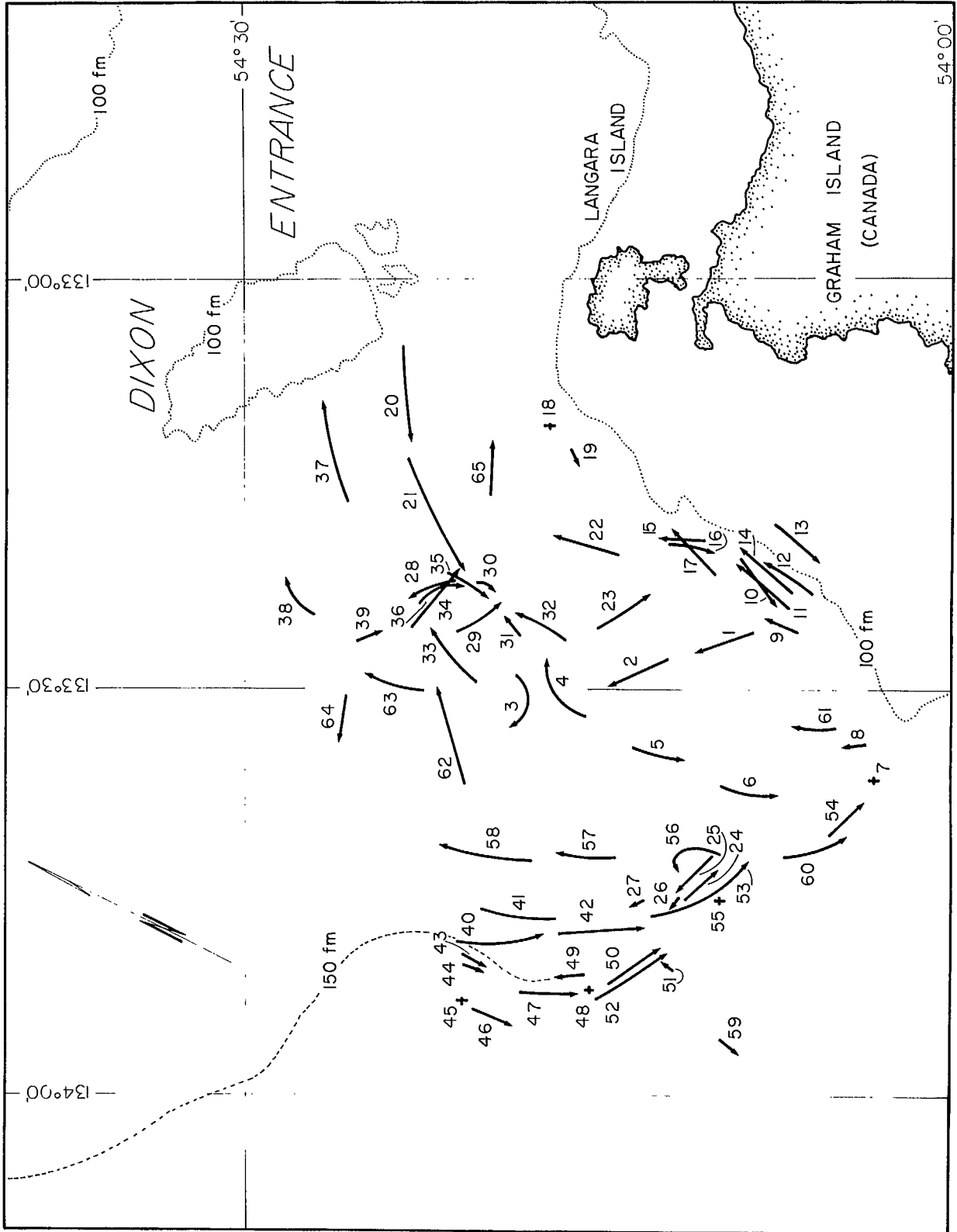
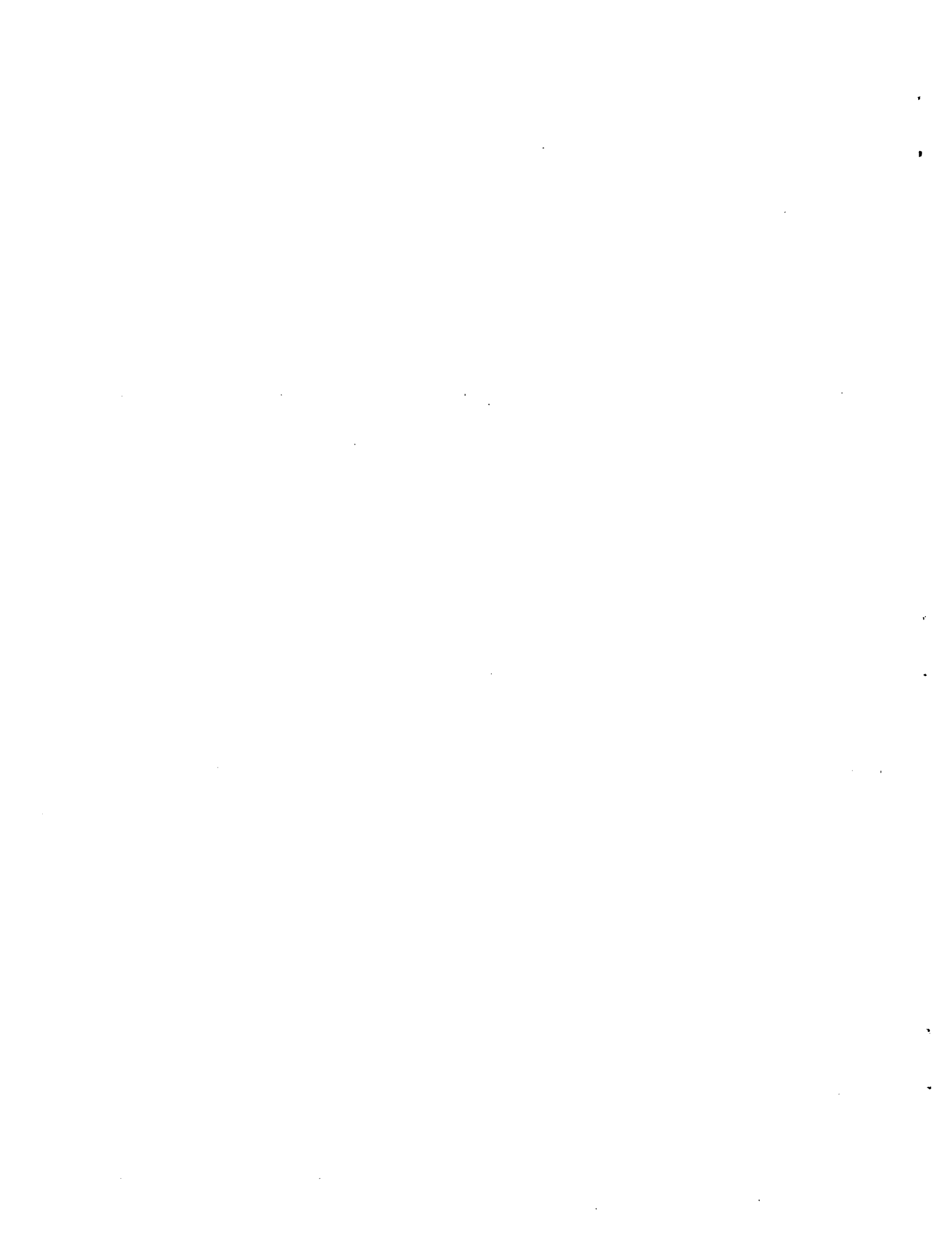


Fig. 5. Haul locations of the M/V BLUE WATERS during the west Langara survey.



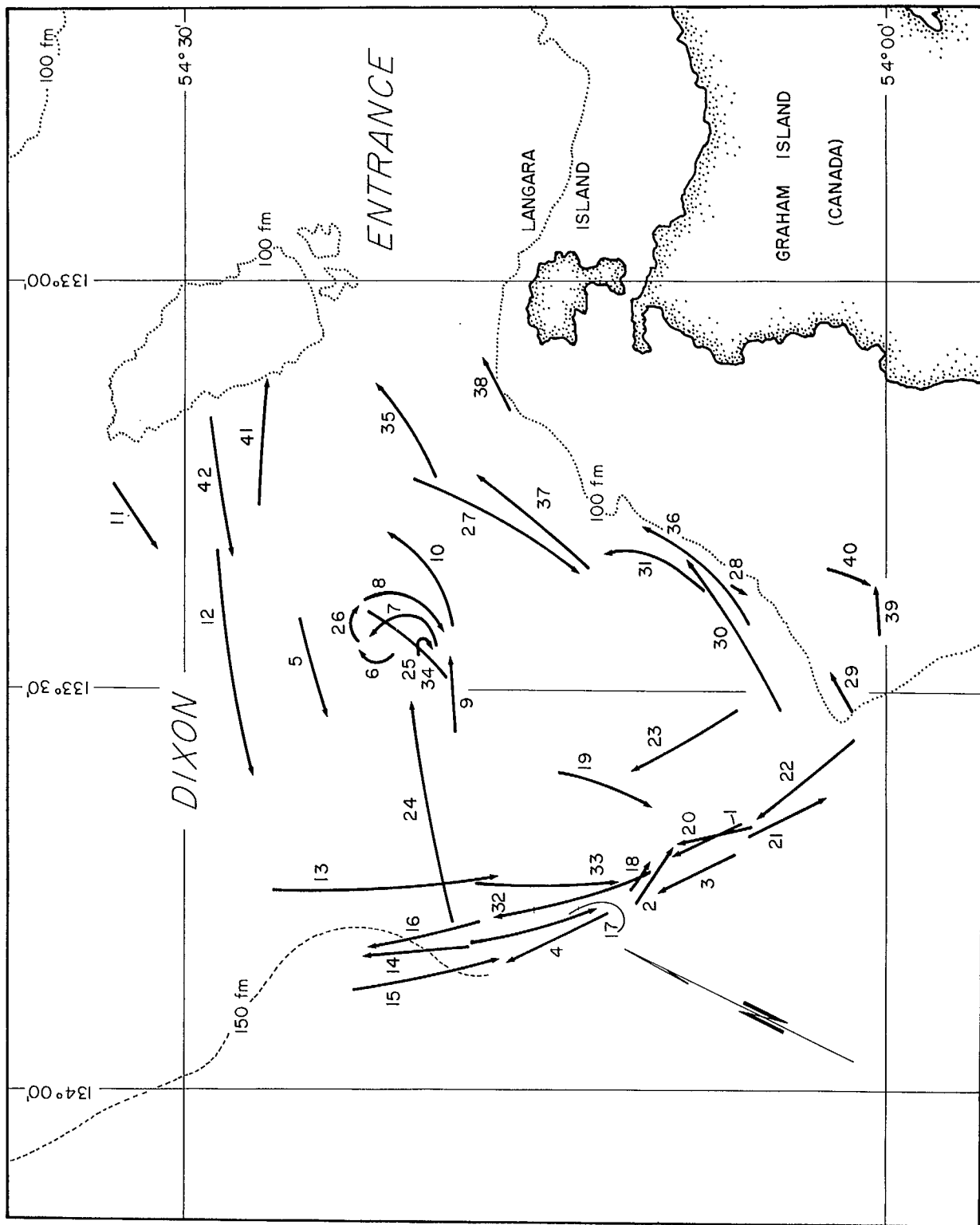
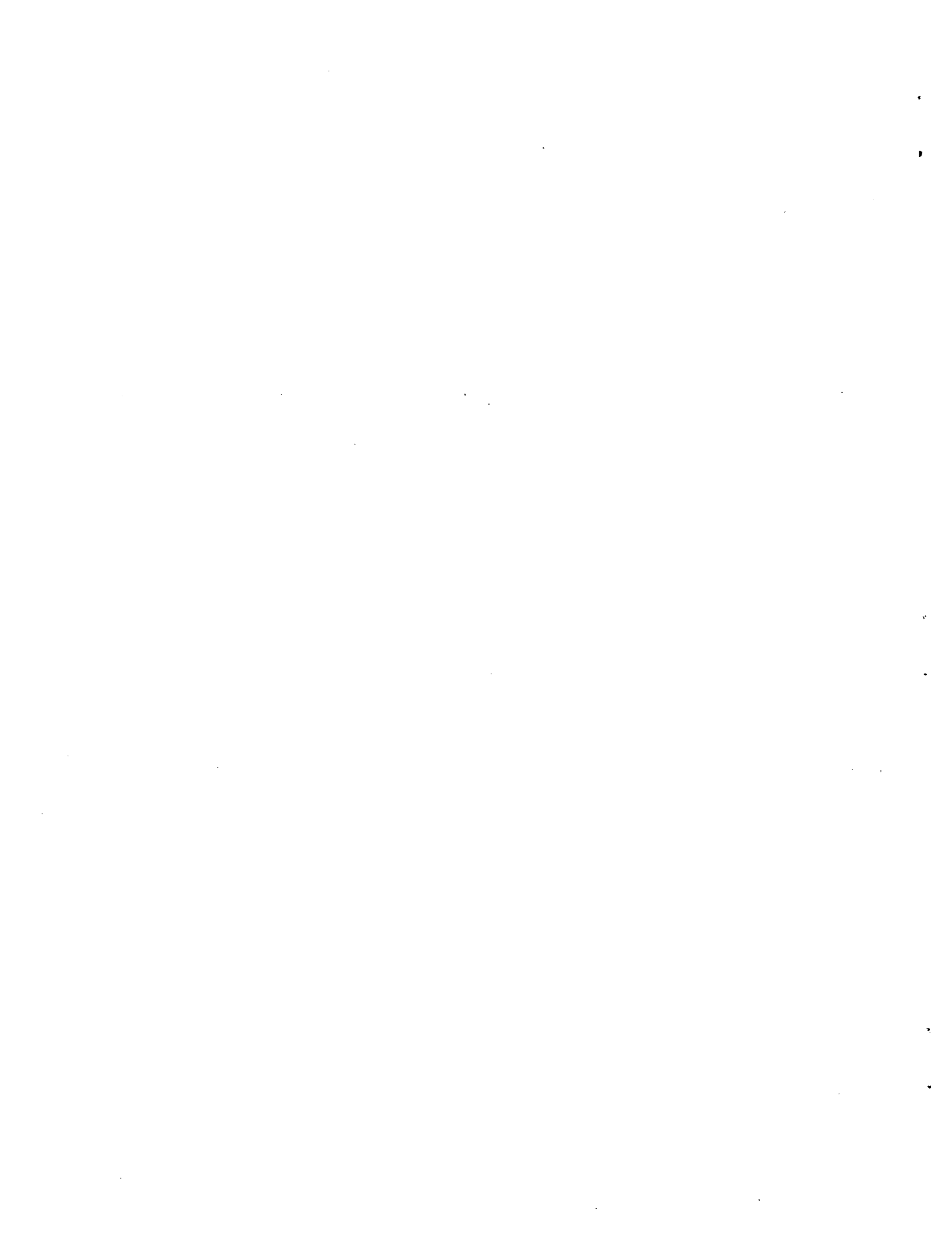


Fig. 6. Haul locations of the M/V SCOTIA BAY during the west Langara survey.



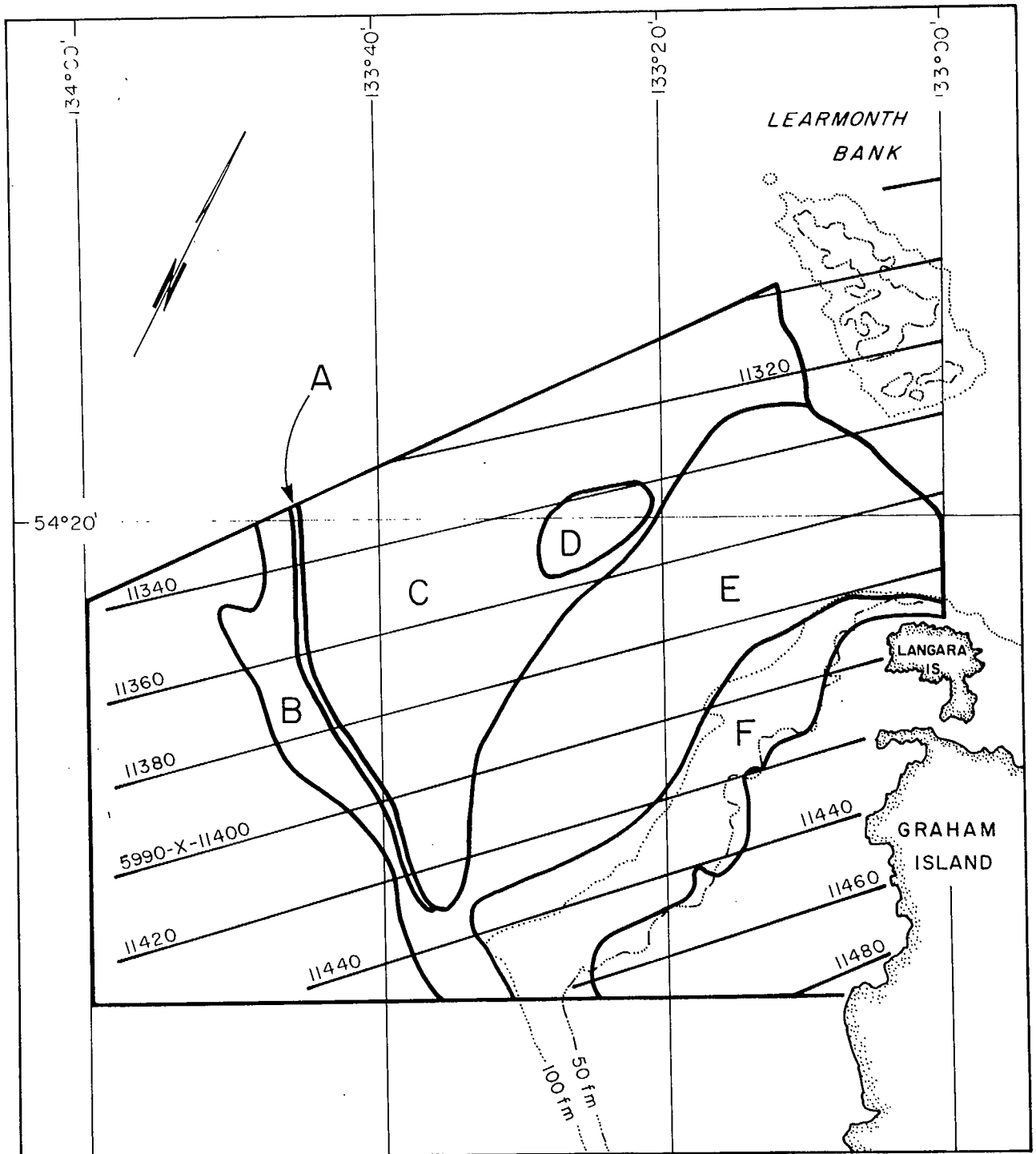
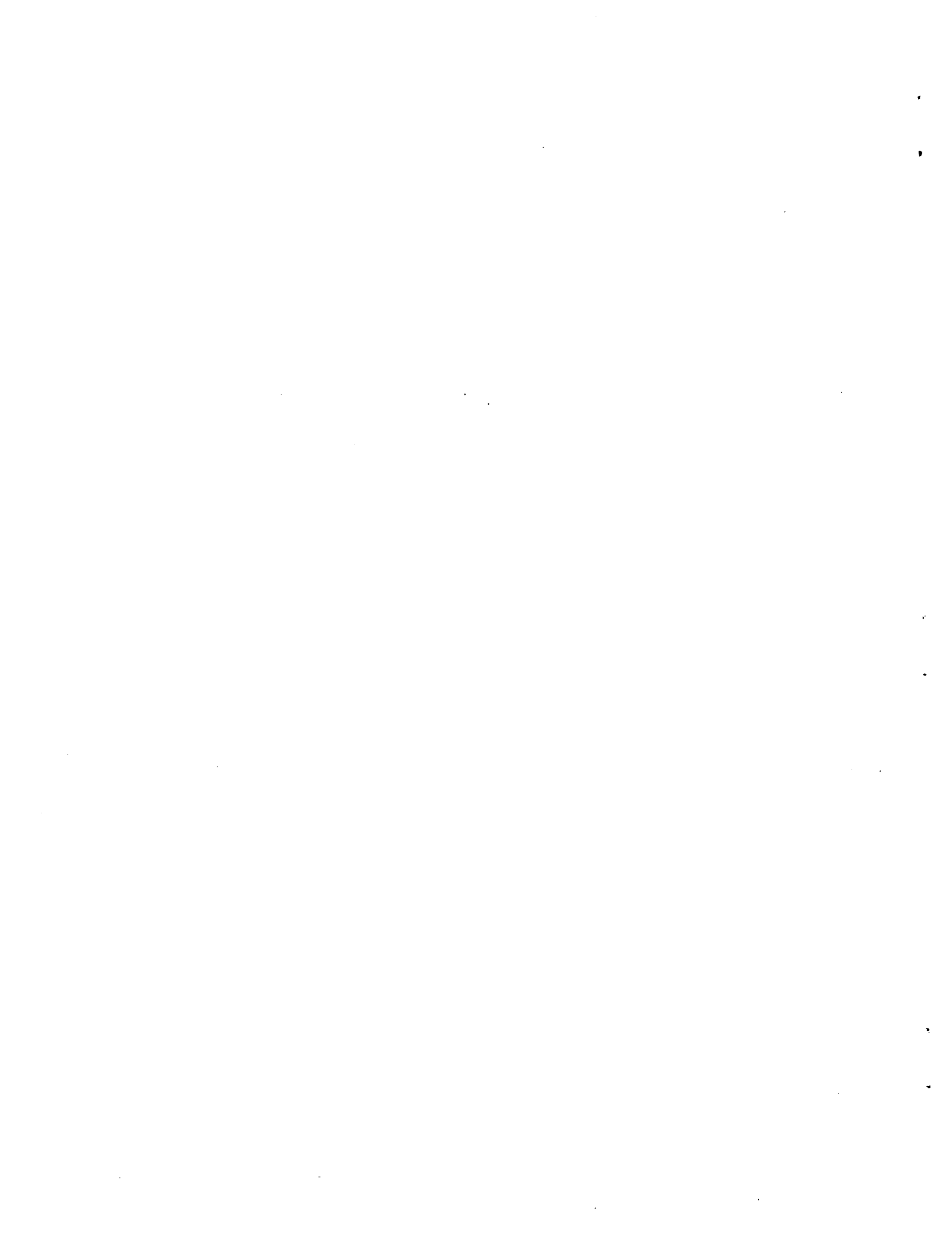


Fig. 7. West Langara survey area showing the subareas A-F.



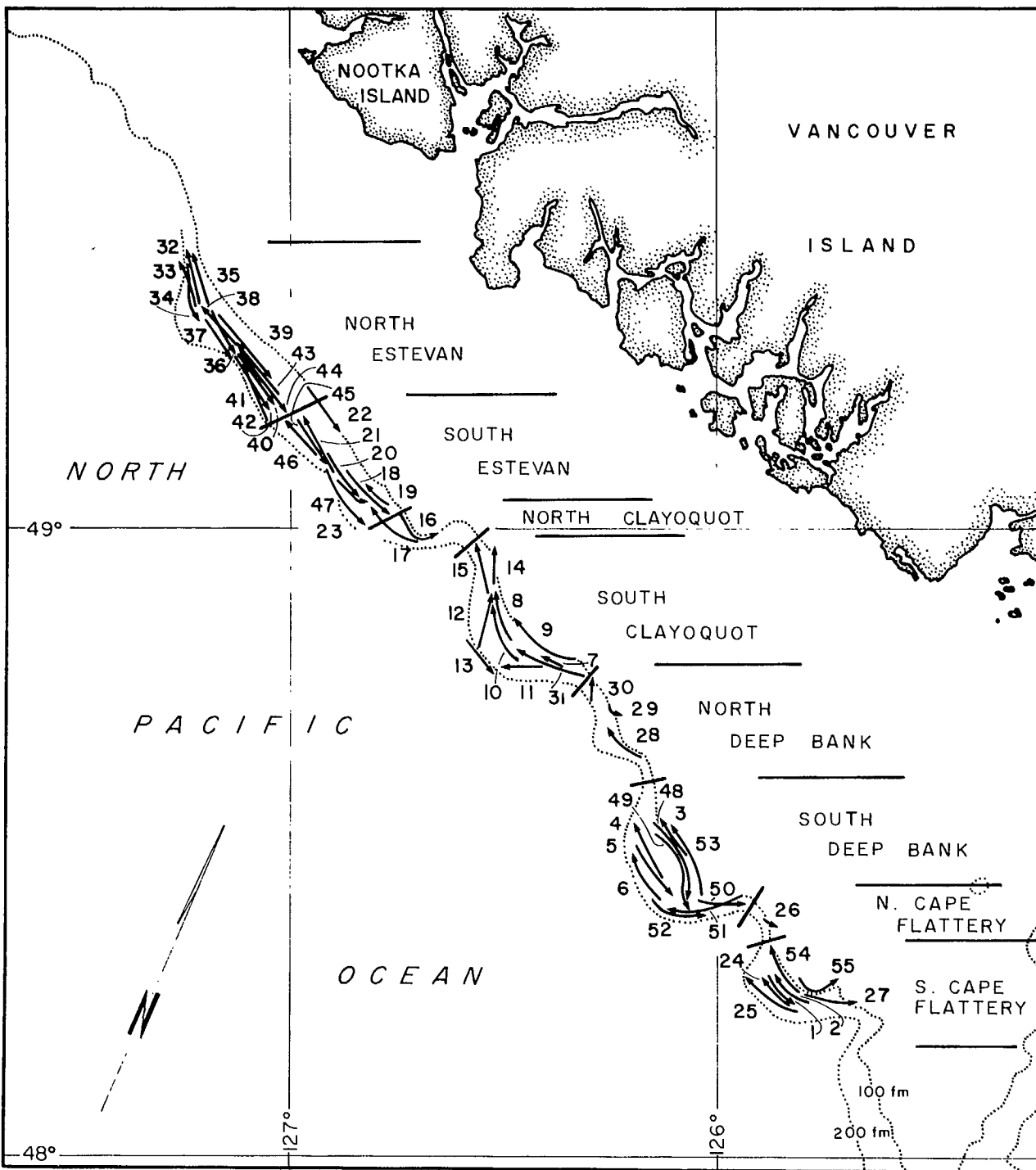


Fig. 8. Haul locations of the M/V ARCTIC HARVESTER during the southwest Vancouver Island survey. Subareas are also indicated.

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	1	2
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/12	7/17
DEPTH MODE F/(M)	210 / (384)	205 / (374)
DURATION (H)	1.00	1.08

	START	STOP	START	STOP
TIME	8:15	9:15	9:50	10:55
LAT. (DEG,MIN)	54°08'	54°10'	54°11'	54°14'
LONG. (DEG,MIN)	133°25'	133°27'	133°27'	133°29'
LC-5990-X	11410.4	11395	11386.5	11370
LC-5990-Y	30482.5	30486	304488	30492
DEPTH (F)	213	210	211	201

SPECIES CATCH (KG.)

DOVER SOLE	8	12
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	10	7
ROCK SOLE	-	-
TURBOT	TRACE	TRACE
ROCKFISH	-	-
S. ALEUTIANUS	13	1
S. ALUTUS	86	10
S. BABCOCKI	-	1
S. BOREALIS	-	-
S. BREVISPINIS	-	-
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	57	16
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	52	20
SCULPINS	-	-
WALLEYE POLLOCK	-	-
RATFISH	-	-
SKATES	-	TRACE
CRABS	-	-
SQUID	TRACE	TRACE
TOTAL CATCH (KG.)	227	68

3
5E
1 WEST
7/17
148 / (270)
1.08

4
5E
1 WEST
7/17
179 / (327)
1.02

5
5E
1 WEST
7/17
179 / (327)
1.08

START	STOP
13:35	14:40
54 ⁰ 18'	54 ⁰ 18'
133 ⁰ 28'	133 ⁰ 32'
11349	11344
30500	30499
150	147

START	STOP
16:35	17:36
54 ⁰ 15'	54 ⁰ 17'
133 ⁰ 31'	133 ⁰ 27'
11362.7	11357
30493.1	30498
177	181

START	STOP
18:50	19:55
54 ⁰ 13'	54 ⁰ 11'
133 ⁰ 34'	133 ⁰ 35'
11372	11383
30488	30483
178	181

TRACE	11	45
-	-	-
-	-	-
TRACE	26	30
-	-	-
TRACE	TRACE	2
-	-	-
5	5	-
177	349	59
7	3	3
-	-	-
15	4	-
-	-	-
-	-	-
-	-	-
-	-	-
4	2	-
-	-	-
-	-	-
7	-	-
TRACE	-	-
-	-	-
-	-	-
28	-	2
24	123	24
-	-	-
-	-	-
-	16	6
TRACE	-	-
6	4	-
TRACE	TRACE	-
TRACE	TRACE	10
-	-	-
-	2	-
272	544	181

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	6		7	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/17		7/18	
DEPTH MODE F/(M)	181 / (331)		190 / (347)	
DURATION (H)	1.00		0.17	
	START	STOP	START	STOP
TIME	20:45	21:45	11:25	11:35
LAT. (DEG,MIN)	54°09'	54°07'	54°03'	54°03'
LONG. (DEG,MIN)	133°36'	133°37'	133°38'	133°38'
LC-5990-X	11392	11404	11427.2	11427.2
LC-5990-Y	30479	30474	30467.5	30467.5
DEPTH (F)	179	182	190	190

SPECIES CATCH (KG.)

DOVER SOLE	18	-
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	4	-
ROCK SOLE	-	-
TURBOT	6	-
ROCKFISH	-	-
S. ALEUTIANUS	-	-
S. ALUTUS	125	-
S. BABCOCKI	8	-
S. BOREALIS	-	-
S. BREVISPINIS	9	-
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	2	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	4	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	14	-
SEB. ALASCANUS	81	-
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	-
SCULPINS	-	-
WALLEYE POLLOCK	-	-
RATFISH	-	-
SKATES	-	-
CRABS	-	-
SQUID	-	-
TOTAL CATCH (KG.)	272	0

8
5E
1 WEST
7/18
190 / (347)
0.42

9
5E
1 WEST
7/18
190 / (347)
0.58

10
5E
1 WEST
7/18
178 / (325)
1.12

START	STOP
12:20	12:45
54°03'	54°04'
133°33'	133°33'
11430.3	11425.7
30468.3	30470.2
182	196

START	STOP
14:25	15:00
54°06'	54°07'
133°25'	133°24'
11422	11415
30478	30481
183	208

START	STOP
16:38	17:45
54°06'	54°09'
133°24'	133°20'
11421.3	11412.6
30479.7	30485.5
180	175

34	33	120
-	-	-
-	-	-
34	24	127
-	-	-
TRACE	39	211
-	-	-
34	4	25
34	64	144
-	2	-
-	10	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
TRACE	TRACE	TRACE
-	-	-
-	-	-
-	-	TRACE
TRACE	-	TRACE
-	-	-
-	-	-
-	-	-
-	34	157
-	-	-
-	-	-
-	-	-
-	-	-
TRACE	13	123
-	4	-
-	-	-
-	-	-
-	-	-
136	227	907

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	11		12	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/18		7/18	
DEPTH MODE F/(M)	158 / (288)		110 / (201)	
DURATION (H)	1.13		1.08	
	START	STOP	START	STOP
TIME	18:25	19:33	20:15	21:20
LAT. (DEG,MIN)	54°08'	54°07'	54°05'	54°07'
LONG. (DEG,MIN)	133°20'	133°23'	133°23'	133°20'
LC-5990-X	11413.7	11419.4	11428.6	11428.6
LC-5990-Y	30485.3	30481.7	30478.3	30483.5
DEPTH (F)	157	160	110	110

SPECIES CATCH(KG.)

DOVER SOLE	12	3
HALIBUT	-	-
PETRALE SOLE	-	4
REX SOLE	-	5
ROCK SOLE	21	-
TURBOT	238	65
ROCKFISH	-	-
S. ALEUTIANUS	-	-
S. ALUTUS	206	6
S. BABCOCKI	12	9
S. BOREALIS	-	-
S. BREVISPINIS	10	278
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	2
S. ENTOMELAS	-	2
S. FLAVIDUS	-	-
S. HELVOMACULATUS	2	3
S. PAUCISPINIS	6	6
S. PINNIGER	4	424
S. PRORIGER	-	5
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	43	6
LINGCOD	-	10
PACIFIC COD	5	14
SABLEFISH	16	-
SCULPINS	-	-
WALLEYE POLLOCK	45	14
RATFISH	14	5
SKATES	-	-
CRABS	-	-
SQUID	-	-
TOTAL CATCH (KG.)	635	862

13
5E
1 WEST
7/18
90 / (164)
0.83

14
5E
1 WEST
7/19
130 / (237)
1.18

15
5E
1 WEST
7/19
130 / (237)
0.72

START	STOP
22:00	22:50
54°07'	54°05'
133°17'	133°20'
11424	11432
30484	30479
90	87

START	STOP
12:39	13:50
54°06'	54°09'
133°22'	133°19'
11423.7	11413.9
30480.1	30486.1
132	128

START	STOP
14:25	15:08
54°10'	54°12'
133°18'	133°18'
11405.8	11395.9
30489.4	30493.3
140	152

-	4	7
64	-	-
6	-	-
2	6	2
22	-	-
61	133	125
-	-	-
-	-	3
-	77	177
-	6	48
-	-	6
46	39	-
-	-	-
-	-	-
-	-	-
5	-	-
-	4	3
4	17	9
10	32	4
18	TRACE	-
-	4	-
-	-	-
-	-	-
-	14	24
-	17	105
5	-	42
13	16	-
-	34	18
-	-	-
-	82	46
14	12	14
-	-	-
-	-	-
-	-	-
272	499	635

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	16	17
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/19	7/19
DEPTH MODE F/(M)	190 / (347)	224 / (409)
DURATION (H)	1.17	1.00

	START	STOP	START	STOP
TIME	16:07	17:17	18:10	19:10
LAT. (DEG,MIN)	54°11'	54°09'	54°10'	54°11'
LONG. (DEG,MIN)	133°18'	133°20'	133°21'	133°18'
LC-5990-X	11397.2	11407	11405	11398
LC-5990-Y	30492.4	30488	30487	30492
DEPTH (F)	184	184	224	224

SPECIES CATCH (KG.)

DOVER SOLE	24	75
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	17	72
ROCK SOLE	-	-
TURBOT	54	46
ROCKFISH	-	-
S. ALEUTIANUS	21	7
S. ALUTUS	132	46
S. BABCOCKI	8	2
S. BOREALIS	19	19
S. BREVISPINIS	-	-
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	81	42
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	31
SCULPINS	-	-
WALLEYE POLLOCK	-	-
RATFISH	1	-
SKATES	-	TRACE
CRABS	1	-
SQUID	5	5
TOTAL CATCH (KG.)	363	346

18
5E
1 WEST
7/19
238 / (435)
0.17

19
5E
1 WEST
7/19
238 / (435)
0.37

20
5E
1 WEST
7/20
245 / (448)
1.42

START	STOP
20:55	21:05
54°61'	54°61'
133°12'	133°13'
11374	11374
30506	30506
243	242

START	STOP
22:14	22:36
54°16'	54°15'
133°12'	133°13'
11378	11379
30504	30503
238	240

START	STOP
14:15	15:40
54°23'	54°22'
133°04'	133°11'
11341	11337.2
30521	30515.6
246	243

5	3	43
-	-	-
-	-	-
TRACE	2	33
-	-	-
4	1	15
-	-	-
9	4	24
-	2	-
-	-	-
17	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
11	5	8
-	-	-
-	-	-
-	6	150
-	-	-
-	-	-
-	-	TRACE
-	-	TRACE
-	-	-
TRACE	-	TRACE
45	23	272

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	21	22
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/20	7/21
DEPTH MODE F/(M)	238 / (435)	245 / (448)
DURATION (H)	1.67	1.08

	START	STOP	START	STOP
TIME	16:25	18:05	10:45	11:50
LAT. (DEG,MIN)	54°23'	54°20'	54°14'	54°16'
LONG. (DEG,MIN)	133°13'	133°21'	133°20'	133°18'
LC-5990-X	11336.7	11344.1	11381	11368
LC-5990-Y	30516.4	30508	30496	30502
DEPTH (F)	240	236	242	246

SPECIES CATCH (KG.)

DOVER SOLE	32	15
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	26	15
ROCK SOLE	-	-
TURBOT	8	TRACE
ROCKFISH	-	-
S. ALEUTIANUS	14	15
S. ALUTUS	-	-
S. BABCOCKI	-	-
S. BOREALIS	-	-
S. BREVISPINIS	-	-
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	12	3
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	27	20
SCULPINS	-	-
WALLEYE POLLOCK	-	-
RATFISH	7	-
SKATES	7	-
CRABS	-	-
SQUID	3	TRACE
TOTAL CATCH (KG.)	136	68

23
5E
1 WEST
7/21
232 / (424)
1.33

24
5E
1 WEST
7/21
205 / (374)
1.08

25
5E
1 WEST
7/21
152 / (277)
1.08

START	STOP
13:25	14:45
54°15'	54°12'
133°25'	133°22'
11372	11388.9
30495	30492.3
232	232

START	STOP
18:00	19:05
54°11'	54°09'
133°45'	133°45'
11376	11385.3
30478	30476
220	192

START	STOP
20:15	21:20
54°10'	54°11'
133°41'	133°44'
11388	11373
30477	30484
151	154

3	29	TRACE
-	-	15
-	-	-
37	2	1
-	-	-
4	TRACE	3
-	-	-
40	358	14
4	115	360
-	-	11
-	4	-
-	-	4
-	-	-
-	-	-
-	-	-
-	-	-
-	-	1
-	-	-
-	-	4
-	-	4
-	-	-
-	-	-
-	-	8
53	125	23
-	-	-
-	-	-
35	44	-
-	TRACE	2
-	-	2
2	-	3
17	-	-
-	-	-
9	4	TRACE
204	680	454

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	26		27	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/22		7/22	
DEPTH MODE F/(M)	176 / (321)		200 / (365)	
DURATION (H)	0.25		0.83	
	START	STOP	START	STOP
TIME	6:00	6:15	6:55	7:45
LAT. (DEG, MIN)	54°11'	54°11'	54°12'	54°13'
LONG. (DEG, MIN)	133°44'	133°45'	133°45'	133°45'
LC-5990-X	11373	11371	11366	11362
LC-5990-Y	30479	30479	30481	30482
DEPTH (F)	175	177	211	187

SPECIES CATCH (KG.)

DOVER SOLE	-	7
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	-	4
ROCK SOLE	-	-
TURBOT	-	1
ROCKFISH	-	-
S. ALEUTIANUS	-	22
S. ALUTUS	-	66
S. BABCOCKI	-	-
S. BOREALIS	-	-
S. BREVISPINIS	-	-
S. CILIATUS	-	-
S. CRAMERI	-	TRACE
S. ELONGATUS	-	-
S. ENTOMELAS	-	2
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	5
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	TRACE
S. RUBERRIMUS	-	-
S. V. RIEGATUS	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	-	21
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	10
SCULPINS	-	TRACE
WALLEYE POLLOCK	-	-
RATFISH	-	-
SKATES	-	-
CRABS	-	-
SQUID	-	TRACE
TOTAL CATCH (KG.)	0	136

28
5E
1 WEST
7/22
135 / (246)
1.05

29
5E
1 WEST
7/22
120 / (219)
1.17

30
5E
1 WEST
7/22
175 / (320)
0.25

START	STOP
13:32	14:35
54°20'	54°22'
133°22'	133°23'
11342.1	11329
30507.7	30511
128	141

START	STOP
15:42	16:52
54°21'	54°19'
133°25'	133°23'
11337	11348
30506	30504
125	113

START	STOP
19:15	19:30
54°20'	54°19'
133°22'	133°22'
11436	11347.2
30506	30505.2
144	212

-	-	3
-	-	-
-	-	-
-	-	-
-	-	-
-	-	7
-	-	-
-	-	-
2227	-	183
33	-	1
-	-	-
33	-	4
-	-	-
-	-	-
-	-	-
-	TRACE	3
-	-	-
16	-	2
-	-	-
-	-	-
33	TRACE	4
360	4158	108
-	-	-
-	-	-
459	378	43
33	-	5
-	-	-
-	-	-
-	-	5
-	-	2
-	-	4
-	-	3
-	-	-
-	-	-
-	-	-
3193	4536	376

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	31	32
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/22	7/23
DEPTH MODE F/(M)	180 / (329)	215 / (393)
DURATION (H)	0.25	1.00

	START	STOP	START	STOP
TIME	20:40	20:55	6:00	7:00
LAT. (DEG, MIN)	54°18'	54°18'	54°16'	54°18'
LONG. (DEG, MIN)	133°25'	133°24'	133°26'	133°24'
LC-5990-X	11352	11349	11363	11353
LC-5990-Y	30501	30503	30497	30502
DEPTH (F)	212	152	203	227

SPECIES CATCH (KG.)

DOVER SOLE	4	5
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	4	9
ROCK SOLE	-	-
TURBOT	-	8
ROCKFISH	-	-
S. ALEUTIANUS	-	36
S. ALUTUS	90	4
S. BABCOCKI	1	7
S. BOREALIS	-	-
S. BREVISPINIS	-	-
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	TRACE	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	9	5
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	4	47
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	7
SCULPINS	-	-
WALLEYE POLLOCK	-	-
RATFISH	-	3
SKATES	-	-
CRABS	-	-
SQUID	-	5
TOTAL CATCH (KG.)	113	136

33
 5E
 1 WEST
 7/23
 130 / (237)
 1.08

34
 5E
 1 WEST
 7/23
 110 / (201)
 1.08

35
 5E
 1 WEST
 7/23
 140 / (256)
 1.17

START	STOP
7:50	8:55
54°20'	54°42'
133°29'	133°25'
11339	11330.5
30503	30508
139	124

START	STOP
9:42	10:47
54°22'	54°21'
133°25'	133°21'
11326.7	11340
30510.3	30503.5
140	134

START	STOP
11:35	12:45
54°21'	54°19'
133°21'	133°23'
11338.5	11346.3
30509	30504.9
140	145

-	-	16
-	-	-
-	-	-
-	TRACE	-
-	-	-
-	TRACE	-
-	-	-
-	-	31
742	980	994
-	76	26
-	-	-
412	102	-
-	-	-
-	-	-
-	-	-
-	-	-
TRACE	-	-
-	-	-
-	-	-
82	51	10
495	586	162
-	-	-
-	-	-
62	420	31
-	51	89
-	-	-
371	115	-
-	-	-
-	-	-
-	51	-
103	64	-
-	-	-
-	-	-
2268	2495	1361

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	36	37
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/23	7/26
DEPTH MODE F/(M)	104 / (190)	185 / (338)
DURATION (H)	0.58	1.28

	START	STOP	START	STOP
TIME	13:55	14:30	11:47	13:04
LAT. (DEG,MIN)	54°22'	54°20'	54°25'	54°26'
LONG. (DEG,MIN)	133°23'	133°22'	133°16'	133°09'
LC-5990-X	11332	11341	11319	11319
LC-5990-Y	30509	30507	30521	30524
DEPTH (F)	110	118	190	177

SPECIES CATCH (KG.)

DOVER SOLE	-	48
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	-	80
ROCK SOLE	-	-
TURBOT	-	66
ROCKFISH	-	-
S. ALEUTIANUS	-	15
S. ALUTUS	77	126
S. BABCOCKI	-	4
S. BOREALIS	-	8
S. BREVISPINIS	33	-
S. CILIATUS	33	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	55	-
S. REEDI	122	-
S. RUBERRIMUS	22	-
S. VARIEGATUS	597	-
S. ZACENTRUS	874	-
SEB. ALASCANUS	-	112
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	7
SCULPINS	-	-
WALLEYE POLLOCK	-	-
RATFISH	-	1
SKATES	-	33
CRABS	-	-
SQUID	-	10
TOTAL CATCH (KG.)	1814	510

38
5E
1 WEST
7/26
155 / (283)
1.08

39
5E
1 WEST
7/26
145 / (265)
0.50

40
5E
1 WEST
7/27
132 / (241)
1.83

START	STOP
17:35	18:40
54°26'	54°28'
133°24'	133°21'
11303.6	11300
30517.9	30522
154	157

START	STOP
21:30	22:00
54°25'	54°24'
133°26'	133°25'
11313	11318
30514	30512
150	138

START	STOP
8:50	10:40
54°20'	54°17'
133°48'	133°47'
11318	11337
30496	30490
187	150

8	10	-
-	-	-
-	-	-
53	10	-
-	-	-
47	7	72
-	-	-
-	-	-
27	41	577
-	-	-
15	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
1	-	-
-	-	-
-	-	-
-	-	-
-	-	-
6	-	-
10	-	-
-	-	-
-	-	-
1	-	-
-	-	-
-	-	-
-	-	-
168	68	649

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	41		42	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/27		7/27	
DEPTH MODE F/(M)	127 / (232)		140 / (256)	
DURATION (H)	1.50		1.52	
	START	STOP	START	STOP
TIME	12:20	13:50	15:35	17:06
LAT. (DEG,MIN)	54°16'	54°19'	54°16'	54°12'
LONG. (DEG,MIN)	133°46'	133°45'	133°47'	133°47'
LC-5990-X	11340	11323	11341	11362.5
LC-5990-Y	30490	30496	30489	30482
DEPTH (F)	124	131	150	132

SPECIES CATCH(KG.)

DOVER SOLE	-	-
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	-	-
ROCK SOLE	-	-
TURBOT	-	-
ROCKFISH	-	680
S. ALEUTIANUS	-	-
S. ALUTUS	907	1814
S. BABCOCKI	-	TRACE
S. BOREALIS	-	-
S. BREVISPINIS	454	-
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	TRACE	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	TRACE
S. REEDI	-	TRACE
S. RUBERRIMUS	-	-
S. VARIEGATUS	TRACE	-
S. ZACENTRUS	1361	TRACE
SEB. ALASCANUS	-	TRACE
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	-
SCULPINS	-	-
WALLEYE POLLOCK	-	-
RATFISH	-	-
SKATES	-	-
CRABS	-	-
SQUID	-	-
TOTAL CATCH (KG.)	2722	2495

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	46	47
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/28	7/28
DEPTH MODE F/(M)	215 / (393)	225 / (411)
DURATION (H)	0.83	1.08

	START	STOP	START	STOP
TIME	7:05	7:55	9:40	10:45
LAT. (DEG,MIN)	54°20'	54°18'	54°18'	54°15'
LONG. (DEG,MIN)	133°53'	133°54'	133°51'	133°51'
LC-5990-X	11322	11331	11334	11348
LC-5990-Y	30491	30488	30487	30482
DEPTH (F)	205	218	226	220

SPECIES CATCH (KG.)

DOVER SOLE	4	12
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	TRACE	TRACE
ROCK SOLE	-	-
TURBOT	4	12
ROCKFISH	-	-
S. ALEUTIANUS	79	280
S. ALUTUS	65	16
S. BABCOCKI	-	TRACE
S. BOREALIS	16	16
S. BREVISPINIS	-	-
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	TRACE
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	3	TRACE
SEB. ALASCANUS	27	51
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	4	33
SCULPINS	TRACE	TRACE
WALLEYE POLLOCK	-	-
RATFISH	-	-
SKATES	-	-
CRABS	-	-
SQUID	4	4
TOTAL CATCH (KG.)	206	424

48
5E
1 WEST
7/28
165 / (301)
0.17

49
5E
1 WEST
7/28
155 / (283)
0.67

50
5E
1 WEST
7/28
165 / (301)
0.92

START STOP
11:40 11:50
54°14' 54°14'
133°51' 133°51'
11353 11350
30482 30482.4
166 161

START STOP
12:14 12:54
54°15' 54°16'
133°50' 133°50'
11349 11341
30483 30486
170 140

START STOP
15:35 16:30
54°14' 54°12'
133°51' 133°48'
11352 11365
30482 30478
160 173

-	7	-
-	-	-
-	-	-
-	TRACE	TRACE
-	-	-
-	TRACE	TRACE
-	-	-
-	14	TRACE
-	227	1134
-	TRACE	TRACE
-	2	TRACE
-	13	-
-	-	-
-	-	-
-	-	-
-	-	-
-	TRACE	-
-	-	-
-	-	-
-	TRACE	-
-	-	-
-	-	-
-	63	TRACE
-	34	TRACE
-	-	-
-	-	-
-	TRACE	-
-	-	-
-	TRACE	TRACE
-	-	-
-	-	-
-	TRACE	-
0	361	1134

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	51	52
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/28	7/29
DEPTH MODE F/(M)	190 / (347)	235 / (429)
DURATION (H)	0.13	1.33

	START	STOP	START	STOP
TIME	18:15	18:23	9:43	11:03
LAT. (DEG,MIN)	54°11'	54°12'	54°15'	54°12'
LONG. (DEG,MIN)	133°50'	133°49'	133°52'	133°49'
LC-5990-X	11367.5	11365.7	11351.4	11365.5
LC-5990-Y	30477.6	30478.2	30484.7	30479.8
DEPTH (F)	209	182	225	248

SPECIES CATCH (KG.)

DOVER SOLE	-	131
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	-	25
ROCK SOLE	-	-
TURBOT	-	31
ROCKFISH	-	-
S. ALEUTIANUS	-	751
S. ALUTUS	-	13
S. BABCOCKI	-	-
S. BOREALIS	-	125
S. BREVISPINIS	-	-
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	-	125
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	69
SCULPINS	-	-
WALLEYE POLLOCK	-	-
RATFISH	-	-
SKATES	-	TRACE
CRABS	-	-
SQUID	-	TRACE
TOTAL CATCH (KG.)	0	1270

53
5E
1 WEST
7/29
150 / (274)
2.03

54
5E
1 WEST
7/29
180 / (329)
0.72

55
5E
1 WEST
7/30
263 / (480)
0.17

START	STOP
12:10	14:12
54°12'	54°08'
133°46'	133°42'
11367	11392.5
30480.9	30474.9
146	146

START	STOP
16:30	17:13
54°03'	54°05'
133°38'	133°40'
11422.9	11413
30466.6	30469.1
175	186

START	STOP
12:05	12:15
54°09'	54°09'
133°45'	133°45'
11385.3	11384.7
30474.7	30475.3
263	263

-
-
-
TRACE
-
91
-
-
8618
-
-
91
-
91
-
-
-
-
-
TRACE
91
-
-
-
TRACE
-
-
-
TRACE
91
-
-
-
-
9072

TRACE
-
-
TRACE
-
TRACE
-
67
72
-
-
5
-
-
-
-
TRACE
-
-
-
-
-
TRACE
10
-
-
-
TRACE
-
-
-
-
154

TRACE
-
-
TRACE
-
-
553
TRACE
-
100
-
-
-
-
-
-
-
-
-
-
TRACE
-
-
-
-
-
-
-
-
653

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	56		57	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/30		7/30	
DEPTH MODE F/(M)	124 / (226)		142 / (259)	
DURATION (H)	3.08		1.00	
	START	STOP	START	STOP
TIME	14:10	17:15	18:45	19:45
LAT. (DEG, MIN)	54°09'	54°11'	54°14'	54°16'
LONG. (DEG, MIN)	133°41'	133°43'	133°41'	133°41'
LC-5990-X	11386.6	11376.3	11364	11350
LC-5990-Y	30476.6	30479.9	30485	30490
DEPTH (F)	141	128	142	142

SPECIES CATCH (KG.)

DOVER SOLE	-	-
HALIBUT	1983	-
PETRALE SOLE	-	-
REX SOLE	TRACE	TRACE
ROCK SOLE	-	-
TURBOT	TRACE	TRACE
ROCKFISH	-	-
S. ALEUTIANUS	TRACE	-
S. ALUTUS	6811	384
S. BABCOCKI	-	TRACE
S. BOREALIS	-	-
S. BREVISPINIS	1202	43
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	10
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	1502	TRACE
S. REEDI	601	TRACE
S. RUBERRIMUS	-	-
S. VARIEGATUS	TRACE	-
S. ZACENTRUS	601	65
SEB. ALASCANUS	TRACE	10
LINGCOD	-	-
PACIFIC COD	TRACE	-
SABLEFISH	-	TRACE
SCULPINS	TRACE	-
WALLEYE POLLOCK	TRACE	TRACE
RATFISH	TRACE	TRACE
SKATES	TRACE	-
CRABS	-	-
SQUID	-	TRACE
TOTAL CATCH (KG.)	12701	513

APPENDIX A M/V BLUEWATERS HAUL DATA

HAUL NO.	61	62
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/31	7/31
DEPTH MODE F/(M)	200 / (365)	138 / (252)
DURATION (H)	0.67	1.98

	START	STOP	START	STOP
TIME	15:25	16:05	18:38	20:37
LAT. (DEG, MIN)	54°04'	54°06'	54°20'	54°21'
LONG. (DEG, MIN)	133°32'	133°32'	133°36'	133°29'
LC-5990-X	11422	11415	11330.8	11333
LC-5990-Y	30472	30474	30499.8	30504.6
DEPTH (F)	200	202	138	137

SPECIES CATCH(KG.)

DOVER SOLE	TRACE	7
HALIBUT	-	-
PETRALE SOLE	-	-
REX SOLE	-	11
ROCK SOLE	-	-
TURBOT	-	TRACE
ROCKFISH	-	-
S. ALEUTIANUS	TRACE	-
S. ALUTUS	TRACE	200
S. BABCOCKI	-	TRACE
S. BOREALIS	-	TRACE
S. BREVISPINIS	TRACE	63
S. CILIATUS	-	-
S. CRAMERI	-	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	11
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	44
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	85
SEB. ALASCANUS	TRACE	63
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	-
SCULPINS	-	-
WALLEYE POLLOCK	-	15
RATFISH	TRACE	TRACE
SKATES	-	-
CRABS	-	-
SQUID	-	TRACE
TOTAL CATCH (KG.)	0	499

APPENDIX B M/V SCOTIA BAY HAUL DATA

HAUL NO.	1		2	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/21		7/21	
DEPTH MODE F/(M)	120 / (219)		140 / (256)	
DURATION (H)	1.12		1.05	
	START	STOP	START	STOP
TIME	10:43	11:50	14:02	15:05
LAT. (DEG, MIN)	54°06'	54°09'	54°10'	54°09'
LONG. (DEG, MIN)	133°41'	133°43'	133°45'	133°42'
LC-5990-X	11410	11390	11380	11394.7
LC-5990-Y	0	0	0	30475.5
DEPTH (F)	185	150	144	135

SPECIES CATCH (KG.)

DOVER SOLE	-	-
REX SOLE	-	-
TURBOT	55	-
S. ALEUTIANUS	273	27
S. ALUTUS	10813	3208
S. BABCOCKI	TRACE	16
S. BOREALIS	TRACE	16
S. BREVISPINIS	91	27
S. CAURINUS	-	-
S. CILIATUS	-	16
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. PAUCISPINIS	TRACE	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	TRACE	-
S. ZACENTRUS	109	86
SEB. ALASCANUS	-	5
LINGCOD	TRACE	TRACE
PACIFIC COD	-	-
SABLEFISH	-	-
WALLEYE POLLOCK	-	TRACE
RATFISH	-	-
TOTAL CATCH (KG.)	11340	3402

3
5E
1 WEST
7/21
200 / (365)
1.50

4
5E
1 WEST
7/21
150 / (274)
1.33

5
5E
1 WEST
7/22
140 / (256)
1.42

START STOP
16:10 17:40
54°06' 54°09'
133°42' 133°45'
11408.3 11386.3
30470.8 30475.8
200 190

START STOP
19:30 20:50
54°12' 54°16'
133°46' 133°50'
11372.6 11345.4
30479.2 30487.9
150 148

START STOP
9:05 10:30
54°25' 54°24'
133°24' 133°32'
11315 11316.7
30515 30509.4
150 124

TRACE
-
TRACE
490
367
TRACE
13
4
19
-
-
-
-
-
-
-
TRACE
-
TRACE
13
-
-
TRACE
-
-
907

-
-
TRACE
31
2919
-
-
31
-
-
-
-
-
749
-
-
31
94
TRACE
-
-
TRACE
-
-
3856

31
46
31
-
170
5
-
4
-
-
-
-
-
TRACE
10
-
-
-
4
8
-
6
4
TRACE
318

APPENDIX B M/V SCOTIA BAY HAUL DATA

HAUL NO.	6		7	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/22		7/22	
DEPTH MODE F/(M)	110 / (201)		120 / (219)	
DURATION (H)	0.75		1.42	
	START	STOP	START	STOP
TIME	11:15	12:00	14:15	15:40
LAT. (DEG,MIN)	54°21'	54°22'	54°19'	54°22'
LONG. (DEG,MIN)	133°27'	133°27'	133°28'	133°27'
LC-5990-X	11335	11327	11340	11330.3
LC-5990-Y	0	30509	30504.1	30500.4
DEPTH (F)	104	118	120	120

SPECIES CATCH (KG.)

DOVER SOLE	TRACE	TRACE
REX SOLE	TRACE	-
TURBOT	2	TRACE
S. ALEUTIANUS	-	-
S. ALUTUS	81	1108
S. BABCOCKI	7	65
S. BOREALIS	-	-
S. BREVISPINIS	6	59
S. CAURINUS	-	-
S. CILIATUS	TRACE	130
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. PAUCISPINIS	TRACE	-
S. PINNIGER	-	-
S. PRORIGER	243	39
S. REEDI	162	3323
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	TRACE
S. ZACENTRUS	162	1108
SEB. ALASCANUS	16	-
LINGCOD	-	-
PACIFIC COD	2	-
SABLEFISH	TRACE	65
WALLEYE POLLOCK	-	-
RATFISH	-	TRACE
TOTAL CATCH (KG.)	680	5897

8
5E
1 WEST
7/22
145 / (265)
1.17

9
5E
1 WEST
7/22
150 / (274)
0.92

10
5E
1 WEST
7/22
235 / (429)
1.75

START STOP
16:50 18:00
54°22' 54°19'
133°23' 133°25'
11332.7 11347.8
30510.7 30503
145 145

START STOP
19:35 20:30
54°22' 54°22'
133°33' 133°27'
11346.1 11349
30498.6 30501.2
148 152

START STOP
21:00 22:45
54°18' 54°21'
133°25' 133°18'
0 11340.7
30502.1 30511.7
225 250

-
-
TRACE
TRACE
4412
94
TRACE
47
-
-
-
-
-
-
85
1203
TRACE
19
944
-
-
-
-
-
-

6804

TRACE
-
TRACE
-
109
-
-
-
-
-
-
TRACE
27
-
-
TRACE
TRACE
-
-
TRACE
-
-

136

TRACE
TRACE
TRACE
TRACE
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93

APPENDIX B M/V SCOTIA BAY HAUL DATA

HAUL NO.	11	12
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/23	7/23
DEPTH MODE F/(M)	170 / (310)	125 / (228)
DURATION (H)	1.75	2.37

	START	STOP	START	STOP
TIME	8:55	10:40	11:50	14:12
LAT. (DEG,MIN)	54°33'	54°31'	54°28'	54°27'
LONG. (DEG,MIN)	133°14'	133°19'	133°19'	133°36'
LC-5990-X	11274.1	11287.7	11302	11296.1
LC-5990-Y	30534.9	30518.3	30510.7	30504
DEPTH (F)	180	160	130	120

SPECIES CATCH (KG.)

DOVER SOLE	TRACE	TRACE
REX SOLE	TRACE	TRACE
TURBOT	91	TRACE
S. ALEUTIANUS	TRACE	TRACE
S. ALUTUS	91	181
S. BABCOCKI	TRACE	TRACE
S. BOREALIS	-	-
S. BREVISPINIS	-	181
S. CAURINUS	-	-
S. CILIATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	TRACE
S. REEDI	-	TRACE
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	TRACE	TRACE
SEB. ALASCANUS	TRACE	TRACE
LINGCOD	-	-
PACIFIC COD	TRACE	TRACE
SABLEFISH	TRACE	TRACE
WALLEYE POLLOCK	TRACE	TRACE
RATFISH	TRACE	TRACE
TOTAL CATCH (KG.)	181	363

13
 5E
 1 WEST
 7/23
 120 / (219)
 2.87

14
 5E
 1 WEST
 7/23
 150 / (274)
 1.75

15
 5E
 1 WEST
 7/23
 280 / (512)
 2.25

START STOP
 15:15 18:07
 54°26' 54°16'
 133°44' 133°43'
 11306.6 11384.2
 30495.1 30489.3
 115 137

START STOP
 19:10 20:55
 54°22' 54°26'
 133°48' 133°49'
 11342 11315.3
 30489 30497.2
 150 150

START STOP
 22:45 1:00
 54°26' 54°20'
 133°52' 133°49'
 11309.9 11344.2
 30497 30486.1
 320 280

-	-	30
29	-	10
57	27	7
-	-	43
277	2586	-
-	-	-
-	-	112
109	27	-
-	-	-
-	-	-
-	-	-
-	-	-
53	27	-
92	-	-
21	27	-
TRACE	-	-
673	27	16
35	-	17
-	-	-
14	-	-
-	-	39
TRACE	-	-
-	-	-
1361	2722	274

APPENDIX B M/V SCOTIA BAY HAUL DATA

	16		17	
HAUL NO.	16		17	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/24		7/24	
DEPTH MODE F/(M)	165 / (301)		167 / (305)	
DURATION (H)	1.83		1.67	
	START	STOP	START	STOP
TIME	9:00	10:50	12:35	14:15
LAT. (DEG, MIN)	54°21'	54°26'	54°12'	54°17'
LONG. (DEG, MIN)	133°47'	133°48'	133°48'	133°46'
LC-5990-X	11341.5	11315	11339	11370.1
LC-5990-Y	30489.1	30496.9	30489	0
DEPTH (F)	165	165	175	160

SPECIES CATCH (KG.)

	16	17
DOVER SOLE	16	-
REX SOLE	TRACE	TRACE
TURBOT	16	TRACE
S. ALEUTIANUS	-	25
S. ALUTUS	1508	2470
S. BABCOCKI	16	TRACE
S. BOREALIS	16	-
S. BREVISPINIS	16	TRACE
S. CAURINUS	-	-
S. CILIATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	TRACE	-
SEB. ALASCANUS	TRACE	TRACE
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	-
WALLEYE POLLOCK	-	-
RATFISH	-	-
TOTAL CATCH (KG.)	1588	2495

18
5E
1 WEST
7/24
135 / (246)
0.25

19
5E
1 WEST
7/25
165 / (301)
1.45

20
5E
1 WEST
7/25
145 / (265)
1.13

START	STOP
15:10	15:25
54°10'	54°10'
133°44'	133°43'
11379.6	11384.3
30477.8	30477
135	140

START	STOP
9:45	11:12
54°13'	54°09'
133°36'	133°38'
11369.8	11389.4
30488.2	30479.2
165	165

START	STOP
13:57	15:05
54°05'	54°08'
133°41'	133°40'
11412.1	11393.3
30469.7	30475.7
140	145

TRACE
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TRACE
-
222
2
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2
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TRACE
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227

TRACE
-
TRACE
-
113
TRACE
-
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TRACE
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-
-
-
-
TRACE
-
113

TRACE
TRACE
235
-
7495
-
847
141
-
-
-
-
-
TRACE
-
-
TRACE
353
TRACE
-
-
-
TRACE
-
9072

APPENDIX B M/V SCOTIA BAY HAUL DATA

HAUL NO.	21		22	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/25		7/25	
DEPTH MODE F/(M)	278 / (508)		190 / (347)	
DURATION (H)	2.00		1.67	
	START	STOP	START	STOP
TIME	15:50	17:50	19:15	20:55
LAT. (DEG,MIN)	54°05'	54°02'	54°01'	54°05'
LONG. (DEG,MIN)	133°40'	133°37'	133°33'	133°39'
LC-5990-X	11400	11432	11443.2	11413.5
LC-5990-Y	30471.7	30463.9	30464.2	30461.2
DEPTH (F)	285	265	180	180

SPECIES CATCH (KG.)

DOVER SOLE	TRACE	16
REX SOLE	-	TRACE
TURBOT	TRACE	-
S. ALEUTIANUS	340	230
S. ALUTUS	-	191
S. BABCOCKI	-	-
S. BOREALIS	340	27
S. BREVISPINIS	-	-
S. CAURINUS	-	-
S. CILIATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	TRACE
S. ZACENTRUS	-	TRACE
SEB. ALASCANUS	-	35
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	TRACE	TRACE
WALLEYE POLLOCK	-	-
RATFISH	-	-
TOTAL CATCH (KG.)	680	499

23
5E
1 WEST
7/25
205 / (374)
1.87

24
5E
1 WEST
7/26
137 / (250)
2.65

25
5E
1 WEST
7/26
130 / (237)
1.12

START	STOP
22:15	24:07
54°06'	54°10'
133°31'	133°36'
11417.7	11386.3
30475.4	30487.4
205	205

START	STOP
10:33	13:12
54°18'	54°20'
133°47'	133°30'
11335.5	11335.8
30491.2	30502.8
124	137

START	STOP
16:35	17:42
54°19'	54°19'
133°26'	133°27'
11344.6	11343.6
30503.2	30503.5
130	132

45
TRACE
TRACE
TRACE
136
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-
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TRACE
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45
TRACE
TRACE

TRACE
TRACE
TRACE
-
746
33
-
110
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-
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-
TRACE
TRACE
-
TRACE
110
37
-
-
-
33
66
TRACE

TRACE
TRACE
372
-
-
2233
487
-
458
-
658
-
-
-
-
1088
3979
544
4151
6069
TRACE
-
372
-
-
-

227

1134

20412

APPENDIX B M/V SCOTIA BAY HAUL DATA

HAUL NO.	26	27
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/26	7/27
DEPTH MODE F/(M)	130 / (237)	245 / (448)
DURATION (H)	1.82	2.83

	START	STOP	START	STOP
TIME	19:50	21:39	8:50	11:40
LAT. (DEG, MIN)	54°22'	54°22'	54°20'	54°13'
LONG. (DEG, MIN)	133°26'	133°23'	133°14'	133°21'
LC-5990-X	11327.9	11328.7	11350.7	11386.4
LC-5990-Y	30509.2	30510.3	30511	30493.8
DEPTH (F)	130	132	250	238

SPECIES CATCH (KG.)

DOVER SOLE	-	74
REX SOLE	-	18
TURBOT	39	20
S. ALEUTIANUS	-	217
S. ALUTUS	794	-
S. BABCOCKI	104	-
S. BOREALIS	-	-
S. BREVISPINIS	75	-
S. CAURINUS	-	-
S. CILIATUS	79	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	89	-
S. REEDI	508	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	39	-
S. ZACENTRUS	179	-
SEB. ALASCANUS	39	31
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	46	185
WALLEYE POLLOCK	50	-
RATFISH	TRACE	-
TOTAL CATCH (KG.)	2041	544

28
 5E
 1 WEST
 7/27
 120 / (219)
 0.20

29
 5E
 1 WEST
 7/27
 85 / (155)
 0.27

30
 5E
 1 WEST
 7/27
 150 / (274)
 2.62

START	STOP
13:45	13:57
54°06'	54°06'
133°22'	133°23'
11425.1	11427.1
30480.2	30479
125	118

START	STOP
15:26	15:42
54°01'	54°02'
133°31'	133°28'
11446.2	11443.4
30465.6	30468.4
90	81

START	STOP
16:35	19:12
54°04'	54°08'
133°31'	133°20'
11429.1	11415.2
30471.5	30485.3
170	135

-	-	119
-	-	87
1	1	1222
-	-	65
-	-	519
-	-	92
-	-	379
-	1	216
-	-	-
-	-	108
-	-	-
-	-	-
-	-	-
-	89	65
-	-	-
-	-	-
-	TRACE	-
-	-	108
2	-	-
-	-	92
-	-	65
-	-	427
-	-	65
2	91	3629

APPENDIX B M/V SCOTIA BAY HAUL DATA

	31	32
HAUL NO.	31	32
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	7/27	7/28
DEPTH MODE F/(M)	200 / (365)	127 / (232)
DURATION (H)	1.83	2.35

	START	STOP	START	STOP
TIME	20:15	22:05	8:00	10:21
LAT. (DEG, MIN)	54°07'	54°12'	54°09'	54°16'
LONG. (DEG, MIN)	133°22'	133°20'	133°42'	133°46'
LC-5990-X	11418.1	11395.6	11387.9	11345.3
LC-5990-Y	30482.4	30492.8	30466.1	30488
DEPTH (F)	185	240	124	134

SPECIES CATCH (KG.)

DOVER SOLE	72	TRACE
REX SOLE	64	-
TURBOT	1062	-
S. ALEUTIANUS	70	-
S. ALUTUS	126	8981
S. BABCOCKI	31	TRACE
S. BOREALIS	156	-
S. BREVISPINIS	29	91
S. CAURINUS	-	-
S. CILIATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	TRACE
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	TRACE
SEB. ALASCANUS	128	-
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	39	TRACE
WALLEYE POLLOCK	37	-
RATFISH	-	-
TOTAL CATCH (KG.)	1814	9072

33
5E
1 WEST
7/28
127 / (232)
2.38

34
5E
1 WEST
7/28
142 / (259)
2.07

35
5E
1 WEST
7/28
250 / (457)
1.67

START	STOP
11:15	13:38
54°17'	54°11'
133°44'	133°44'
11341.9	11378.3
30490.9	30478.6
130	125

START	STOP
16:00	18:04
54°18'	54°22'
133°29'	133°23'
11347.4	11331.4
30500.8	30510
150	135

START	STOP
20:00	21:40
54°19'	54°21'
133°14'	133°07'
11359.2	11348.2
30517.5	30517.5
250	250

-	-	23
-	-	9
-	-	10
-	-	-
3841	4851	-
TRACE	241	-
-	-	42
708	-	-
-	-	-
151	TRACE	-
-	-	-
-	-	-
-	-	-
354	241	-
452	1634	-
-	275	-
TRACE	2099	-
392	4266	-
TRACE	TRACE	20
-	-	-
-	-	-
-	-	77
-	TRACE	-
-	-	-
5897	13608	181

APPENDIX B M/V SCOTIA BAY HAUL DATA

HAUL NO.	36		37	
MAJOR AREA	5E		5E	
MINOR AREA	1 WEST		1 WEST	
DATE (MM/DD)	7/29		7/29	
DEPTH MODE F/(M)	120 / (219)		235 / (429)	
DURATION (H)	2.37		1.88	
	START	STOP	START	STOP
TIME	8:41	11:03	12:00	13:53
LAT. (DEG, MIN)	54°05'	54°10'	54°12'	54°17'
LONG. (DEG, MIN)	133°25'	133°17'	133°21'	133°14'
LC-5990-X	11426.9	11406.1	11390	11366.4
LC-5990-Y	30477.2	30480.5	30493	30506.4
DEPTH (F)	130	105	226	225

SPECIES CATCH (KG.)

DOVER SOLE	TRACE	-
REX SOLE	-	-
TURBOT	296	TRACE
S. ALEUTIANUS	-	136
S. ALUTUS	106	-
S. BABCOCKI	-	-
S. BOREALIS	-	-
S. BREVISPINIS	615	-
S. CAURINUS	-	-
S. CILIATUS	35	-
S. ENTOMELAS	-	-
S. FLAVIDUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	74	-
S. PRORIGER	-	-
S. REEDI	TRACE	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	38	-
LINGCOD	148	-
PACIFIC COD	-	-
SABLEFISH	-	-
WALLEYE POLLOCK	47	-
RATFISH	-	TRACE
TOTAL CATCH (KG.)	1361	136

38
5E
1 WEST
7/29
137 / (250)
0.77

39
5E
1 WEST
8/02
45 / (82)
0.40

40
5E
1 WEST
8/02
50 / (91)
0.83

START	STOP
15:14	16:00
54°16'	54°17'
133°09'	133°05'
11381	11378.2
0	30499
140	135

START	STOP
15:05	15:29
54°00'	54°00'
133°25'	133°22'
11460.8	11459.7
30465.2	30467.6
45	45

START	STOP
16:50	17:40
54°02'	54°00'
133°21'	133°22'
11451.7	11461.3
30472.3	30468.3
50	45

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TRACE
1021
11
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11
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11
TRACE
23
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23
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1134

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TRACE
91

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TRACE
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TRACE
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23
23
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TRACE
45

APPENDIX B M/V SCOTIA BAY HAUL DATA

HAUL NO.	41	42
MAJOR AREA	5E	5E
MINOR AREA	1 WEST	1 WEST
DATE (MM/DD)	8/03	8/03
DEPTH MODE F/(M)	185 / (338)	152 / (277)
DURATION (H)	2.17	2.42

	START	STOP	START	STOP
TIME	13:50	16:00	17:35	20:00
LAT. (DEG,MIN)	54°26'	54°26'	54°29'	54°27'
LONG. (DEG,MIN)	133°16'	133°07'	133°04'	133°20'
LC-5990-X	11323	11319.7	11300	11299.6
LC-5990-Y	30504.2	30512.8	0	30522.5
DEPTH (F)	179	195	150	154

SPECIES CATCH (KG.)

DOVER SOLE	211	52
REX SOLE	299	38
TURBOT	170	112
S. ALEUTIANUS	81	56
S. ALUTUS	619	775
S. BABCOCKI	64	31
S. BOREALIS	-	-
S. BREVISPINIS	-	47
S. CAURINUS	-	-
S. CILIATUS	-	-
S. ENTOMELAS	-	-
S. FLAVIDUS	13	-
S. PAUCISPINIS	-	-
S. PINNIGER	27	-
S. PRORIGER	-	-
S. REEDI	-	-
S. RUBERRIMUS	-	-
S. VARIEGATUS	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	-	148
LINGCOD	-	-
PACIFIC COD	-	34
SABLEFISH	215	36
WALLEYE POLLOCK	117	31
RATFISH	TRACE	-
TOTAL CATCH (KG.)	1814	1361

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	1	2
MAJOR AREA	3C	3C
MINOR AREA	23	23
DATE (MM/DD)	9/05	9/06
DEPTH MODE F/(M)	150 / (274)	135 / (246)
DURATION (H)	1.42	1.67

	START	STOP	START	STOP
TIME	18:25	19:50	6:45	8:25
LAT. (DEG,MIN)	48°20'	48°16'	48°15'	48°18'
LONG. (DEG,MIN)	125°53'	125°51'	125°47'	125°51'
LC-5990-X	14668	14680	14609	14593
LC-5990-Y	28940	28910	29023	29063
DEPTH (F)	140	190	126	115

SPECIES CATCH (KG.)

DOVER SOLE	TRACE	TRACE
ENGLISH SOLE	-	TRACE
PETRALE SOLE	-	-
REX SOLE	-	TRACE
TURBOT	TRACE	51
S. ALEUTIANUS	-	-
S. ALUTUS	605	1965
S. BABCOCKI	-	TRACE
S. BOREALIS	-	-
S. BREVISPINIS	-	-
S. CRAMERI	-	TRACE
S. DIPLOPROA	TRACE	2855
S. ELONGATUS	-	TRACE
S. ENTOMELAS	-	TRACE
S. HELVOMACULATUS	-	-
S. PAUCISPINIS	24	TRACE
S. PINNIGER	-	-
S. PRORIGER	TRACE	-
S. REEDI	60	-
S. ZACENTRUS	170	10
SEB. ALASCANUS	2	TRACE
HAKE	46	61
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	-	6397
WALLEYE POLLOCK	-	-
DOGFISH	-	-
RATFISH	-	TRACE
SKATES	-	-
OCTOPUS	TRACE	-
SQUID	-	-
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	907	11340

3
3C
23
9/06
115 / (210)
1.75

4
3C
23
9/06
140 / (256)
1.92

5
3C
23
9/06
150 / (274)
2.17

START STOP
11:45 13:30
48°32' 48°28'
126°09' 126°06'
14598.5 14612.8
29063.4 29029
110 120

START STOP
14:40 16:35
48°27' 48°31'
126°05' 126°11'
14609.7 14594
29023.6 29063.4
133 190

START STOP
17:20 19:30
48°31' 48°28'
126°11' 126°06'
14598 14606
29049 29011.9
125 170

-
-
TRACE
19
10
-
1202
TRACE
-
19
-
34
39
TRACE
TRACE
-
-
TRACE
-
TRACE
34
787
-
43
48
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TRACE
24
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14
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TRACE
35
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1965
TRACE
28
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1049
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84
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79
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2612
72
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65
466
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TRACE
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57
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710
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TRACE
TRACE
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2268

3175

4082

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	6	7
MAJOR AREA	3C	3C
MINOR AREA	23	24
DATE (MM/DD)	9/06	9/07
DEPTH MODE F/(M)	185 / (338)	115 / (210)
DURATION (H)	1.55	1.33

	START	STOP	START	STOP
TIME	20:45	22:18	7:45	9:05
LAT. (DEG, MIN)	48°25'	48°29'	48°47'	48°49'
LONG. (DEG, MIN)	126°08'	126°12'	126°21'	126°26'
LC-5990-X	14604	14592.2	14541	14516.1
LC-5990-Y	29011	29046.8	29183.6	29203.3
DEPTH (F)	176	192	121	112

SPECIES CATCH(KG.)

DOVER SOLE	20	-
ENGLISH SOLE	-	-
PETRALE SOLE	-	-
REX SOLE	16	-
TURBOT	24	-
S. ALEUTIANUS	26	-
S. ALUTUS	123	-
S. BABCOCKI	16	-
S. BOREALIS	49	-
S. BREVISPINIS	-	-
S. CRAMERI	17	-
S. DIPLOPROA	33	-
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. HELVOMACULATUS	6	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	47	-
HAKE	65	-
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	11	-
WALLEYE POLLOCK	-	-
DOGFISH	-	-
RATFISH	TRACE	-
SKATES	TRACE	-
OCTOPUS	TRACE	-
SQUID	TRACE	-
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	454	0

8
3C
24
9/07
120 / (219)
1.75

9
3C
24
9/07
125 / (228)
1.75

10
3C
24
9/08
125 / (228)
2.08

START	STOP
9:30	11:15
48°49'	48°53'
126°30'	126°32'
14507	14493.4
29209.1	29242.1
110	129

START	STOP
15:40	17:25
48°47'	48°48'
126°23'	126°30'
14534.8	14506.7
29187.5	29206.3
120	120

START	STOP
18:25	20:30
48°47'	48°51'
126°28'	126°32'
14512.9	14495
29196	29229.8
134	125

TRACE
-
-
TRACE
TRACE
-
4459
43
TRACE
101
-
1223
43
-
TRACE
-
-
TRACE
-
288
43
-
-
TRACE
518
TRACE
-
TRACE
86
-
-
-
6804

TRACE
-
-
-
240
7178
-
TRACE
-
-
-
187
TRACE
-
TRACE
-
-
-
80
53
267
-
TRACE
160
-
-
-
TRACE
-
-
-
8165

TRACE
-
-
TRACE
57
-
5386
-
-
-
-
TRACE
TRACE
-
TRACE
-
-
TRACE
TRACE
-
-
-
TRACE
TRACE
-
-
TRACE
TRACE
-
-
-
5443

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	11	12
MAJOR AREA	3C	3C
MINOR AREA	24	24
DATE (MM/DD)	9/08	9/08
DEPTH MODE F/(M)	153 / (279)	154 / (281)
DURATION (H)	1.75	1.67

	START	STOP	START	STOP
TIME	9:45	11:30	12:40	14:20
LAT. (DEG,MIN)	48°46'	48°47'	48°48'	48°53'
LONG. (DEG,MIN)	126°25'	126°30'	126°33'	126°31'
LC-5990-X	14532	14505.4	14489	14495
LC-5990-Y	29184.5	29194	29211	29240
DEPTH (F)	145	162	167	140

SPECIES CATCH (KG.)

DOVER SOLE	133	75
ENGLISH SOLE	-	-
PETRALE SOLE	-	-
REX SOLE	35	TRACE
TURBOT	239	94
S. ALEUTIANUS	TRACE	TRACE
S. ALUTUS	2838	4621
S. BABCOCKI	62	264
S. BOREALIS	-	-
S. BREVISPINIS	-	-
S. CRAMERI	97	94
S. DIPLOPROA	937	3527
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. HELVOMACULATUS	TRACE	TRACE
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	TRACE
S. REEDI	-	-
S. ZACENTRUS	TRACE	-
SEB. ALASCANUS	124	151
HAKE	71	TRACE
LINGCOD	-	-
PACIFIC COD	-	TRACE
SABLEFISH	TRACE	245
WALLEYE POLLOCK	-	-
DOGFISH	-	-
RATFISH	TRACE	TRACE
SKATES	TRACE	TRACE
OCTOPUS	-	-
SQUID	-	-
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	4536	9072

13
 3C
 24
 9/08
 200 / (365)
 1.67

14
 3C
 24
 9/08
 125 / (228)
 0.92

15
 3C
 24
 9/09
 120 / (219)
 1.92

START	STOP
15:35	17:15
48°49'	48°46'
126°36'	126°32'
14481.2	14498.9
29219.4	29193.3
210	206

START	STOP
19:25	20:20
48°54'	48°56'
126°32'	126°32'
14493.1	14488
29247.6	29265.4
130	120

START	STOP
7:50	9:45
48°53'	48°58'
126°31'	126°33'
14492.6	14479.7
29242.7	29278.8
145	160

28
 -
 -
 31
 -
 207
 85
 6
 17
 -
 9
 -
 -
 -
 -
 -
 -
 -
 -
 79
 111
 -
 -
 11
 -
 -
 -
 85
 11
 -
 -
 680

TRACE
 -
 -
 TRACE
 TRACE
 -
 1205
 65
 -
 TRACE
 -
 78
 TRACE
 TRACE
 13
 -
 -
 -
 1108
 65
 26
 32
 -
 -
 130
 -
 -
 TRACE
 -
 -
 -
 -
 2722

-
 -
 TRACE
 25
 87
 353
 -
 62
 -
 124
 TRACE
 25
 19
 -
 19
 -
 37
 74
 279
 322
 81
 31
 -
 31
 856
 -
 -
 62
 130
 -
 -
 -
 2722

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	16	17
MAJOR AREA	3C	3C
MINOR AREA	24	24
DATE (MM/DD)	9/09	9/09
DEPTH MODE F/(M)	140 / (256)	160 / (292)
DURATION (H)	1.75	1.92

	START	STOP	START	STOP
TIME	12:10	13:55	16:25	18:20
LAT. (DEG,MIN)	49 ⁰ 00'	48 ⁰ 59'	48 ⁰ 58'	49 ⁰ 02'
LONG. (DEG,MIN)	126 ⁰ 46'	126 ⁰ 42'	126 ⁰ 43'	126 ⁰ 50'
LC-5990-X	14428.9	14456.6	14444.4	14409
LC-5990-Y	29308.3	29288.9	29291.4	29319
DEPTH (F)	125	142	160	159

SPECIES CATCH(KG.)

DOVER SOLE	58	245
ENGLISH SOLE	-	-
PETRALE SOLE	-	-
REX SOLE	19	82
TURBOT	58	182
S. ALEUTIANUS	-	-
S. ALUTUS	1179	1179
S. BABCOCKI	35	56
S. BOREALIS	-	-
S. BREVISPINIS	8	-
S. CRAMERI	TRACE	25
S. DIPLOPROA	105	364
S. ELONGATUS	TRACE	-
S. ENTOMELAS	-	-
S. HELVOMACULATUS	TRACE	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	TRACE	-
S. REEDI	12	-
S. ZACENTRUS	124	TRACE
SEB. ALASCANUS	27	88
HAKE	143	351
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	47	132
WALLEYE POLLOCK	-	-
DOGFISH	-	-
RATFISH	TRACE	TRACE
SKATES	TRACE	19
OCTOPUS	-	-
SQUID	-	TRACE
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	1814	2722

18
3C
24
9/09
105 / (192)
1.58

19
3C
24
9/10
120 / (219)
0.67

20
3C
24
9/10
158 / (288)
1.58

START	STOP
19:25	21:00
49°05'	49°01'
126°50'	126°45'
14406	14429.6
29343	29310.6
100	114

START	STOP
7:55	8:35
49°02'	49°03'
126°47'	126°50'
14418.8	14407
29318.1	29331.8
120	119

START	STOP
11:25	13:00
49°06'	49°02'
126°55'	126°51'
14380.1	14405.9
29357.2	29325.1
158	160

230	48	58
-	-	-
-	-	-
77	26	12
293	62	59
-	-	-
147	468	84
49	80	9
-	-	-
105	44	-
-	-	6
-	7	121
77	15	-
70	-	-
28	TRACE	-
-	-	-
14	-	-
726	TRACE	-
-	55	-
63	201	-
TRACE	7	20
TRACE	55	73
-	-	-
TRACE	TRACE	-
300	66	13
49	TRACE	-
-	-	-
TRACE	TRACE	-
42	TRACE	-
-	-	-
TRACE	TRACE	TRACE
-	-	-
2268	1133	454

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	21	22
MAJOR AREA	3D	3D
MINOR AREA	25	25
DATE (MM/DD)	9/10	9/10
DEPTH MODE F/(M)	155 / (283)	105 / (192)
DURATION (H)	1.67	1.83

	START	STOP	START	STOP
TIME	14:00	15:40	16:40	18:30
LAT. (DEG,MIN)	49°04'	49°09'	49°12'	49°08'
LONG. (DEG,MIN)	126°51'	126°54'	126°58'	126°56'
LC-5990-X	14387	14361.1	14358	14385.8
LC-5990-Y	29345	29382	29405	29372.5
DEPTH (F)	163	156	105	105

SPECIES CATCH(KG.)

DOVER SOLE	159	221
ENGLISH SOLE	-	-
PETRALE SOLE	12	-
REX SOLE	52	88
TURBOT	146	3699
S. ALEUTIANUS	-	-
S. ALUTUS	270	-
S. BABCOCKI	20	552
S. BOREALIS	-	-
S. BREVISPINIS	-	-
S. CRAMERI	12	66
S. DIPLOPROA	77	-
S. ELONGATUS	-	TRACE
S. ENTOMELAS	-	-
S. HELVOMACULATUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	77
S. PRORIGER	-	TRACE
S. REEDI	-	-
S. ZACENTRUS	-	TRACE
SEB. ALASCANUS	107	-
HAKE	42	TRACE
LINGCOD	-	TRACE
PACIFIC COD	-	-
SABLEFISH	10	740
WALLEYE POLLOCK	-	-
DOGFISH	-	-
RATFISH	TRACE	TRACE
SKATES	TRACE	TRACE
OCTOPUS	-	-
SQUID	TRACE	TRACE
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	907	5443

23
 3C
 24
 9/10
 187 / (341)
 1.42

24
 3C
 23
 9/11
 140 / (256)
 1.63

25
 3C
 23
 9/11
 160 / (292)
 1.92

START	STOP
19:35	21:00
49°04'	49°01'
126°54'	126°49'
14388	14409
29340	29315
180	195

START	STOP
7:10	8:48
48°15'	48°18'
125°48'	125°52'
14685.6	14671.8
28905.6	28929.4
120	148

START	STOP
10:40	12:35
48°13'	48°17'
125°49'	125°55'
14686	14657.7
28903	28935.4
120	180

227
 -
 -
 49
 59
 10
 60
 TRACE
 8
 -
 -
 5
 -
 -
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 -
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 -
 -
 -
 22
 12
 -
 -
 -
 -
 -
 TRACE
 TRACE
 -
 -
 454

135
 -
 -
 TRACE
 1215
 -
 8829
 27
 -
 -
 TRACE
 2835
 -
 -
 -
 135
 -
 -
 -
 81
 135
 216
 TRACE
 -
 -
 -
 TRACE
 TRACE
 -
 TRACE
 -
 -
 13608

453
 -
 -
 TRACE
 1029
 TRACE
 16091
 TRACE
 -
 -
 123
 988
 TRACE
 -
 TRACE
 -
 -
 165
 206
 165
 988
 -
 TRACE
 206
 -
 TRACE
 TRACE
 -
 -
 TRACE
 -
 20412

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	26	27
MAJOR AREA	3C	3C
MINOR AREA	23	23
DATE (MM/DD)	9/11	9/11
DEPTH MODE F/(M)	140 / (256)	135 / (246)
DURATION (H)	0.42	2.00

	START	STOP	START	STOP
TIME	14:15	14:40	19:00	21:00
LAT. (DEG, MIN)	48°23'	48°22'	48°16'	48°16'
LONG. (DEG, MIN)	125°53'	125°52'	125°47'	125°42'
LC-5990-X	14664.3	14669.8	14685.2	14713.4
LC-5990-Y	28971.8	28961.9	28906	28891.8
DEPTH (F)	160	119	112	148

SPECIES CATCH (KG.)

DOVER SOLE	37	164
ENGLISH SOLE	-	-
PETRALE SOLE	-	-
REX SOLE	6	5
TURBOT	22	60
S. ALEUTIANUS	-	94
S. ALUTUS	205	392
S. BABCOCKI	8	-
S. BOREALIS	-	358
S. BREVISPINIS	-	-
S. CRAMERI	TRACE	-
S. DIPLOPROA	261	40
S. ELONGATUS	-	-
S. ENTOMELAS	-	50
S. HELVOMACULATUS	TRACE	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. ZACENTRUS	TRACE	TRACE
SEB. ALASCANUS	8	50
HAKE	110	-
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	8	109
WALLEYE POLLOCK	14	-
DOGFISH	-	-
RATFISH	-	TRACE
SKATES	-	40
OCTOPUS	-	-
SQUID	-	-
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	680	1361

28
3C
23
9/18
130 / (237)
1.50

29
3C
23
9/18
160 / (292)
0.58

30
3C
24
9/18
155 / (283)
0.75

START	STOP
9:15	10:45
48°37'	48°38'
126°11'	126°15'
14590.5	14569.9
29103.6	29128
99	170

START	STOP
14:30	15:05
48°52'	48°42'
126°13'	126°14'
14566	14571
29152	29141
200	111

START	STOP
16:00	16:45
48°43'	48°45'
126°23'	126°17'
14558.4	14558
29154.6	29166
190	120

17
6
12
6
36
-
128
TRACE
-
-
91
TRACE
-
TRACE
-
TRACE
TRACE
-
11
12
TRACE
-
-
135
-
-
TRACE
-
-
454

23
-
-
6
12
23
236
23
26
-
-
350
TRACE
-
9
-
-
-
137
12
-
-
TRACE
50
-
-
-
-
907

124
-
-
17
168
107
113
14
107
-
TRACE
10
-
-
TRACE
-
-
-
-
45
24
-
-
179
-
TRACE
-
TRACE
-
TRACE
907

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	31	32
MAJOR AREA	3C	3D
MINOR AREA	24	25
DATE (MM/DD)	9/18	9/12
DEPTH MODE F/(M)	110 / (201)	155 / (283)
DURATION (H)	2.17	1.67

	START	STOP	START	STOP
TIME	17:25	19:35	8:40	10:20
LAT. (DEG, MIN)	48°46'	48°49'	49°20'	49°25'
LONG. (DEG, MIN)	126°18'	126°27'	127°13'	127°15'
LC-5990-X	14552	14515.1	14281.5	14267
LC-5990-Y	29173	29203.5	29464.4	29495
DEPTH (F)	110	112	165	150

SPECIES CATCH (KG.)

DOVER SOLE	136	339
ENGLISH SOLE	-	-
PETRALE SOLE	-	-
REX SOLE	17	-
TURBOT	196	532
S. ALEUTIANUS	-	-
S. ALUTUS	833	15233
S. BABCOCKI	TRACE	242
S. BOREALIS	-	-
S. BREVISPINIS	-	-
S. CRAMERI	-	193
S. DIPLOPROA	434	3143
S. ELONGATUS	153	-
S. ENTOMELAS	-	-
S. HELVOMACULATUS	60	-
S. PAUCISPINIS	-	-
S. PINNIGER	60	-
S. PRORIGER	TRACE	-
S. REEDI	-	-
S. ZACENTRUS	153	TRACE
SEB. ALASCANUS	102	339
HAKE	-	677
LINGCOD	-	TRACE
PACIFIC COD	TRACE	-
SABLEFISH	451	822
WALLEYE POLLOCK	-	-
DOGFISH	-	339
RATFISH	TRACE	-
SKATES	128	822
OCTOPUS	-	-
SQUID	TRACE	-
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	2722	22680

33
3D
25
9/19
180 / (329)
1.50

34
3D
25
9/19
220 / (402)
2.08

35
3D
25
9/19
112 / (204)
1.53

START	STOP
13:20	14:50
49°20'	49°24'
127°13'	127°15'
14279.2	14264.5
29465.3	29493.4
170	215

START	STOP
15:45	17:50
49°25'	49°20'
127°15'	127°12'
14266	14283
29491	29459
180	230

START	STOP
18:55	20:27
49°21'	49°25'
127°12'	127°14'
14284	14268.3
29465	29497.9
120	110

3040
-
-
157
1136
-
2708
140
-
-
TRACE
2062
-
-
TRACE
-
-
-
-
664
227
-
-
70
TRACE
TRACE
-
TRACE
-
TRACE
-
11340

1096
-
-
117
647
404
763
54
296
-
63
359
-
-
-
-
-
234
216
TRACE
-
287
TRACE
-
-
-
-
-
4536

578
-
TRACE
116
1964
-
832
35
-
-
-
-
92
-
-
46
-
TRACE
196
-
104
TRACE
139
92
-
2495
46
TRACE
69
-
-
-
-
6804

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	36	37
MAJOR AREA	3D	3D
MINOR AREA	25	25
DATE (MM/DD)	9/20	9/20
DEPTH MODE F/(M)	150 / (274)	200 / (365)
DURATION (H)	1.55	1.48

	START	STOP	START	STOP
TIME	8:32	10:05	12:16	13:45
LAT. (DEG,MIN)	49°20'	49°16'	49°20'	49°16'
LONG. (DEG,MIN)	127°11'	127°08'	127°12'	127°08'
LC-5990-X	14288.2	14314.2	14286.7	14309.3
LC-5990-Y	29460.1	29429.8	29458.2	29432.4
DEPTH (F)	136	161	190	196

SPECIES CATCH (KG.)

DOVER SOLE	241	622
ENGLISH SOLE	-	-
PETRALE SOLE	-	-
REX SOLE	TRACE	69
TURBOT	481	675
S. ALEUTIANUS	-	69
S. ALUTUS	12818	289
S. BABCOCKI	TRACE	29
S. BOREALIS	-	220
S. BREVISPINIS	-	-
S. CRAMERI	TRACE	TRACE
S. DIPLOPROA	1890	29
S. ELONGATUS	TRACE	-
S. ENTOMELAS	-	-
S. HELVOMACULATUS	-	TRACE
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	TRACE	-
S. REEDI	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	137	137
HAKE	2027	-
LINGCOD	-	-
PACIFIC COD	TRACE	480
SABLEFISH	550	73
WALLEYE POLLOCK	-	TRACE
DOGFISH	TRACE	29
RATFISH	TRACE	TRACE
SKATES	-	-
OCTOPUS	-	-
SQUID	-	TRACE
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	18144	2722

38
3D
25
9/20
135 / (246)
1.50

39
3D
25
9/20
115 / (210)
2.20

40
3D
25
9/21
158 / (288)
2.00

START STOP
14:35 16:05
49°16' 49°21'
127°07' 127°13'
14312 14280.7
29434 29468.3
140 131

START STOP
18:10 20:22
49°20' 49°14'
127°10' 127°03'
14293.4 14335
29455.8 29415.5
120 115

START STOP
7:10 9:10
49°16' 49°12'
127°07' 127°02'
14309 14341
29435 29399
150 165

55
-
-
TRACE
179
-
912
80
-
20
-
204
15
-
TRACE
-
TRACE
TRACE
-
65
70
10
-
-
618
TRACE
TRACE
40
-
-
-
-
2268

-
-
-
-
187
27
-
115
-
TRACE
104
TRACE
38
-
44
33
-
220
27
77
165
TRACE
577
44
TRACE
38
55
-
-
-
-
2722

152
-
-
TRACE
820
TRACE
2401
-
TRACE
-
-
3412
-
-
TRACE
TRACE
TRACE
133
229
-
-
1925
TRACE
TRACE
-
TRACE
-
-
-
-
9072

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	41	42
MAJOR AREA	3D	3D
MINOR AREA	25	25
DATE (MM/DD)	9/21	9/21
DEPTH MODE F/(M)	180 / (329)	200 / (365)
DURATION (H)	1.50	1.92

	START	STOP	START	STOP
TIME	9:50	11:20	12:15	14:10
LAT. (DEG,MIN)	49°10'	49°15'	49°16'	49°11'
LONG. (DEG,MIN)	127°03'	127°07'	127°07'	127°03'
LC-5990-X	29390	14317.7	14310	14338
LC-5990-Y	29390	29425.5	29430	29397
DEPTH (F)	170	195	200	202

SPECIES CATCH(KG.)

DOVER SOLE	377	735
ENGLISH SOLE	-	-
PETRALE SOLE	-	-
REX SOLE	57	37
TURBOT	271	386
S. ALEUTIANUS	30	79
S. ALUTUS	307	90
S. BABCOCKI	13	26
S. BOREALIS	454	58
S. BREVISPINIS	-	-
S. CRAMERI	80	122
S. DIPLOPROA	37	37
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. HELVOMACULATUS	TRACE	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. ZACENTRUS	TRACE	-
SEB. ALASCANUS	80	85
HAKE	94	106
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	47	53
WALLEYE POLLOCK	-	-
DOGFISH	20	TRACE
RATFISH	-	TRACE
SKATES	TRACE	-
OCTOPUS	-	-
SQUID	-	TRACE
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	1867	1814

43
3D
25
9/21
142 / (259)
2.00

44
3D
25
9/21
158 / (288)
2.25

45
3D
25
9/22
155 / (283)
2.00

START	STOP
14:55	16:55
49°12'	49°17'
127°02'	127°08'
14342	14310
29402	29436
139	145

START	STOP
17:30	19:45
49°16'	49°11'
127°07'	127°01'
14312	14348
29434	29392
140	165

START	STOP
6:00	8:00
49°12'	49°06'
127°01'	126°54'
14347.6	14382.2
29398.6	29352.9
141	163

181
-
-
91
1680
-
845
60
-
-
TRACE
1429
TRACE
-
TRACE
-
-
-
-
171
262
60
91
-
-
-
TRACE
573
-
-
-
5443

199
-
-
105
409
TRACE
807
84
-
-
-
304
-
-
TRACE
-
-
-
-
21
178
105
-
-
964
-
TRACE
TRACE
TRACE
-
-
-
3175

332
-
-
58
1384
141
224
25
-
-
-
-
25
-
-
-
-
-
-
-
-
-
124
-
-
821
-
41
TRACE
-
-
-
3175

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	46	47
MAJOR AREA	3D	3C
MINOR AREA	25	24
DATE (MM/DD)	9/22	9/22
DEPTH MODE F/(M)	180 / (329)	210 / (384)
DURATION (H)	2.00	2.00

	START	STOP	START	STOP
TIME	8:45	10:45	12:10	14:10
LAT. (DEG, MIN)	49°06'	49°11'	49°05'	49°00'
LONG. (DEG, MIN)	126°55'	127°00'	126°55'	126°48'
LC-5990-X	14377	14346.9	14380	14411.6
LC-5990-Y	29357	29391	29349	29310
DEPTH (F)	180	186	195	214

SPECIES CATCH (KG.)

DOVER SOLE	402	370
ENGLISH SOLE	-	-
PETRALE SOLE	-	-
REX SOLE	106	44
TURBOT	877	56
S. ALEUTIANUS	TRACE	29
S. ALUTUS	301	148
S. BABCOCKI	21	TRACE
S. BOREALIS	48	-
S. BREVISPINIS	-	-
S. CRAMERI	-	-
S. DIPLOPROA	32	106
S. ELONGATUS	TRACE	19
S. ENTOMELAS	-	-
S. HELVOMACULATUS	-	-
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. ZACENTRUS	-	-
SEB. ALASCANUS	95	44
HAKE	127	65
LINGCOD	-	-
PACIFIC COD	-	-
SABLEFISH	655	12
WALLEYE POLLOCK	-	-
DOGFISH	58	15
RATFISH	-	-
SKATES	TRACE	-
OCTOPUS	-	-
SQUID	TRACE	TRACE
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	2722	907

48
3C
23
9/22
113 / (206)
2.33

49
3C
23
9/23
125 / (228)
2.17

50
3C
23
9/23
150 / (274)
2.00

START	STOP
18:55	21:15
48°32'	48°25'
126°09'	126°04'
14602	14621
29060	29007
103	113

START	STOP
5:30	7:40
48°30'	48°23'
126°09'	126°04'
14599.8	14623.1
29047.3	28997.4
124	126

START	STOP
8:15	10:15
48°24'	48°24'
126°03'	125°56'
14627	14652
28994	28987
150	150

62
-
-
53
258
-
44
TRACE
-
44
-
-
125
-
71
-
TRACE
142
-
TRACE
89
374
TRACE
TRACE
1272
TRACE
133
53
-
-
-
-
2722

48
-
TRACE
TRACE
303
-
2915
16
-
-
176
24
-
TRACE
-
TRACE
-
TRACE
96
200
-
40
575
24
32
TRACE
88
-
-
-
4536

247
-
-
TRACE
480
TRACE
1974
65
-
-
TRACE
1688
-
TRACE
TRACE
-
-
TRACE
65
169
221
-
-
1753
143
-
TRACE
-
-
-
6804

APPENDIX C M/V ARCTIC HARVESTER HAUL DATA

HAUL NO.	51	52
MAJOR AREA	3C	3C
MINOR AREA	23	23
DATE (MM/DD)	9/23	9/23
DEPTH MODE F/(M)	165 / (301)	185 / (338)
DURATION (H)	2.08	2.00

	START	STOP	START	STOP
TIME	10:50	12:55	14:00	16:00
LAT. (DEG, MIN)	48°25'	48°23'	48°25'	48°22'
LONG. (DEG, MIN)	125°57'	126°07'	126°09'	126°02'
LC-5990-X	14650	14611	14603.2	14630.6
LC-5990-Y	28990	29001	29016.2	28986.7
DEPTH (F)	160	170	179	196

SPECIES CATCH (KG.)

DOVER SOLE	216	158
ENGLISH SOLE	-	-
PETRALE SOLE	-	105
REX SOLE	TRACE	63
TURBOT	676	137
S. ALEUTIANUS	-	53
S. ALUTUS	2448	2068
S. BABCOCKI	162	148
S. BOREALIS	-	232
S. BREVISPINIS	-	-
S. CRAMERI	176	1772
S. DIPLOPROA	1231	21
S. ELONGATUS	-	-
S. ENTOMELAS	-	-
S. HELVOMACULATUS	TRACE	TRACE
S. PAUCISPINIS	-	-
S. PINNIGER	-	-
S. PRORIGER	-	-
S. REEDI	-	-
S. ZACENTRUS	TRACE	-
SEB. ALASCANUS	352	285
HAKE	257	359
LINGCOD	-	-
PACIFIC COD	TRACE	-
SABLEFISH	1163	-
WALLEYE POLLOCK	122	-
DOGFISH	TRACE	-
RATFISH	-	TRACE
SKATES	TRACE	TRACE
OCTOPUS	-	-
SQUID	-	42
UNKNOWN INVERTEBRATES	-	-
TOTAL CATCH (KG.)	6804	5443

53
3C
23
9/23
103 / (188)
2.08

54
3C
23
9/24
110 / (201)
2.00

55
3C
23
9/24
115 / (210)
1.92

START	STOP
16:55	19:00
48°25'	48°31'
126°02'	126°06'
14631	14611
29000	29051
105	100

START	STOP
6:15	8:15
48°16'	48°20'
125°48'	125°51'
14684.4	14671
28912.9	28951
112	99

START	STOP
9:20	11:15
48°17'	48°15'
125°48'	125°44'
14684	14703
28921	28907
109	122

109
-
TRACE
42
275
-
21
-
-
291
-
-
36
-
TRACE
-
TRACE
312
-
TRACE
16
16
-
52
99
TRACE
93
-
-
-
-

247
TRACE
-
82
1333
-
2378
96
-
357
-
-
27
TRACE
TRACE
289
-
-
399
192
27
234
-
-
1031
110
TRACE
TRACE
-
-
-

TRACE
-
-
TRACE
620
-
248
-
-
TRACE
-
-
TRACE
-
TRACE
12781
-
1779
TRACE
TRACE
-
TRACE
TRACE
-
10919
-
869
TRACE
-
TRACE
-
-

1361

6804

27216

