

**Midwater and Bottom Trawl Tows  
and Catches Made by *M/V Nemesis*  
No. 78-1 July 5-23, 1978  
in Dixon Entrance.**

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Fisheries and Marine Service

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April 1979



MIDWATER AND BOTTOM TRAWL TOWS AND CATCHES MADE BY M/V NEMESIS

NO. 78-1 JULY 5-23, 1978 IN DIXON ENTRANCE.

by

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ABSTRACT

Barner, L. W., F. H. C. Taylor, D. M. A. Bennett, and J. M. Thompson. 1978.  
Midwater and bottom trawl tows and catches made by M/V NEMESIS No. 78-1, in  
Dixon Entrance. Fish. Mar. Serv. Data Rep. 135: 105 p.

This report gives the midwater and bottom trawl catches, fishing positions and biological sampling data obtained during the M/V NEMESIS cruise, No. 78-1, July 5-23, 1978 in Dixon Entrance. These tows were made to identify the species encountered during an acoustical survey. The survey was made to determine the distribution and abundance of fish within the area. Sex and length data were obtained for chinook salmon, dogfish, eulachon, halibut, lingcod, Pacific cod, pollock, blackcod (sablefish), sole and rockfish.

Key words: Marine fish, midwater trawl, bottom trawl, catch composition, pollock, dogfish, rockfish, sole, eulachon, Pacific cod and salmon.

RÉSUMÉ

Barner, L. W., F. H. C. Taylor, D. M. A. Bennett, and J. M. Thompson. 1978.  
Midwater and bottom trawl tows and catches made by M/V NEMESIS No. 78-1,  
Dixon Entrance. Fish. Mar. Serv. Data Rep. 135: 105 p.

Ce rapport présente les tables de prises de chaluts mésopélagiques et du fond, les positions de pêche et les données biologiques obtenues pendant le voyage du M/V NEMESIS, n. 78-1, juillet 5-23, 1978 dans la région de Dixon Entrance. Un levé acoustique était fait pour déterminer la distribution et l'abondance des poissons dans la région. Les auteurs ont fait ces chalutages pour identifier les espèces rencontrées pendant le levé acoustique. Les données de sexe et de longueur étaient obtenues pour le saumon 'chinook', l'aiguillat, Thalichthys pacificus, les merlus, Ophiodon elongatus, les morves pacifiques, les collins, les morves noires, les soles et les sébastes.

Mots clés: poissons marins, chalut mésopélagique, chalut du fond, composition des prises, collins, aiguillat, sébastes, sole, Thalichthys pacificus, le morve pacifique et saumon.



## INTRODUCTION

In 1978 an acoustic survey was carried out in Dixon Entrance by the C.G.S. G.B. REED and the M/V NEMESIS to determine the distribution and abundance of walleye pollock and other fish stocks present. These stocks were primarily; walleye pollock (Theragra chalcogramma), English sole (Parophrys vetulus), turbot (Atheresthes stomias), Pacific herring (Clupea harengus pallasii) Pacific cod (Gadus macrocephalus) and rockfish (Sebastes spp.)

## COVERAGE

The C.G.S. G.B. REED ran an acoustical survey covering the whole of Dixon Entrance, including the banks and gullies; survey lines were also run in the North end of Hecate Strait and Chatham Sound, Fig. 1.

During these surveys, midwater trawl tows were made to identify the major species of fish in the main sound scattering layers. The positions of any concentrations located by the G.B. REED were reported to the M/V NEMESIS which was responsible for all of the fishing.

## EQUIPMENT

### Nets and fishing gear

Three nets were used in this cruise. The first was a Canadian Diamond Number 7 midwater trawl. In this trawl, the mesh tapers from 32-in (stretched mesh) in the wings and forward section of the body to 1 1/2-in in the codend. The codend was lined with 3/4-in knotless web, and was rigged with a splitting strap. The headrope and the footrope were 205 ft in length, the breast rope, 186 ft. The headrope had eighty 8-in trawl floats. The footrope was weighted with 100-lb of chain with an additional 900-lb on each wing corner. During operation the vertical opening of the net was 56-59 ft.

The second net used was a Dantrawl (Danish midwater rope trawl). This net has a circumference of 997 ft and gave a measured vertical mouth opening of 114-131 ft. The same wingtip weight of 900-lb was used on both midwater trawls. The net tapers from 9-ft in the wings to 1 1/2-in in the codend.

The third net used was a West Coast bottom trawl (Western No. 3), in this trawl the mesh is 5-in in the wings, 4 1/2-in in the belly, intermediate and codend. Five 14-in bobbins in bosom, 5/8-in chain along wings. The headrope is 79 ft and the ground rope 110 ft. The measured vertical opening was 19 ft.

The same Russian combination doors were used with all three trawls.

## WEIGHT OF CATCH

The entire catch was brought aboard and taken to the shelter deck by conveyor. The entire catch was then sorted by species into galvanized tubs, with perforated bottoms to release water. Six tubs of each species were weighed on a

beam balance and the remainder of the tubs counted. Also any incomplete or partially filled tubs were weighed. The average weight of the six tubs per species was applied to the other tubs counted, for a total estimated weight.

#### CATCH

This report contains the detailed tables (Table 1-4) showing the time, location and catches (kg) of midwater trawl tows made in Dixon Entrance on cruise M/V NEMESIS, July 5-23, 1978, Fig. 2 & 3. For a summary of the total catch by principal species see Table 4.

The report also contains length, sex data on the following species:

Dogfish ( <u>Squalus acanthias</u> )	Appendix Table 1
Eulachons ( <u>Thaleichthys pacificus</u> )	Appendix Table 2
Pacific cod ( <u>Gadus macrocephalus</u> )	Appendix Table 3
Halibut ( <u>Hippoglossus stenolepis</u> )	Appendix Table 4
Lingcod ( <u>Ophiodon elongatus</u> )	Appendix Table 5
Walleye pollock ( <u>Theragra chalcogramma</u> )	Appendix Table 6
Sablefish ( <u>Anoplopoma fimbria</u> )	Appendix Table 7
Chinook salmon ( <u>Oncorhynchus tshawytscha</u> )	Appendix Table 8
Pacific ocean perch ( <u>Sebastes alutus</u> )	Appendix Table 9
Redbanded rockfish ( <u>Sebastes babcocki</u> )	Appendix Table 10
Silvergray rockfish ( <u>Sebastes brevispinis</u> )	Appendix Table 11
Widow rockfish ( <u>Sebastes entomelas</u> )	Appendix Table 12
Yellowtail rockfish ( <u>Sebastes flavidus</u> )	Appendix Table 13
Quillback rockfish ( <u>Sebastes maliger</u> )	Appendix Table 14
Dover sole ( <u>Microstomus pacificus</u> )	Appendix Table 15
English sole ( <u>Parophrys vetulus</u> )	Appendix Table 16
Rock sole ( <u>Lepidopsetta bilineata</u> )	Appendix Table 17

Appendix Table 18 contains the detailed information on the hauls.

The results of the acoustic surveys and the catches will be discussed in a future manuscript.



Table 1. Scientific and common names of species captured.

Common Name	Scientific Name
Shortspine thornyhead	<u>Sebastolobus alascanus</u>
Pacific ocean perch	<u>Sebastes alutus</u>
Redbanded rockfish	<u>Sebastes babcocki</u>
Silvergray rockfish	<u>Sebastes brevispinis</u>
Widow rockfish	<u>Sebastes entomelas</u>
Yellowtail rockfish or greenies	<u>Sebastes flavidus</u>
Quillback rockfish	<u>Sebastes maliger</u>
Bocaccio	<u>Sebastes paucispinis</u>
Canary rockfish	<u>Sebastes pinniger</u>
Yellowmouth rockfish	<u>Sebastes reedi</u>
Harlequin rockfish	<u>Sebastes variegatus</u>
Blackfin sculpin	<u>Malacocottus kincaidi</u>
Blackcod or sablefish	<u>Anoplopoma fimbria</u>
Eulachon	<u>Thaleichthys pacificus</u>
Pacific herring	<u>Clupea harengus pallasii</u>
Lingcod	<u>Ophiodon elongatus</u>
Walleye pollock	<u>Theragra chalcogramma</u>
Chinook salmon	<u>Oncorhynchus tshawytscha</u>
Snake pricklyback	<u>Lumpenus sagitta</u>
Wolf eel	<u>Anarrhichthys ocellatus</u>
Brill or petrale sole	<u>Eopsetta jordani</u>
Dover sole	<u>Microstomus pacificus</u>
English sole or lemon sole	<u>Parophrys vetulus</u>
Flathead sole	<u>Hippoglossoides elassodon</u>
Starry flounder	<u>Platichthys stellatus</u>
Halibut	<u>Hippoglossus stenolepis</u>
Rex sole	<u>Glyptocephalus zachirus</u>
Rock sole	<u>Lepidopsetta bilineata</u>
Pacific sanddab	<u>Citharichthys sordidus</u>
Sand sole	<u>Psettichthys melanostictus</u>
Slender sole	<u>Lyopsetta exilis</u>
Turbot	<u>Atheresthes stomias</u>
Spiny dogfish	<u>Squalus acanthias</u>
Ratfish	<u>Hydrolagus colliei</u>
Skate	<u>Raja rhina</u>

Table 2. Species composition of M/V NEMESIS, trawl catches, July 5-23, 1978.

Midwater or Bottom Net	Bottom		Bottom		Midwater	
	Tow no.	1	2	3		
Total Catch (kg)	136.7	291.2	19.8			
Duration (min)	31	30	30			
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	0.5	1	1.4	2
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	1.8	1	-	-	-	-
Pacific herring	-	-	-	-	2.2	15
Lingcod	8.2	2	17.6	1	-	-
Juvenile pollock*	-	-	-	-	-	-
Walleye pollock	-	-	-	-	-	-
Chinook salmon	-	-	-	-	1.0	1
Snake prickleback	-	-	-	-	-	-
Wolf eel	10.0	2	6.4	1	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	-	-
<u>Sebastes maliger</u>	23.0	14	4.4	2	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	3.4	2	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	33.8	3	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	26.0	60	159.0	331	-	-
Pacific sanddab	Tr <sup>b</sup>	3	10.9	38	-	-
Sand sole	13.7	47	11.0	37.0	-	-
Slender sole	-	-	Tr	2	-	-
Turbot	-	-	Tr	1	-	-
<u>Selachii</u>						
Dogfish	3.8	4	2.4	2	15.2	14
Ratfish	13.0	16	73.7	91	-	-
Skates	-	-	6.0	1	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

\*Juvenile pollock = fork length ranges from 4-25 cm.  
 Walleye pollock = fork length greater than 25 cm.

<sup>b</sup>Tr = Trace of fish (not weighed, less than 0.5 kg).

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
	Tow no.					
Total Catch (kg)	4		5		6	
Duration (min)	176.6		-		1178.9	
	26		31		30	
	Wt.	No.	Wt.	No.	Wt.	No.

<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	2.7	6	-	-	-	-
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	171.3	43	-	-	1165.3	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	3.0	38
Walleye pollock	-	-	-	-	-	-
Chinook salmon	-	-	-	-	10.6	2
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebástolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	2.6	2	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	7		8		9	
Total Catch (kg)	420.2		345.4		102.3	
Duration (min)	32		31		30	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	-	-	19.7	79	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	418.7	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	1.0	-	-	-
Walleye pollock	-	-	248.8	218	-	-
Chinook salmon	-	-	-	-	5.9	1
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastes alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	69.2	40	80.4	50
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	3.4	1	12.8	4
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	1.2	1	1.0	1	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	0.3	2	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	2.3	1	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	10		11		12	
Total Catch (kg)	1528.7		499.4		42.5	
Duration (min)	30		33		30	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	0.9	2	-	-
Eulachon	1.5	-	30.6	-	13.2	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	5.0	-	2.8	12
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	1.0	8	Tr	2
Walleye pollock	1497.3	1209	425.7	285	25.5	18
Chinook salmon	-	-	0.2	1	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastes alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	12.4	12	1.0	1
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	2.2	1	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	21.0	11	16.8	9	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	7.5	4	3.4	1	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	1.4	1	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	1.2	1	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	13		14		15	
Total Catch (kg)	289.5		9.0		3.8	
	30		30		33	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	6.5	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	-	-
Walleye pollock	207.0	155	9.0	10	2.2	1
Chinook salmon	0.9	3	-	-	1.6	1
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	1.6	1	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	67.2	37	-	-	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	4.0	1	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	1.8	1	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
	Wt.	No.	Wt.	No.	Wt.	No.
Tow no.	16		17		18	
Total Catch (kg)	302.5		88.7		348.6	
Duration (min)	30		30		30	
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	256.8	-	-	-	Tr	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	-	-
Walleye pollock	34.2	24	86.9	71	343.6	294
Chinook salmon	11.5	2	1.8	1	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	3.6	2
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	1.4	2
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	19		20		21	
Total Catch (kg)	126.0		Tr		176.2	
Duration (min)	30		30		32	
	Wt.	No.	Wt.	No.	Wt.	No.

Species

Roundfish

Blackfin sculpin	-	-	-	-	-	-
Blackcod	.4	1	-	-	-	-
Eulachon	99.2	3607	Tr	-	20.6	749
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	1.6	19
Walleye pollock	24.4	22	-	-	140.3	132
Chinook salmon	-	-	-	-	1.6	1
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-

Rockfish

<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	2.6	1
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	1.4	1	-	-	8.8	4.0
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-

Flatfish

Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rocksole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	0.6	1	-	-	0.7	1

Selachii

Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-



Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	22		23		24	
Total Catch (kg)	19.5		6.6		24.6	
Duration (min)	30		31		30	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	-	-
Walleye pollock	19.5	16	4.2	3	24.6	22
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	2.4	1	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	25		26		27	
Total Catch (kg)	3.8		382.7		14.6	
Duration (min)	30		31		32	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	1.0	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	Tr	1	-	-
Walleye pollock	1.2	1	371.2	212	-	-
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	11.5	8	2.0	1
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	11.6	3
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	1	-	-	-	-
Dover sole	1.5	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	1.1	1	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
	Wt.	No.	Wt.	No.	Wt.	No.
Tow no.	28		29		30	
Total Catch (kg)	3.2		23.6		Trace	
Duration (min)	30		30		31	
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	Tr	1	Tr	1	Tr	2
Walleye pollock	3.2	3	21.2	19	-	-
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	2.4	1	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	Tr	1	Tr	1
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	31		32		33	
Total Catch (kg)	30.5		70.4		280.2	
Duration (min)	31		30		31	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	-	-	-	-	Tr	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	-	-
Walleye pollock	30.5	25	70.4	53	278.2	234
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	2.0	1
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	34		35		36	
Total Catch (kg)	13.4		0.7		9.3	
Duration (min)	30		30		33	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	9.0	-	.7	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	-	-
Walleye pollock	2.6	2	-	-	-	-
Chinook salmon	-	-	-	-	6.8	5
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	0.6	1
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	1.8	1	-	-	1.9	1
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	37		38		39	
Total Catch (kg)	376.6		243.9		25.7	
Duration (min)	30		32		30	
	Wt.	No.	Wt.	No.	Wt.	No.

Species

Roundfish

Blackfin sculpin	-	-	-	-	-	-
Blackcod	0.8	1	-	-	-	-
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	-	-
Walleye pollock	375.8	350	243.9	205	22.0	19
Chinook salmon	-	-	-	-	2.2	1
Pink salmon	-	-	-	-	1.5	1
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-

Rockfish

<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-

Flatfish

Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-

Selachii

Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Bottom		Bottom	
	Wt.	No.	Wt.	No.	Wt.	No.
Tow no.	40		41		42	
Total Catch (kg)	166.2		536.7		496.8	
Duration (min)	31		30		30	
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	0.5	1
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	75.6	29	22.2	8
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	1.0	4
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	0.2	1
Walleye pollock	165.4	145	11.6	2	-	-
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	3.3	1	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	3.3	5	3.1	3
Dover sole	-	-	7.2	5	-	-
English sole	-	-	74.5	65	69.4	164
Rex sole	-	-	117.4	318	6.7	-
Halibut	-	-	20.9	1	17.3	5
Flathead sole	-	-	0.3	1	-	-
Rock sole	-	-	2.0	2	14.0	22
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	3.0	10
Slender sole	-	-	-	-	-	-
Turbot	-	-	186.4	278	341.0	466
<u>Selachii</u>						
Dogfish	-	-	29.7	6	18.4	4
Ratfish	-	-	0.6	1	-	-
Skates	-	-	3.7	-	-	-
Squid	0.8	1	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Bottom		Bottom		Bottom	
Tow no.	43		44		45	
Total Catch (kg)	2316.1		485.5		821.0	
Duration (min)	30		30		30	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	2.2	5	-	-	0.8	1
Eulachon	-	-	-	-	-	-
Pacific cod	725.3	197	-	-	25.6	13
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	-	-
Walleye pollock	-	-	-	-	-	-
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastes alascanus</u>	-	-	48.8	96	-	-
<u>Sebastes alutus</u>	-	-	2.5	2	-	-
<u>Sebastes babcocki</u>	-	-	26.2	14	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	6.3	4
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	7.3	0.2	-	-	15.6	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	4.0	4
Dover sole	-	-	247.2	295	79.2	-
English sole	1329.3	2433	12.6	22	15.5	24
Starry flounder	5.2	2	-	-	-	-
Halibut	15.1	3	-	-	26.8	6
Rex sole	-	-	21.1	31	78.2	-
Rock sole	3.9	5	-	-	2.1	1
Pacific sanddab	-	-	-	-	-	-
Sand sole	26.5	82	1.1	3	1.0	2
Slender sole	-	-	-	-	-	-
Turbot	104.6	90.0	74.9	112	389.9	336
<u>Selachii</u>						
Dogfish	36.8	8	15.8	5	34.3	3
Ratfish	-	-	29.6	25	141.7	-
Skates	59.9	2	5.7	2	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-



Table 2 (cont'd)

Midwater or Bottom Net	Bottom		Bottom		Midwater	
Tow no.	46		47		48	
Total Catch (kg)	43.9		257.0		192.8	
Duration (min)	30		30		279	
	Wt.	No.	Wt.	No.	Wt.	No.

Species

Roundfish

Blackfin sculpin	-	-	0.4	1	-	-
Blackcod	-	-	-	-	-	-
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	8.3	4	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	Tr	22
Walleye pollock	-	-	-	-	-	-
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-

Rockfish

<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	34.4	15	-	-
<u>Sebastes entomelas</u>	-	-	-	-	3.0	2
<u>Sebastes flavidus</u>	-	-	-	-	182.1	119
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	7.7	-
<u>Sebastes plinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-

Flatfish

Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	20.0	18	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	7.6	1	-	-	-	-
Rex sole	1.7	4	4.0	11	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	6.3	13	0.3	3	-	-
Slender sole	-	-	-	-	-	-
Turbot	10.0	9	145.3	125	-	-

Selachii

Dogfish	14.3	4	2.4	1	-	-
Ratfish	2.0	2	26.3	29	-	-
Skates	2.0	1	15.6	2	-	-
Squid	-	-	-	-	-	1
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
	Wt.	No.	Wt.	No.	Wt.	No.
Tow no.	49		50		51	
Total Catch (kg)	-		104.7		33.3	
Duration (min)	9		54		30	
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	Tr	2	-	-
Walleye pollock	-	-	100.5	86	25.0	20
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	4.2	2	8.3	4
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Other	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	52		53		54	
Total Catch (kg)	91.1		36.8		16.4	
Duration (min)	26		30		30	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	-	-
Walleye pollock	62.4	46	16.4	27	16.4	14
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	25.2	11	3.4	1	-	-
<u>Sebastes flavidus</u>	3.5	2	15.4	9	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	1.6	1	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Midwater		Midwater	
Tow no.	55		56		57	
Total Catch (kg)	0.2		Water Tow		Water Tow	
Duration (min)	30		30		30	
	Wt.	No.	Wt.	No.	Wt.	No.
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	-	-	-	-
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	-	-	-	-
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	Tr	12	-	-	-	-
Walleye pollock	-	-	-	-	-	-
Chinook salmon	0.2	1	-	-	-	-
Snake prickleback	-	-	-	-	-	-
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-	-	-
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-
English sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	-	-	-	-
Rex sole	-	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
Turbot	-	-	-	-	-	-
<u>Selachii</u>						
Dogfish	-	-	-	-	-	-
Ratfish	-	-	-	-	-	-
Skates	-	-	-	-	-	-
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Midwater		Bottom		Bottom	
	Wt.	No.	Wt.	No.	Wt.	No.
Tow no.	58		59		60	
Total Catch (kg)	Water Tow		734.7		1821.2	
Duration (min)	32		30		30	
<u>Species</u>						
<u>Roundfish</u>						
Blackfin sculpin	-	-	-	-	-	-
Blackcod	-	-	1.9	5	47.5	102
Eulachon	-	-	-	-	-	-
Pacific cod	-	-	38.6	15	191.7	76
Whitespotted greenling	-	-	-	-	-	-
Pacific herring	-	-	-	-	-	-
Lingcod	-	-	-	-	-	-
Juvenile pollock	-	-	-	-	-	-
Walleye pollock	-	-	64.0	82	240.0	176
Chinook salmon	-	-	-	-	-	-
Snake prickleback	-	-	-	-	Tr	1
Wolf eel	-	-	-	-	-	-
<u>Rockfish</u>						
<u>Sebastolobus alascanus</u>	-	-	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-	-	-
<u>Sebastes brevispinis</u>	-	-	-	-	-	-
<u>Sebastes entomelas</u>	-	-	1.2	1	-	-
<u>Sebastes flavidus</u>	-	-	2.3	1	8.9	4
<u>Sebastes maliger</u>	-	-	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-	-	-
<u>Sebastes pinniger</u>	-	-	0.8	1	-	-
<u>Sebastes reedi</u>	-	-	-	-	-	-
<u>Sebastes variegatus</u>	-	-	-	-	-	-
<u>Flatfish</u>						
Brill or petrale sole	-	-	-	-	-	-
Dover sole	-	-	15.2	21	14.1	34
English sole	-	-	239.7	-	517.2	789
Flathead sole	-	-	2.9	5	-	-
Starry flounder	-	-	-	-	-	-
Halibut	-	-	7.3	2	75.7	16
Rex sole	-	-	49.8	77	85.1	253
Rock sole	-	-	45.6	76	150.3	217
Pacific sanddab	-	-	-	-	-	-
Sand sole	-	-	1.5	4	13.7	47
Slender sole	-	-	-	-	-	-
Turbot	-	-	133.4	65	363.8	-
<u>Selachii</u>						
Dogfish	-	-	43.3	10	55.2	14
Ratfish	-	-	72.9	-	5.6	10
Skates	-	-	14.3	10	52.4	3
Squid	-	-	-	-	-	-
Jellyfish	-	-	-	-	-	-

Table 2 (cont'd)

Midwater or Bottom Net	Bottom		Bottom	
	Wt.	No.	Wt.	No.
Tow no.	61		62	
Total Catch (kg)	1829.3		848.9	
Duration (min)	30		30	
<u>Species</u>				
<u>Roundfish</u>				
Blackfin sculpin	-	-	-	-
Blackcod	14.3	27	-	-
Eulachon	-	-	-	-
Pacific cod	231.0	151	-	-
Whitespotted greenling	-	-	-	-
Pacific herring	-	-	-	-
Lingcod	-	-	18.5	3
Juvenile pollock	-	-	-	-
Walleye pollock	882.9	981	-	-
Chinook salmon	-	-	-	-
Snake prickleback	-	-	-	-
Wolf eel	-	-	-	-
<u>Rockfish</u>				
<u>Sebastes alascanus</u>	-	-	-	-
<u>Sebastes alutus</u>	-	-	-	-
<u>Sebastes babcocki</u>	-	-	-	-
<u>Sebastes brevispinis</u>	12.3	11	-	-
<u>Sebastes entomelas</u>	-	-	-	-
<u>Sebastes flavidus</u>	-	-	-	-
<u>Sebastes maliger</u>	-	-	-	-
<u>Sebastes paucispinis</u>	-	-	-	-
<u>Sebastes pinniger</u>	-	-	-	-
<u>Sebastes reedi</u>	-	-	-	-
<u>Sebastes variegatus</u>	Tr	1	-	-
<u>Flatfish</u>				
Brill or petrale sole	-	-	4.8	-
Curlfin sole	-	-	Tr	1
Dover sole	25.1	-	-	-
English sole	127.0	187	-	-
Flathead sole	2.9	25	-	-
Starry flounder	-	-	-	-
Halibut	1.5	1	38.0	7
Rex sole	56.3	-	-	-
Rock sole	20.8	-	277.6	-
Pacific sanddab	-	-	-	-
Sand sole	1.0	-	-	-
Slender sole	-	-	-	-
Turbot	357.5	237	-	-
<u>Selachii</u>				
Dogfish	60.0	15	13.2	3
Ratfish	20.0	-	496.8	-
Skates	16.7	1	-	-
Squid	-	-	-	-
Jellyfish	-	-	-	-

Table 3. Summary of species sampled, type of sample, and number of specimens examined.

Species	Tow no.	Type of net	Length	Sex			Individual fish			Sampling remarks
				M	F	U	Maturity	Weight	Age	
Pollock	6	midwater	38	23	15	-		38		Total catch
	8	midwater	218	95	123	-		210	200	Total catch
	10	midwater	273	113	160	-		-		7 of 31 tubs
	11	midwater	284	99	185	-		278	278	Total catch
	13	midwater	155	61	94	-				Total catch
	18	midwater	296	165	131	-	296	296		Total catch
	21	midwater	132	77	55	-		18		Total catch
	26	midwater	203	84	119	-		-		Total catch
	32	midwater	53	8	45	-		-		Total catch
	33	midwater	234	114	120	-		-	234	Total catch
	37	midwater	348	242	106	-		-	350	Total catch
	38	midwater	206	135	71	-		-	204	Total catch
	40	midwater	145	101	44	-				Total catch
	48	midwater	22	-	-	22				Total catch
	50	midwater	86	23	63	-				Total catch
	52	midwater	46	8	38	-				Total catch
	59	bottom	82	29	53	-				Total catch
60	bottom	147	53	85	9				5 of 6 tubs	
61	bottom	329	213	116	-				7 of 18 tubs	
<b>Total</b>	<b>19</b>		<b>3297</b>	<b>1643</b>	<b>1623</b>	<b>31</b>	<b>296</b>	<b>840</b>	<b>1266</b>	
Pacific cod	41	bottom	29	21	8	-				Total catch
	42	bottom	8	4	4	-				Total catch
	43	bottom	197	91	106	-				Total catch
	59	bottom	15	8	7	-				Total catch
	60	bottom	76	36	40	-				Total catch
	61	bottom	151	74	77	-				Total catch
<b>Total</b>	<b>6</b>		<b>746</b>	<b>234</b>	<b>272</b>					

Table 3 (cont'd)

Species	Tow no.	Type of net	Length	Sex			Individual fish			Sampling remarks
				M	F	U	Maturity	Weight	Age	
Dogfish	3	midwater	13	4	9	-				Total catch & stomachs
( <u>Squalus acanthias</u> )	41	bottom	6	0	6	-				Total catch & stomachs
	42	bottom	4	1	3	-				Total catch & stomachs
	43	bottom	8	0	8	-				Total catch & stomachs
	44	bottom	5	3	2	-				Total catch & stomachs
	45	bottom	10	2	8	-				Total catch & stomachs
	46	bottom	4	1	3	-				Total catch & stomachs
	59	bottom	10	1	9	-				Total catch & stomachs
	60	bottom	14	2	12	-				Total catch & stomachs
	61	bottom	15	0	15	-				Total catch & stomachs
	62	bottom	2	0	2	-				Total catch & stomachs
Total	11		91	14	77					
<u>Sebastes flavidus</u>	8	midwater	40	27	13	-		40		Total catch
	9	midwater	50	39	11	-		50		Total catch
	10	midwater	11	5	6	-		11		Total catch
	13	midwater	37	31	6	-		37		Total catch
	20	midwater	8	7	1	-		-		Total catch
	48	midwater	90	60	38	-		98		Total catch
Total	6		244	169	75					



Table 3 (cont'd)

Species	Tow no.	Type of net	Length	Sex			Individual fish			Sampling remarks
				M	F	U	Maturity	Weight	Age	
Eulachon										
<u>Thaleichthys pacificus</u>	8	midwater	79			79				Total catch
	11	midwater	80							Random sub-sample
	12	midwater	100			100				Random sub-sample
	16	midwater	221			221				Random sub-sample
	19	midwater	119			119				Random sub-sample
	34	midwater	112			112				Random sub-sample
Total	6		711			711				
Rock sole										
<u>Lepidopsetta bilineata</u>	1	bottom	60	33	23	4				Total catch
	2	bottom	340	121	150	69				Total catch
Total	2		400	154	173	73				
English sole										
<u>Parophrys vetulus</u>	41	bottom	65	31	34	-				Total catch

Table 3 (cont'd)

Species	Tow no.	Type of net	Length	Sex			Individual fish		Age	Sampling remarks
				M	F	U	Maturity	Weight		
Pacific herring <u>Clupea harengus pallasii</u>	4	midwater	82	40	42	-	82		82	Random sub-sample
	6	midwater	100	46	54	-	100		100	Random sub-sample
	7	midwater	82	60	22	-	82		82	Random sub-sample
Total	3			146	118		264		264	
Dover sole <u>Microstomus pacificus</u>	44	bottom	59	50	9	-				1 of 5 tubs
Sablefish <u>Anoplopoma fimbria</u>	60	bottom	102	-	-	102				Total catch
	61	bottom	27	-	-	27				Total catch
Total	2		129	-	-	129				
Lingcod <u>Ophiodon elongatus</u>	62	bottom	3	2	1	-				Total catch

Table 3 (cont'd)

Species	Tow no.	Type of net	Length	Sex			Individual fish		Age	Sampling remarks
				M	F	U	Maturity	Weight		
Pacific ocean perch <u>Sebastes alutus</u>	11	midwater	12	7	1	4				Total catch
Redbanded rockfish <u>Sebastes babcocki</u>	44	bottom	13	6	7	-				Total catch
Silvergray <u>Sebastes brevispinis</u>	47	bottom	15	11	4	-				Total catch
	61	bottom	11	6	5	-				Total catch
Total	2		26	17	9	-				
Widow rockfish <u>Sebastes entomelas</u>	52	midwater	14	8	6	-				Total catch
Quillback rockfish <u>Sebastes maliger</u>	1	bottom	14	8	6	-				Total catch

Table 3 (cont'd)

Species	Tow no.	Type of net	Length	Sex			Individual fish		Age	Sampling remarks
				M	F	U	Maturity	Weight		
Chinook salmon <u>Oncorhynchus tshawytscha</u>	3	midwater	1	1	0	-				Total catch
	6	midwater	1	-	1	-				Total catch
	11	midwater	1	1	0	-				Total catch & stomach sample
	13	midwater	3	3	0	-				Total catch & stomach sample
	15	midwater	1	1	0	-				Total catch & stomach sample
	16	midwater	2	1	1	-				Total catch & stomach sample
	17	midwater	1	1	0	-				Total catch & stomach sample
	21	midwater	1	1	0	-				Total catch & stomach sample
	36	midwater	5	1	4	-				Total catch & stomach sample
Total	9		16	10	6	-				
Halibut <u>Hippoglossus stenoloepis</u>	1	bottom	3	1	2	-				Total catch & stomach
	60	bottom	16	15	1	-				Total catch & stomach
	62	bottom	7	7	-	-				Total catch & stomach
Total	3		26	23	3	-				

U = Unidentified sex

Table 4. Total catch by principal species, M/V NEMESIS Cruise No. 78-1, July 5-23, 1978.

Species	Kilograms	% of total catch
Walleye pollock	6098.0	33.10
Juvenile pollock	6.8	0.04
English sole	2387.4	12.94
Turbot	2112.2	11.45
Pacific herring	1767.3	9.58
Pacific cod	1318.3	7.15
Ratfish	888.1	4.82
Rock sole	701.3	3.80
<u>Sebastes flavidus</u> (greenies)	511.0	2.77
Eulachon	457.8	2.48
Rex sole	420.3	2.28
Dover sole	409.5	2.22
Spiny dogfish	347.4	1.88
Halibut	244.0	1.32
Longnose skate	176.3	0.96
Sand sole	79.4	0.43
<u>Sebastes paucispinis</u>	76.6	0.42
Sablefish (blackcod)	73.9	0.40
<u>Sebastes brevispinis</u> (silvergrays)	61.8	0.34
<u>Sebastolobus alascanus</u> (idiots)	48.8	0.27
Chinook salmon	44.3	0.24
Lingcod	44.3	0.24
<u>Sebastes entomelas</u> (widow rockfish)	32.8	0.17
<u>Sebastes maliger</u> (quillback rockfish)	27.4	0.15
<u>Sebastes babcocki</u> (redbanded)	26.2	0.14
Petrale sole	18.6	0.10
Wolf eel	16.4	0.09
<u>Sebastes alutus</u> (Pacific ocean perch)	15.9	0.09
Pacific sanddab	10.9	0.06
Flathead sole	6.1	0.03
Starry flounder	5.2	0.03
Squid	3.8	0.02
Whitespotted greenling	1.8	0.01
Pink salmon	1.5	0.008
<u>Sebastes reedi</u> (yellowmouth)	1.4	0.008
Blackfin sculpin	0.4	0.002
<u>Sebastes pinniger</u> (canaries)	0.8	0.004
Lantern fish	Tr	-
Curlfin sole	Tr	-
Glass shrimp	Tr	-
Prickleback	Tr	-
<u>Sebastes variegatus</u>	Tr	-
Slender sole	Tr	-
Total	18,444.0	100.00

Tr = Trace, one fish not weighed.



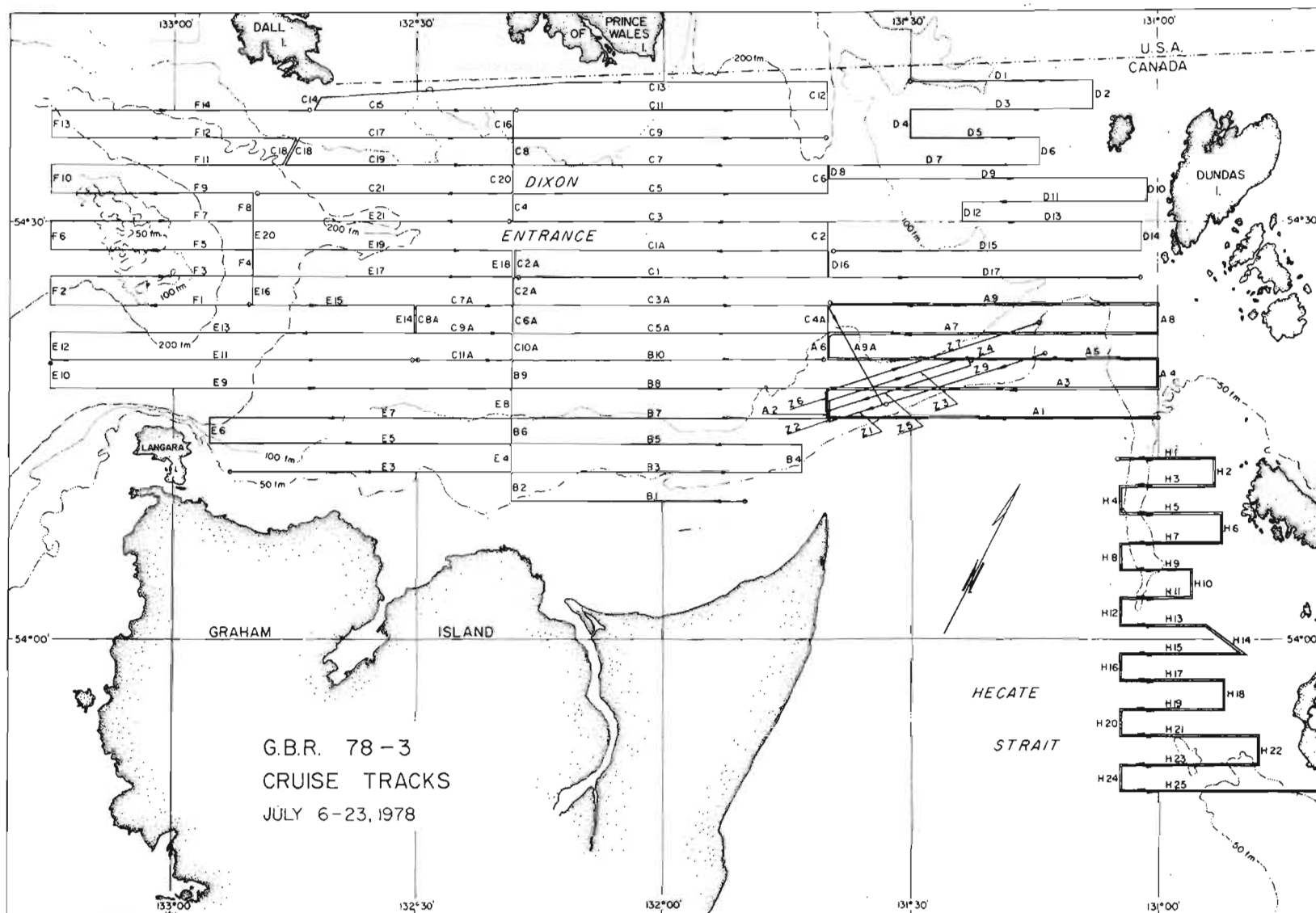


Fig. 1. Cruise tracks of the G.B. REED showing area covered by M/V NEMESIS.





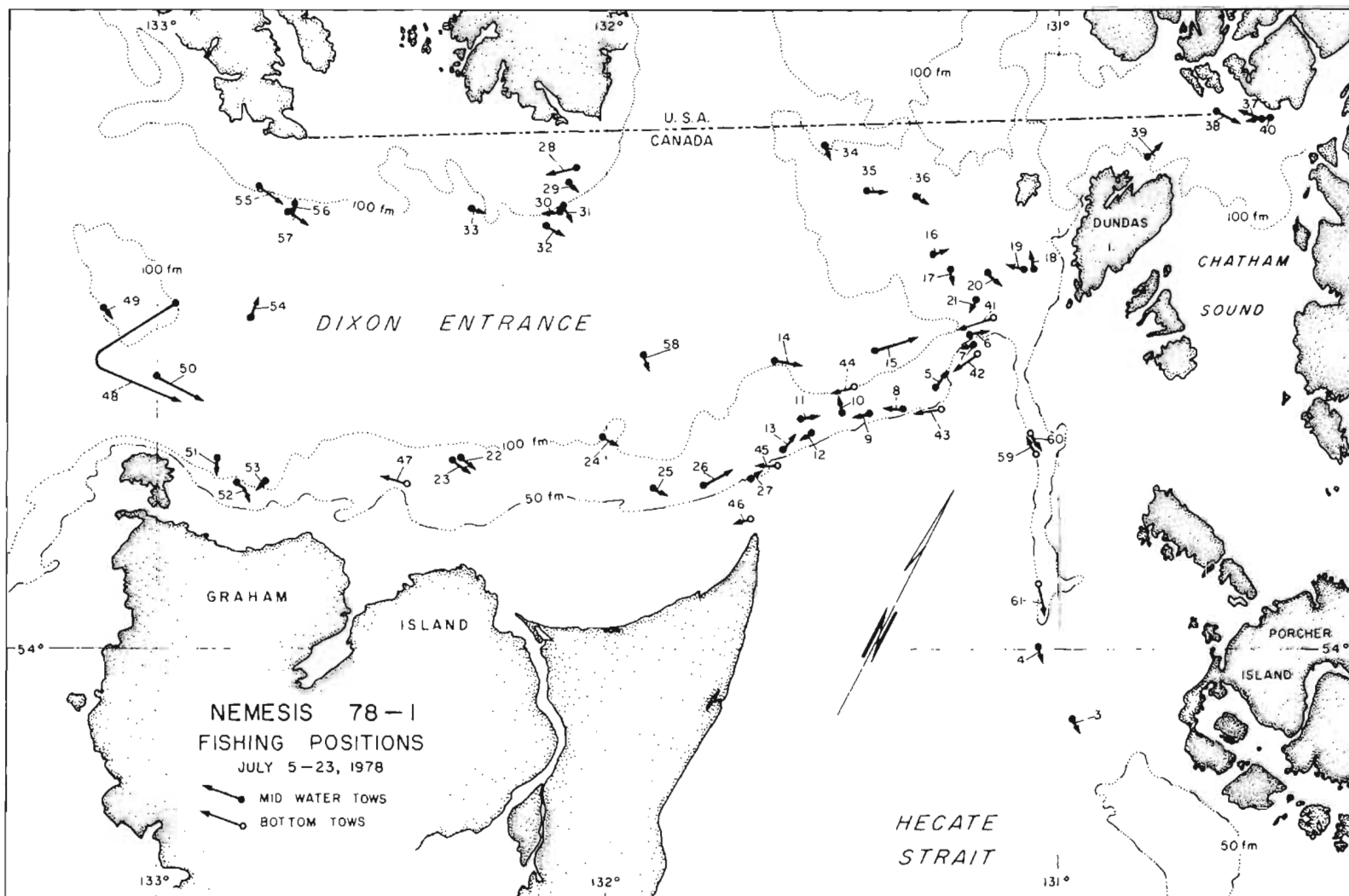


Fig. 2. The location of midwater and bottom tows made on M/V NEMESIS cruise 78-1 to Dixon Entrance, July 5-23, 1978.



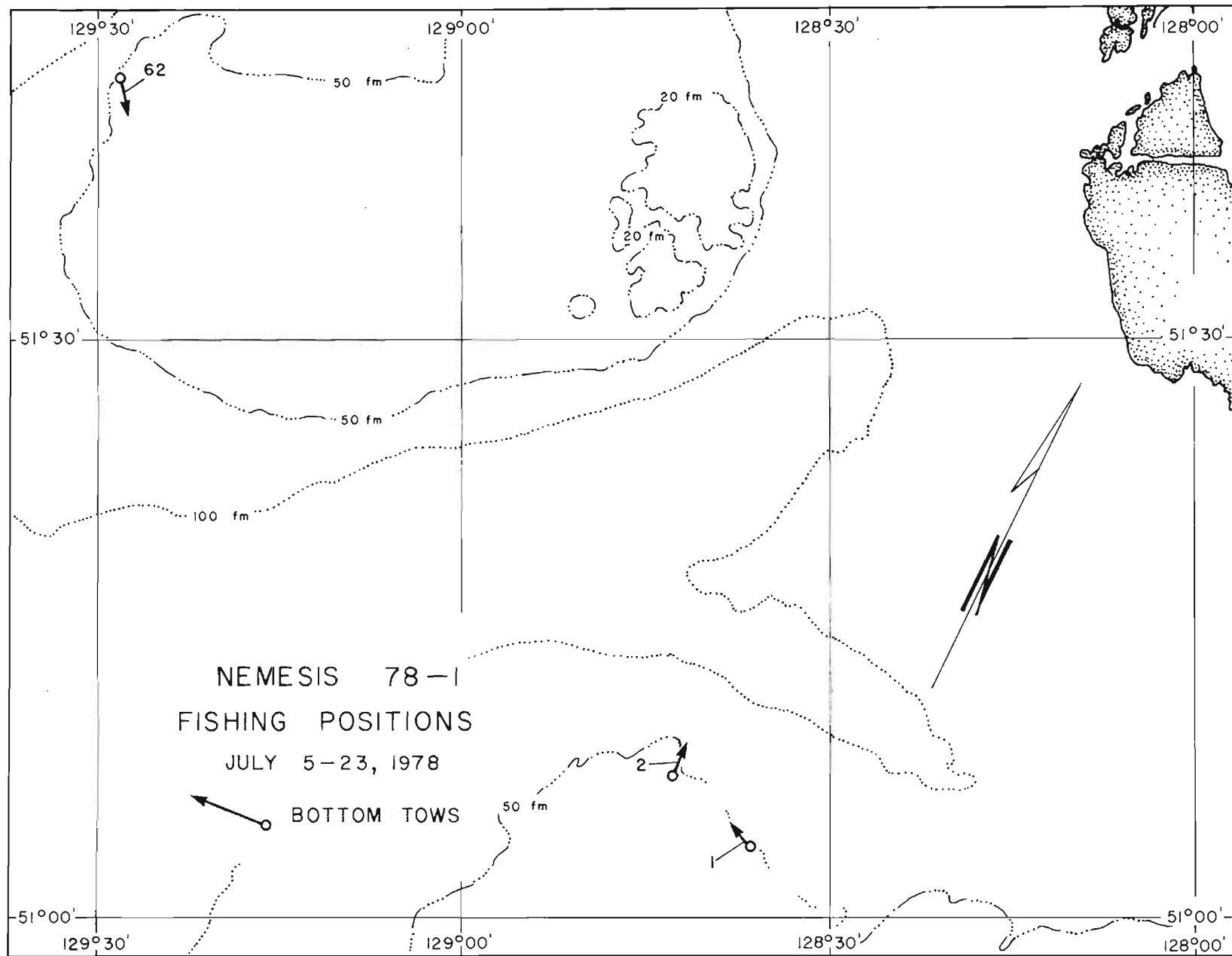


Fig. 3. The location of bottom trawl tows made on M/V NEMESIS cruise 78-1 to Queen Charlotte Sound, July 5-23, 1978.



Appendix Table 1. Size composition of dogfish (*Squalus acanthias*), numbers sampled, by haul, by sex, for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Total length (cm)	Haul no.														
	3			41			42			43			44		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
53	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-
54	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-
55	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-
56	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-
57	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-
58	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
59	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
60	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
61	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-
62	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-
63	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
64	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
65	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-
66	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
67	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-
68	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
69	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-
70	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-
71	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-
72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
73	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
74	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
75	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
76	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
77	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
78	-	-	-	-	-	-	1	-	1	-	-	-	0	-	0
79	-	-	-	-	-	-	-	-	0	-	-	-	0	-	0
80	-	-	-	-	-	-	-	-	0	-	-	-	0	-	0
81	-	-	-	-	-	-	-	-	0	-	-	-	0	-	0
82	-	-	-	-	-	-	-	-	0	-	-	-	1	-	1
83	-	-	-	-	-	-	-	-	0	-	-	-	1	-	1
84	-	-	-	-	-	-	-	-	0	-	-	-	-	-	0
85	-	-	-	-	-	-	-	-	0	-	-	-	-	-	0
86	-	-	-	-	1	1	-	-	0	-	-	-	-	-	0
87	-	-	-	-	0	0	-	-	0	-	-	-	-	-	0
88	-	-	-	-	0	0	-	-	0	-	-	-	-	-	1
89	-	-	-	-	0	0	-	-	0	-	-	-	-	-	0

Appendix Table 1 (cont'd)

Total length (cm)	Haul no.														
	3			41			42			43			44		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
90	-	-	-	-	1	1	-	-	0	-	-	-	-	0	0
91	-	-	-	-	0	0	-	-	0	-	-	-	-	0	0
92	-	-	-	-	0	0	-	-	0	-	-	-	-	0	0
93	-	-	-	-	0	0	-	-	0	-	1	1	-	0	0
94	-	-	-	-	0	0	-	-	0	-	0	0	-	0	0
95	-	-	-	-	0	0	-	-	0	-	0	0	-	0	0
96	-	-	-	-	0	0	-	-	0	-	0	0	-	0	0
97	-	-	-	-	1	1	-	-	0	-	0	0	-	0	0
98	-	-	-	-	0	0	-	-	0	-	0	0	-	0	0
99	-	-	-	-	0	0	-	-	0	-	0	0	-	0	0
100	-	-	-	-	1	1	-	1	1	-	0	0	-	0	0
101	-	-	-	-	0	0	-	0	0	-	0	0	-	0	0
102	-	-	-	-	0	0	-	0	0	-	2	2	-	0	0
103	-	-	-	-	0	0	-	0	0	-	3	3	-	0	0
104	-	-	-	-	2	2	-	0	0	-	0	0	-	0	0
105	-	-	-	-	-	-	-	1	1	-	0	0	-	0	0
106	-	-	-	-	-	-	-	0	0	-	0	0	-	0	0
107	-	-	-	-	-	-	-	0	0	-	0	0	-	0	0
108	-	-	-	-	-	-	-	0	0	-	0	0	-	0	0
109	-	-	-	-	-	-	-	0	0	-	0	0	-	0	0
110	-	-	-	-	-	-	-	0	0	-	1	1	-	0	0
111	-	-	-	-	-	-	-	1	1	-	0	0	-	1	1
112	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	4	9	13	0	6	6	1	3	4	0	8	8	3	2	5

Appendix Table 1 (cont'd)

Total length (cm)	Haul no.														
	45			46			59			60			61		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
58	-	-	-	-	-	-	-	-	-	1	-	1	-	0	0
59	-	-	-	-	-	-	-	-	-	0	-	0	-	0	0
60	-	-	-	-	-	-	-	-	-	0	-	0	-	0	0
61	-	-	-	-	-	-	-	-	-	0	1	1	-	0	0
62	-	-	-	-	-	-	-	-	-	0	0	0	-	0	0
63	-	-	-	-	-	-	-	-	-	0	0	0	-	0	0
64	-	-	-	-	-	-	-	-	-	0	0	0	-	0	0
65	-	-	-	-	-	-	-	-	-	0	0	0	-	0	0
66	-	-	-	-	-	-	-	-	-	0	0	0	-	0	0
67	-	-	-	-	-	-	-	-	-	1	0	1	-	0	0
68	-	1	1	-	-	-	-	-	-	-	0	0	-	0	0
69	-	0	0	-	-	-	-	-	-	-	0	0	-	0	0
70	-	0	0	-	-	-	-	-	-	-	0	0	-	0	0
71	-	0	0	-	-	-	-	-	-	-	0	0	-	0	0
72	-	2	2	-	-	-	1	-	1	-	1	1	-	0	0
73	-	0	0	-	-	-	-	-	0	-	0	0	-	0	0
74	-	0	0	-	-	-	-	-	0	-	0	0	-	0	0
75	-	0	0	-	-	-	-	-	0	-	0	0	-	0	0
76	-	0	0	-	-	-	-	-	0	-	0	0	-	0	0
77	-	0	0	-	-	-	-	-	0	-	0	0	-	0	0
78	1	0	1	1	-	1	-	-	0	-	0	0	-	0	0
79	0	1	1	-	-	0	-	1	1	-	0	0	-	0	0
80	0	0	0	-	-	0	-	1	1	-	0	0	-	1	1
81	0	0	0	-	-	0	-	1	1	-	0	0	-	1	1
82	0	0	0	-	-	0	-	0	0	-	0	0	-	1	1
83	1	0	1	-	1	1	-	0	0	-	0	0	-	1	1
84	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0
85	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0
86	-	0	0	-	0	0	-	0	0	-	0	0	-	1	1
87	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0
88	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0
89	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0

Appendix Table 1 (cont'd)

Total length (cm)	Haul no.														
	45			46			59			60			61		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
90	-	0	0	-	0	0	-	0	0	-	0	0	-	1	1
91	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0
92	-	0	0	-	0	0	-	1	1	-	0	0	-	0	0
93	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0
94	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0
95	-	0	0	-	1	1	-	0	0	-	0	0	-	1	1
96	-	0	0	-	0	0	-	0	0	-	1	1	-	1	1
97	-	0	0	-	0	0	-	0	0	-	1	1	-	0	0
98	-	0	0	-	0	0	-	1	1	-	1	1	-	0	0
99	-	0	0	-	0	0	-	0	0	-	1	1	-	0	0
100	-	2	2	-	0	0	-	0	0	-	1	1	-	1	1
101	-	0	0	-	0	0	-	0	0	-	1	1	-	1	1
102	-	0	0	-	1	1	-	0	0	-	2	2	-	0	0
103	-	0	0	-	-	-	-	2	2	-	0	0	-	1	1
104	-	0	0	-	-	-	-	0	0	-	1	1	-	0	0
105	-	0	0	-	-	-	-	0	0	-	1	1	-	1	1
106	-	0	0	-	-	-	-	1	1	-	-	-	-	0	0
107	-	0	0	-	-	-	-	1	1	-	-	-	-	1	1
108	-	0	0	-	-	-	-	-	-	-	-	-	-	0	0
109	-	1	1	-	-	-	-	-	-	-	-	-	-	0	0
110	-	0	0	-	-	-	-	-	-	-	-	-	-	1	1
111	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
112	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
113	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
114	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
115	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
116	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Total	2	8	10	1	3	4	1	9	10	2	12	14	0	15	15



Appendix Table 1 (cont'd)

Total length (cm)	Haul no.					
	62			Total		
	M	F	T	M	F	T
50	-	-	-	-	-	-
51	-	-	-	-	-	-
52	-	-	-	1	-	1
53	-	-	-	0	-	0
54	-	-	-	0	-	0
55	-	-	-	0	-	0
56	-	-	-	0	-	0
57	-	-	-	0	2	2
58	-	-	-	1	0	1
59	-	-	-	0	0	0
60	-	-	-	0	0	0
61	-	-	-	0	2	2
62	-	-	-	0	2	2
63	-	-	-	0	0	0
64	-	-	-	0	0	0
65	-	-	-	0	1	1
66	-	-	-	0	0	0
67	-	-	-	2	0	2
68	-	-	-	0	1	1
69	-	-	-	1	1	2
70	-	-	-	0	2	2
71	-	-	-	1	1	2
72	-	-	-	1	3	4
73	-	-	-	1	0	1
74	-	-	-	0	0	0
75	-	-	-	0	0	0
76	-	-	-	0	0	0
77	-	-	-	0	0	0
78	-	-	-	3	0	3
79	-	-	-	0	2	2
80	-	-	-	0	2	2
81	-	-	-	0	2	2
82	-	-	-	1	1	2
83	-	-	-	2	2	4
84	-	-	-	-	0	0
85	-	-	-	-	0	0
86	-	-	-	-	2	2
87	-	-	-	-	0	0
88	-	-	-	-	1	1
89	-	-	-	-	0	0

Appendix Table 1 (cont'd)

Total length (cm)	Haul no.					
	62			Total		
	M	F	T	M	F	T
90	-	-	-	-	2	2
91	-	-	-	-	0	0
92	-	-	-	-	1	1
93	-	-	-	-	1	1
94	-	-	-	-	0	0
95	-	-	-	-	2	2
96	-	-	-	-	2	2
97	-	1	1	-	3	3
98	-	0	0	-	2	2
99	-	0	0	-	1	1
100	-	0	0	-	6	6
101	-	1	1	-	3	3
102	-	-	-	-	5	5
103	-	-	-	-	6	6
104	-	-	-	-	3	3
105	-	-	-	-	3	3
106	-	-	-	-	1	1
107	-	-	-	-	2	2
108	-	-	-	-	0	0
109	-	-	-	-	1	1
110	-	-	-	-	2	2
111	-	-	-	-	2	2
112	-	-	-	-	1	1
113	-	-	-	-	0	0
114	-	-	-	-	0	0
115	-	-	-	-	0	0
116	-	-	-	-	1	1
<b>Total</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>14</b>	<b>77</b>	<b>91</b>

Appendix Table 2. Size composition of Eulachons (Thaleichthys pacificus), numbers sampled, by haul for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.						Grand Total
	8	11	12	16	19	34	
7	-	-	-	1	-	-	1
8	-	-	-	6	1	-	7
9	-	-	-	13	2	-	15
10	-	-	-	6	3	-	9
11	-	-	-	14	2	-	16
12	-	-	-	59	18	-	77
13	1	4	1	75	27	4	112
14	3	11	5	29	19	21	88
15	10	12	14	14	17	34	101
16	19	22	19	4	13	33	110
17	27	22	24	-	10	16	99
18	19	8	29	-	6	3	65
19	-	1	8	-	1	1	11
Total	79	80	100	221	119	112	711

Appendix Table 3. Size composition of Pacific cod (*Gadus macrocephalus*) numbers sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.														
	41			42			43			59			60		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
24	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
25	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
26	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
27	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
28	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
29	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
30	-	-	-	-	-	-	-	1	1	-	-	-	0	-	0
31	-	-	-	-	-	-	3	1	4	-	-	-	1	-	1
32	-	-	-	-	-	-	1	1	2	-	1	1	2	-	2
33	-	-	-	-	-	-	0	3	3	-	0	0	2	1	3
34	-	-	-	-	1	1	3	7	10	-	0	0	0	5	5
35	1	-	1	-	0	0	4	7	11	-	0	0	1	0	1
36	0	-	0	-	0	0	8	6	14	-	1	1	1	1	2
37	0	2	2	-	0	0	6	4	10	-	0	0	0	0	0
38	2	0	2	-	0	0	6	7	13	1	0	1	0	0	0
39	1	0	1	-	0	0	5	3	8	0	0	0	0	1	1
40	0	0	0	-	0	0	2	1	3	0	0	0	1	1	2
41	0	0	0	-	0	0	4	1	5	0	0	0	0	1	1
42	0	0	0	-	0	0	0	1	1	0	0	0	0	0	0
43	0	0	0	-	0	0	0	0	0	0	0	0	1	0	1
44	1	0	1	-	0	0	0	0	0	0	0	0	0	0	0
45	1	0	1	-	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	-	0	0	1	0	1	0	0	0	0	0	0
47	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0
48	1	0	1	-	0	0	0	0	0	0	0	0	1	0	1
49	1	0	1	-	0	0	0	0	0	0	0	0	0	1	1
50	1	0	1	-	0	0	0	0	0	1	0	1	0	0	0
51	2	0	2	1	0	1	0	1	1	0	1	1	2	1	3
52	0	0	0	0	0	0	0	2	2	0	0	0	0	1	1
53	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
54	2	0	2	1	0	1	0	0	0	0	1	1	1	0	1
55	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1
56	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
57	0	0	0	2	0	2	0	1	1	0	0	0	1	1	2
58	0	1	1	-	0	0	0	0	0	0	0	0	2	1	3
59	1	0	1	-	0	0	1	1	2	0	0	0	1	1	2

Appendix Table 3 (cont'd)

Fork length (cm)	Tow no.														
	41			42			43			59			60		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
60	1	0	1	-	0	0	1	2	3	0	1	1	1	2	3
61	0	0	0	-	0	0	5	1	6	1	0	1	1	2	3
62	3	0	3	-	0	0	1	4	5	0	1	1	4	1	5
63	0	0	0	-	0	0	5	1	6	1	0	1	3	1	4
64	0	1	1	-	0	0	4	4	8	0	0	0	1	1	2
65	0	1	1	-	1	1	5	4	9	0	0	0	0	2	2
66	0	0	0	-	0	0	2	6	8	0	0	0	2	1	3
67	1	0	1	-	0	0	4	4	8	0	1	1	2	1	3
68	0	0	0	-	0	0	2	1	3	0	-	0	0	3	3
69	0	0	0	-	0	0	4	2	6	1	-	1	0	1	1
70	0	0	0	-	0	0	2	6	8	0	-	0	0	1	1
71	1	0	1	-	0	0	4	6	10	0	-	0	0	0	0
72	0	0	0	-	0	0	0	3	3	0	-	0	1	0	1
73	1	0	1	-	1	1	4	2	6	0	-	0	0	2	2
74	-	0	0	-	0	0	1	1	2	0	-	0	0	3	3
75	-	1	1	-	0	0	0	2	2	0	-	0	0	1	1
76	-	0	0	-	0	0	2	4	6	0	-	0	0	0	0
77	-	0	0	-	0	0	-	2	2	1	-	1	0	0	0
78	-	0	0	-	0	0	-	1	1	0	-	0	1	0	1
79	-	0	0	-	0	0	-	0	0	0	-	0	-	1	1
80	-	1	1	-	0	0	-	1	1	0	-	0	-	0	0
81	-	0	0	-	1	1	-	-	-	1	-	1	-	0	0
82	-	0	0	-	-	-	-	-	-	-	-	-	-	0	0
83	-	0	0	-	-	-	-	-	-	-	-	-	-	1	1
84	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
85	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	21	8	29	4	4	8	91	106	197	8	7	15	36	40	76

Appendix Table 3 (cont'd)

Fork length (cm)	Tow no.					
	61			Total		
	M	F	T	M	F	T
20	-	-	-	-	-	-
21	-	-	-	-	-	-
22	-	-	-	-	-	-
23	-	-	-	1	-	1
24	-	-	-	0	-	0
25	-	-	-	0	-	0
26	1	-	1	1	-	1
27	0	-	0	0	-	0
28	0	-	0	0	-	0
29	0	1	1	0	1	1
30	1	0	1	1	1	2
31	2	1	3	6	2	8
32	2	5	7	5	7	12
33	1	1	2	3	5	8
34	7	5	12	10	18	28
35	7	4	11	13	11	24
36	4	12	16	13	20	33
37	4	3	7	10	9	19
38	5	8	13	14	15	29
39	1	2	3	7	6	13
40	3	2	5	6	4	10
41	0	2	2	4	4	8
42	0	1	1	0	2	2
43	1	0	1	2	0	2
44	0	0	0	1	0	1
45	1	0	1	2	0	2
46	0	0	0	1	0	1
47	0	0	0	0	0	0
48	0	1	1	2	1	3
49	0	1	1	1	2	3
50	0	0	0	2	0	2
51	1	2	3	6	5	11
52	1	1	2	1	4	5
53	2	1	3	2	2	4
54	2	0	2	6	1	7
55	3	3	6	5	3	8
56	1	0	1	3	0	3
57	3	0	3	6	2	8
58	5	1	6	7	3	10
59	1	3	4	4	5	9

Appendix Table 3 (cont'd)

Fork length (cm)	Tow no.					
	61			Total		
	M	F	T	M	F	T
60	2	1	3	5	6	11
61	2	2	4	9	5	14
62	3	1	4	11	7	18
63	2	1	3	11	3	14
64	2	0	2	7	6	13
65	1	1	2	6	9	15
66	2	2	4	6	9	15
67	0	1	1	7	7	14
68	0	0	0	2	4	6
69	0	0	0	5	3	8
70	1	1	2	3	8	11
71	-	1	1	5	7	12
72	-	1	1	1	4	5
73	-	0	0	5	5	10
74	-	1	1	1	5	6
75	-	1	1	0	5	5
76	-	0	0	2	4	6
77	-	0	0	1	2	3
78	-	0	0	1	1	2
79	-	0	0	0	1	1
80	-	0	0	0	2	2
81	-	1	1	1	2	3
82	-	1	1	-	1	1
83	-	0	0	-	1	1
84	-	1	1	-	1	1
85	-	-	-	-	1	1
86	-	-	-	-	-	-
87	-	-	-	-	-	-
88	-	-	-	-	-	-
89	-	-	-	-	-	-
90	-	-	-	-	-	-
Total	74	77	151	234	242	476

Appendix Table 4. Size composition of pacific halibut (Hippoglossus stenolopis) numbers sampled, by haul, by sex, for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Haul no.						Grand total
	1		60		62		
	M	F	M	F	M	F	
53	-	-	-	-	1	-	1
54	-	-	-	-	-	-	0
55	-	-	-	-	-	-	0
56	-	-	-	-	-	-	0
57	-	-	3	-	-	-	3
58	-	-	1	-	-	-	1
59	-	-	0	-	-	-	0
60	-	-	0	-	-	-	0
61	-	-	1	-	-	-	1
62	-	-	1	-	-	-	1
63	-	-	0	-	-	-	0
64	-	-	2	-	-	-	2
65	-	-	0	-	-	-	0
66	-	-	0	-	-	-	0
67	-	-	0	-	-	-	0
68	-	-	3	1	1	-	5
69	-	-	0	-	-	-	0
70	-	-	0	-	-	-	0
71	-	-	0	-	1	-	1
72	-	-	0	-	1	-	1
73	-	-	0	-	-	-	0
74	-	-	1	-	-	-	1
75	-	-	0	-	-	-	0
76	-	-	0	-	-	-	0
77	-	-	0	-	-	-	0
78	-	-	1	-	-	-	1
79	-	-	0	-	-	-	0
80	-	-	0	-	-	-	0
81	-	-	0	-	1	-	1
82	-	-	0	-	1	-	1
83	-	-	0	-	-	-	0
84	-	-	2	-	-	-	2
85	-	-	-	-	-	-	0
86	-	1	-	-	1	-	2
87	-	-	-	-	-	-	0
88	-	-	-	-	-	-	0
89	1	-	-	-	-	-	1
90	-	-	-	-	-	-	-



Appendix Table 4 (cont'd)

Fork length (cm)	Haul no.						Grand total
	1		60		62		
	M	F	M	F	M	F	
91	-	-	-	-	-	-	-
92	-	-	-	-	-	-	-
93	-	-	-	-	-	-	-
94	-	-	-	-	-	-	-
95	-	-	-	-	-	-	-
96	-	-	-	-	-	-	-
97	-	-	-	-	-	-	-
98	-	-	-	-	-	-	-
99	-	-	-	-	-	-	-
100	-	-	-	-	-	-	-
101	-	-	-	-	-	-	-
102	-	-	-	-	-	-	-
103	-	-	-	-	-	-	-
104	-	1	-	-	-	-	1
Total	1	2	15	1	7	0	26

Appendix Table 5. Size composition of lingcod (*Ophiodon elongatus*) numbers sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Haul no.		
	62		
	M	F	T
79	1	-	1
85	1	-	1
94	-	1	1
Total	2	1	3

Appendix Table 6. Size composition of walleye pollock (*Theragra chalcogramma*), numbers sampled, by haul, by sex, for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Haul no.									
	6		8		10		11		13	
	M	F	M	F	M	F	M	F	M	F
4	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-
19	6	1	2	-	-	-	-	2	-	-
20	6	5	0	2	-	-	-	1	-	-
21	7	4	1	3	-	-	-	-	-	-
22	3	1	1	-	-	-	1	1	-	-
23	1	2	-	-	-	-	-	-	-	-
24	-	1	-	-	-	-	2	-	-	-
25	-	1	-	1	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	-	-	-	-
34	-	-	1	-	-	-	1	-	-	-
35	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	1	-
37	-	-	-	1	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	-	-	-	1
40	-	-	1	-	-	-	2	-	-	-
41	-	-	1	-	-	-	2	1	-	-
42	-	-	1	-	-	-	-	-	1	-
43	-	-	1	-	1	-	-	2	-	-
44	-	-	6	-	4	-	1	-	-	-
45	-	-	3	2	4	1	2	6	-	1
46	-	-	7	8	2	0	4	0	-	1
47	-	-	5	5	3	2	2	3	-	1
48	-	-	3	4	3	4	3	5	1	-
49	-	-	5	6	4	9	5	8	6	2
50	-	-	3	9	10	5	6	6	2	1
51	-	-	8	7	14	7	15	8	1	3
52	-	-	5	7	16	15	13	10	5	5

Appendix Table 6 (cont'd)

Fork length (cm)	Haul no.									
	6		8		10		11		13	
	M	F	M	F	M	F	M	F	M	F
53	-	-	14	6	10	16	15	16	6	5
54	-	-	8	8	16	17	8	23	3	7
55	-	-	7	19	12	17	9	30	5	4
56	-	-	6	4	8	16	4	17	6	5
57	-	-	2	4	1	18	2	17	8	13
58	-	-	3	9	2	10	2	8	5	8
59	-	-	1	6	3	13	-	5	4	8
60	-	-	-	4	-	3	-	4	2	9
61	-	-	-	4	-	3	-	7	1	10
62	-	-	-	1	-	1	-	2	4	3
63	-	-	-	1	-	3	-	2	-	1
64	-	-	-	1	-	-	-	-	-	-
65	-	-	-	1	-	-	-	1	-	3
66	-	-	-	-	-	-	-	-	-	2
67	-	-	-	-	-	-	-	-	-	1
68	-	-	-	-	-	-	-	-	-	-
Total	23	15	95	123	113	160	99	185	61	94

Appendix Table 6 (cont'd)

Fork length (cm)	Haul no.									
	18		21		26		32		33	
	M	F	M	F	M	F	M	F	M	F
4	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-
20	-	-	1	1	-	-	-	-	-	-
21	-	-	4	2	-	-	-	-	-	-
22	1	-	3	1	-	-	-	-	-	-
23	-	-	2	-	-	-	-	-	-	-
24	-	2	3	1	-	-	-	-	-	-
25	1	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-
33	1	-	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-	-	-
35	1	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-
37	-	-	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-
39	-	-	-	-	-	1	-	-	-	-
40	2	1	-	-	-	-	-	-	-	-
41	1	-	-	-	-	-	-	-	-	-
42	3	1	1	-	-	1	-	-	-	-
43	5	1	-	-	-	-	-	-	-	-
44	6	1	-	-	-	1	-	-	1	-
45	5	2	-	1	-	2	-	2	1	-
46	7	4	1	-	1	1	1	-	2	-
47	7	3	2	-	-	-	-	-	1	3
48	9	1	1	-	1	-	1	-	7	2
49	7	7	1	1	-	1	-	1	8	4
50	22	6	3	1	2	-	-	1	17	5
51	19	4	12	4	3	1	1	2	13	9
52	17	11	10	4	10	-	2	3	20	12

Appendix Table 6 (cont'd)

Fork length (cm)	Haul no.									
	18		21		26		32		33	
	M	F	M	F	M	F	M	F	M	F
53	17	8	9	3	5	4	2	1	21	14
54	18	15	11	8	14	8	1	5	13	21
55	8	19	5	7	10	12	-	5	4	18
56	4	20	4	4	13	10	-	5	5	9
57	2	8	1	5	6	19	-	6	1	12
58	2	8	-	4	8	22	-	2	-	6
59	-	6	1	3	3	10	-	6	-	2
60	-	-	2	2	3	11	-	3	-	2
61	-	1	-	1	1	8	-	1	-	1
62	-	1	-	2	2	4	-	2	-	-
63	-	1	-	-	1	2	-	-	-	-
64	-	-	-	-	-	1	-	-	-	-
65	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-
67	-	-	-	-	-	-	-	-	-	-
68	-	-	-	-	1	-	-	-	-	-
Total	165	131	77	55	84	119	8	45	114	120

Appendix Table 6 (cont'd)

Fork length (cm)	Haul no.									
	37		38		40		48		50	
	M	F	M	F	M	F	Mixed	Sex	M	F
4	-	-	-	-	-	-	-	6	-	-
5	-	-	-	-	-	-	-	14	-	-
6	-	-	-	-	-	-	-	2	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-
36	-	-	1	-	-	-	-	-	-	-
37	-	-	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-
39	1	-	-	-	-	-	-	-	-	-
40	1	-	-	-	-	-	-	-	-	-
41	5	1	-	-	1	-	-	-	-	-
42	7	4	1	1	-	-	-	-	-	-
43	14	1	3	2	1	-	-	-	-	-
44	20	7	4	3	4	-	-	-	-	-
45	21	8	1	2	9	1	-	-	-	-
46	15	5	2	2	9	1	-	-	1	-
47	16	5	3	3	4	2	-	-	1	1
48	21	7	7	4	2	3	-	-	1	-
49	11	6	8	4	5	2	-	-	1	3
50	26	10	15	7	10	1	-	-	4	4
51	18	7	20	6	10	5	-	-	1	4
52	8	3	19	5	11	2	-	-	2	3

Appendix Table 6 (cont'd)

Fork length (cm)	Haul no.									
	37		38		40		48	50		
	M	F	M	F	M	F	Mixed Sex	M	F	
53	17	6	17	6	10	6	-	4	10	
54	21	9	11	2	4	5	-	6	6	
55	8	6	12	7	9	3	-	1	6	
56	4	8	7	8	7	3	-	1	8	
57	6	8	2	5	2	3	-	-	7	
58	1	-	1	2	2	2	-	-	2	
59	-	2	-	1	1	4	-	-	5	
60	1	1	-	1	-	1	-	-	3	
61	-	1	1	-	-	-	-	-	1	
62	-	1	-	-	-	-	-	-	-	
63	-	-	-	-	-	-	-	-	-	
64	-	-	-	-	-	-	-	-	-	
65	-	-	-	-	-	-	-	-	-	
66	-	-	-	-	-	-	-	-	-	
67	-	-	-	-	-	-	-	-	-	
68	-	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>242</b>	<b>106</b>	<b>135</b>	<b>71</b>	<b>101</b>	<b>44</b>	<b>22</b>	<b>23</b>	<b>63</b>	



Appendix Table 6 (cont'd)

Fork length (cm)	Haul no.									Grand total
	52		59		60			61		
	M	F	M	F	M	F	I	M	F	
4	-	-	-	-	-	-	-	-	-	6
5	-	-	-	-	-	-	-	-	-	14
6	-	-	-	-	-	-	-	-	-	2
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	2	-	-	2
19	-	-	-	-	-	1	2	-	-	14
20	-	-	-	-	0	0	2	-	-	18
21	-	-	-	-	1	1	3	2	-	28
22	-	-	-	-	-	2	-	-	2	16
23	-	-	-	-	-	-	-	2	-	7
24	-	-	-	-	-	-	-	1	2	12
25	-	-	-	-	-	-	-	2	3	8
26	-	-	-	-	-	-	-	1	1	2
27	-	-	-	-	-	-	-	3	1	4
28	-	-	-	-	-	-	-	1	1	2
29	-	-	-	-	-	-	-	1	-	1
30	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	-	2	1	4
34	-	-	-	-	-	-	-	4	2	8
35	-	-	-	-	-	-	-	3	2	6
36	-	-	-	-	-	-	-	5	-	7
37	-	-	-	-	-	-	-	9	2	12
38	-	-	-	-	1	2	-	6	4	13
39	-	-	-	-	-	-	-	12	7	22
40	-	-	1	-	1	1	-	9	2	21
41	-	-	-	-	1	2	-	15	7	37
42	-	-	-	-	1	?	-	10	5	39
43	-	-	-	-	1	-	-	14	8	54
44	-	-	1	-	1	-	-	13	4	77
45	-	-	-	-	1	-	-	13	5	93
46	-	-	-	-	3	1	-	6	5	89
47	-	-	1	-	1	-	-	6	2	82
48	-	1	-	-	1	2	-	8	4	106
49	-	-	-	-	3	-	-	2	2	122
50	1	2	1	-	2	-	-	3	-	185
51	2	1	2	-	4	1	-	6	-	218
52	1	1	2	-	1	2	-	9	1	235

Appendix Table 6 (cont'd)

Fork length (cm)	Haul no.										Grand total
	52		59		60			61			
	M	F	M	F	M	F	I	M	F		
53	-	2	4	4	5	6	-	14	1	284	
54	1	3	3	2	6	8	-	15	4	310	
55	1	5	4	4	8	4	-	7	3	279	
56	1	3	2	7	3	6	-	4	7	219	
57	1	8	4	3	6	5	-	1	6	192	
58	-	5	2	5	-	7	-	3	7	138	
59	-	4	-	10	1	13	-	-	3	115	
60	-	2	1	5	1	6	-	1	4	72	
61	-	-	-	4	-	6	-	-	3	54	
62	-	1	-	6	-	5	-	-	1	36	
63	-	-	-	-	-	1	-	-	2	14	
64	-	-	-	2	-	-	-	-	2	6	
65	-	-	1	-	-	1	-	-	-	7	
66	-	-	-	-	-	-	-	-	-	2	
67	-	-	-	-	-	-	-	-	-	1	
68	-	-	-	1	-	-	-	-	-	2	
<b>Total</b>	<b>8</b>	<b>38</b>	<b>29</b>	<b>53</b>	<b>53</b>	<b>85</b>	<b>9</b>	<b>213</b>	<b>116</b>	<b>3297</b>	

Appendix Table 7. Size composition of sablefish (*Anoplopoma fimbria*) numbers sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.						Grand total
	60			61			
	M	F	T	M	F	T	
31	-	-	1	-	-	0	1
32	-	-	2	-	-	0	2
33	-	-	5	-	-	0	5
34	-	-	8	-	-	0	8
35	-	-	17	-	-	3	20
36	-	-	23	-	-	4	27
37	-	-	21	-	-	2	23
38	-	-	12	-	-	6	18
39	-	-	6	-	-	4	10
40	-	-	5	-	-	5	10
41	-	-	1	-	-	3	4
42	-	-	0	-	-	0	0
43	-	-	1	-	-	0	1
<b>Total</b>	-	-	102	-	-	27	129

Appendix Table 8. Size composition of chinook salmon (*Oncorhynchus tshawytscha*) numbers sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Time	Date	Tow no.	Length (cm)	Sex	Wt. (kg)	Stomach contents
		3	41.0	M	-	-
		6	75.0	F	-	-
		11	20.0	M	.089	empty
		13	22.0	M		2 cc euphausiids
			20.0	M		empty
			25.0	M		1 cc digested fish
		15	49.0	M	1.600	empty
		16	76.0	F	7.000	1 eulachon (17 cm)
			69.0	M	4.500	45 cc dig. eulachons
		17	47.0	M	1.800	eulachons
		21	45.0	M	1.600	empty
		36	48.5	F	6.800	euphausiids
			50.0	F		euphausiids
			49.0	M		euphausiids
			46.0	F		euphausiids
			49.0	F		euphausiids
Total		9	16			

Appendix Table 9. Size composition of Pacific ocean perch, (*Sebastes alutus*) numbers sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.			
	11			
	M	F	U	T
40	3	-	-	3
414	3	-	-	3
42	0	-	1	1
43	1	-	1	2
44	-	1	1	2
45	-	-	1	1
Total	7	1	4	12

U - unidentified sex

Appendix Table 10. Size composition of red-banded rockfish (Sebastes babcocki) numbers sampled by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.		
	44		
	M	F	T
36	-	1	-
37	-	-	-
38	-	-	-
39	-	-	-
40	-	-	-
41	-	-	-
42	-	-	-
43	-	-	-
44	0	1	1
45	0	1	1
46	0	2	2
47	2	0	2
48	1	1	2
49	0	0	0
50	1	1	2
51	2	0	2
52	0	0	0
53	0	1	1
Total	6	7	13

Appendix Table 11. Size composition of silvergray rockfish (Sebastes brevispinis) numbers sampled by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

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Fork length (cm)	47			61		
	M	F	T	M	F	T
39	-	-	-	1	1	2
40	-	-	-	0	0	0
41	-	-	-	1	0	1
42	-	-	-	2	2	4
43	-	1	1	1	0	1
44	-	0	0	0	2	-
45	-	0	0	0	-	-
46	-	0	0	0	-	-
47	-	0	0	1	-	-
48	-	0	0	-	-	-
49	-	0	0	-	-	-
50	-	0	0	-	-	-
51	-	0	0	-	-	-
52	-	0	0	-	-	-
53	2	0	2	-	-	-
54	2	0	2	-	-	-
55	2	0	2	-	-	-
56	3	0	3	-	-	-
57	0	1	1	-	-	-
58	2	0	2	-	-	-
59	-	1	1	-	-	-
60	-	1	1	-	-	-
Total	11	4	15	6	5	11

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Appendix Table 12. Size composition of widow rockfish (*Sebastes entomelas*) number sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.		
	52		
	M	F	T
52	-	1	1
53	1	0	1
54	0	0	0
55	1	0	1
56	2	0	2
57	1	0	1
58	2	0	2
59	0	0	0
60	1	0	1
61	-	0	0
62	-	0	0
63	-	0	0
64	-	0	0
65	-	0	0
66	-	0	0
67	-	1	1
68	-	1	1
Total	8	3	11



Appendix Table 13. Size composition of yellowtail rockfish (*Sebastes flavidus*) numbers sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.														
	8			9			10			13			26		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
37	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
38	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0
39	3	1	4	1	1	2	-	-	-	-	-	-	0	1	1
40	0	0	0	2	2	4	-	-	-	-	-	-	0	-	0
41	0	1	1	1	1	2	1	-	1	-	-	-	1	-	1
42	0	0	0	0	0	0	0	-	0	-	-	-	0	-	0
43	1	0	1	1	0	1	0	-	0	2	-	2	0	-	0
44	2	0	2	4	1	5	0	-	0	0	-	0	0	-	0
45	5	0	5	6	1	7	0	-	0	3	1	4	1	-	1
46	4	0	4	9	0	9	0	-	0	8	1	9	1	-	1
47	5	3	8	7	1	8	2	1	3	8	0	8	0	-	0
48	3	3	6	5	0	5	0	0	0	7	0	7	1	-	1
49	3	1	4	1	1	2	2	1	3	1	1	2	0	-	0
50	0	2	2	1	0	1	-	3	3	1	0	1	0	-	0
51	0	1	1	0	1	1	-	0	0	0	1	1	1	-	1
52	1	1	2	0	1	1	-	0	0	0	1	1	1	-	1
53	-	-	-	0	1	1	-	0	0	1	1	2	-	-	-
54	-	-	-	1	-	1	-	0	0	-	-	-	-	-	-
55	-	-	-	-	-	-	-	0	0	-	-	-	-	-	-
56	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	27	13	40	39	11	50	5	6	11	31	6	37	7	1	8

Appendix Table 13 (cont'd)

Fork length (cm)	Tow no.					Grand total
	48			Total		
	M	F	T	M	F	
30	-	-	-	-	-	-
31	-	-	-	-	-	-
32	-	-	-	-	-	-
33	-	-	-	-	-	-
34	-	-	-	-	-	-
35	-	-	-	-	-	-
36	-	-	-	1	-	1
37	-	-	-	0	-	0
38	-	-	-	0	-	0
39	-	-	-	4	3	7
40	-	-	-	2	2	4
41	-	-	-	3	2	5
42	-	-	-	0	0	0
43	1	-	1	5	0	5
44	1	2	3	7	3	10
45	2	2	4	17	4	21
46	4	4	8	26	5	31
47	9	4	13	31	9	40
48	15	5	20	31	8	39
49	11	5	16	18	9	27
50	10	4	14	12	9	21
51	6	2	8	7	5	12
52	1	5	6	3	8	11
53	-	4	4	1	6	7
54	-	0	0	1	0	1
55	-	1	1	-	1	1
56	-	-	-	-	1	1
57	-	-	-	-	-	-
58	-	-	-	-	-	-
59	-	-	-	-	-	-
60	-	-	-	-	-	-
61	-	-	-	-	-	-
62	-	-	-	-	-	-
63	-	-	-	-	-	-
64	-	-	-	-	-	-
Total	60	38	98	169	75	244

Appendix Table 14. Size composition of quill-back rockfish (Sebastes maliger) numbers sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.		
	1		
	M	F	T
40	-	1	1
41	-	1	1
42	-	3	3
43	5	0	5
44	2	1	3
45	0	-	0
46	1	-	1
Total	8	6	14

Appendix Table 15. Size composition of dover sole (Microstomus pacificus) numbers sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.		
	44		
	M	F	T
35	1	-	1
36	0	-	0
37	3	-	3
38	3	-	3
39	1	1	2
40	2	1	3
41	3	0	3
42	9	0	9
43	4	0	4
44	3	1	4
45	7	0	7
46	2	0	2
47	2	1	3
48	5	0	5
49	2	0	2
50	2	0	2
51	0	1	1
52	1	1	2
53	-	0	0
54	-	0	0
55	-	1	1
56	-	1	1
57	-	1	1
Total	50	9	59

Appendix Table 16. Size composition of English sole (Parophrys vetulus) numbers sampled, by haul, by sex, for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.		
	41		
	M	F	T
41	2	4	6
42	2	2	4
43	1	4	5
44	8	4	12
45	3	4	7
46	2	2	4
47	4	4	8
48	2	2	4
49	4	3	7
50	2	2	4
51	1	1	2
52	0	2	2
Total	31	34	65

Appendix Table 17. Size composition of rock sole (*Lepidopsetta bilineata*) numbers sampled, by haul, by sex for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Fork length (cm)	Tow no.							Grand total
	1			2				
	M	F	T	M	F	I	T	
20	-	-	-	1	-	-	1	1
21	-	-	-	0	-	2	2	2
22	-	-	-	0	-	2	2	2
23	1	3	4	1	-	4	5	9
24	1	0	1	0	-	9	9	10
25	0	0	0	1	2	12	15	15
26	7	1	8	6	3	16	25	33
27	8	3	11	11	5	8	24	35
28	4	0	4	17	7	9	33	37
29	3	2	5	15	11	4	30	35
30	0	2	2	13	12	2	27	29
31	3	1	4	5	6	1	12	16
32	1	1	2	6	16	-	22	24
33	0	2	2	12	10	-	22	24
34	2	1	3	8	10	-	18	21
35	1	1	2	4	9	-	13	15
36	0	1	1	4	10	-	14	15
37	1	0	1	6	10	-	16	17
38	0	1	1	5	6	-	11	12
39	1	1	2	2	4	-	6	8
40	-	0	0	2	8	-	10	10
41	-	1	1	0	6	-	6	7
42	-	2	2	1	2	-	3	5
43	-	-	-	0	6	-	6	6
44	-	-	-	1	2	-	3	3
45	-	-	-	-	2	-	2	2
46	-	-	-	-	1	-	1	1
47	-	-	-	-	1	-	1	1
48	-	-	-	-	0	-	0	0
49	-	-	-	-	0	-	0	0
50	-	-	-	-	0	-	0	0
51	-	-	-	-	1	-	1	1
Total	33	23	56	121	150	69	340	396

Appendix Table 18. Size composition of herring (Clupea harengus pallasii) numbers sampled by haul for M/V NEMESIS cruise N 78-1, July 5-23, 1978.

Hypural * length frequency. (mm)	Haul no.					
	4		6		7	
	M	F	M	F	M	F
144-146	-	-	-	-	1	-
147-149	-	-	-	-	0	-
150-152	-	-	-	-	0	-
153-155	-	-	-	-	0	-
156-158	-	-	-	-	0	-
159-161	-	-	-	-	0	-
162-164	-	-	-	-	0	-
165-167	-	-	-	-	0	-
168-170	-	-	-	-	0	-
171-173	-	-	-	-	0	-
174-176	-	-	-	-	0	-
177-179	-	-	-	-	0	-
180-182	1	-	-	-	0	-
183-185	0	1	1	-	0	-
186-188	0	0	0	0	1	-
189-191	0	0	0	0	0	-
192-194	1	0	0	0	0	-
195-197	0	2	0	0	1	-
198-200	1	1	0	1	0	-
201-203	1	0	1	0	1	1
204-206	5	0	1	1	3	0
207-209	2	0	3	0	1	0
210-212	1	2	5	1	3	1
213-215	1	2	3	6	0	1
216-218	0	1	2	4	2	0
219-221	3	4	0	3	4	1
222-224	2	3	2	1	5	2
225-227	2	2	6	8	3	3
228-230	4	4	4	3	4	1
231-233	3	4	3	4	4	2
234-236	2	0	2	3	4	2
237-239	1	2	2	3	5	2
240-242	3	3	6	4	5	2
243-245	1	4	0	3	5	0
246-248	3	0	3	2	2	0
249-251	2	2	1	2	1	0
252-254	1	1	0	0	2	0
255-257	-	3	0	1	1	1
258-260	-	0	0	0	0	1

Appendix Table 18 (cont'd)

Length frequency (mm)	Haul no.					
	4		6		7	
	M	F	M	F	M	F
261-263	-	0	1	2	1	1
264-266	-	1	0	1	0	1
267-269	-	-	0	1	0	-
270-272	-	-	-	-	0	-
273-275	-	-	-	-	1	-
Total	40	42	46	54	60	22

\*Length measured to the end of silver area of caudal peduncle.



Appendix Table 19.

VESSEL: M/V NEMESIS DATE: 78 07 06 Yr Mo Day SET/HAUL NO: 1  
LOCATION: Cook Bank AREA: Q. C. S.  
START: Lat. 51°03.5' Long. 128°36.0'  
END: Lat. 51°04.5' Long. 128°37.8'  
GEAR: W. C. B. T. #3 START TIME (1159) : 1230 DURATION: 31<sup>min.</sup>  
BOTTOM DEPTH m: Start: 98.8 End: 80.5 Est. Av. Depth: 82.3  
NET DEPTH RANGE m: 98.8-80.5 Est. Av. Depth: 82.3  
DIRECTION OF SET °true: 245°M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: flood  
WIND DIRECTION: 260°M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 1 OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 150 fms. Small 2 fm. schools on bottom.  
SOUNDER SUMMARY:

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VESSEL: M/V NEMESIS DATE: 78 07 07 Yr Mo Day SET/HAUL NO: 2  
LOCATION: Cook Bank AREA: Q. C. S.  
START: Lat. 51°07.2' Long. 128°42.2'  
END: Lat. 51°08.8' Long. 128°41.5'  
GEAR: W. C. B. T. #3 START TIME (1321): 1351 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 82.3 End: 95.1 Est. Av. Depth: 95.1 m.  
NET DEPTH RANGE m: 82.3-95.1 Est. Av. Depth: 95.1 m.  
DIRECTION OF SET °true: 10°M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: flood  
WIND DIRECTION: 260°M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 2 OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Small 2-3 fm. schools on bottom. Warp 150 fms.  
SOUNDER SUMMARY: Net festooned with jellyfish.

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 07 SET/HAUL NO: 3  
LOCATION: Barge Spot AREA: Hecate Straits  
START: Lat. 53°54.5' Long. 130°58.2'  
END: Lat. 53°53.3' Long. 130°57.1'  
GEAR: Danish Midwater START TIME (1255) : 1325 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 87.8 End: 93.3 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE\* m: 20-42 m. Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 125°M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: flood  
WIND DIRECTION: 270° WIND SPEED: 10 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 60 fms. Net mouth 35 m.

SOUNDER SUMMARY: Footrope 0-2½ m. off bottom.

\*Net Depth Range = depth of the headrope of net from the surface.

N 78-1  
Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 07 SET/HAUL NO: 4  
LOCATION: Grenville Rk. AREA: Hecate Straits  
START: Lat. 54°00.5' Long. 131°02.8'  
END: Lat. 53°59.0' Long. 131°02.0  
GEAR: Danish M. W. T. START TIME (1536): 1602 DURATION: 26<sup>min.</sup>  
BOTTOM DEPTH m: Start: 87.8 End: 86.0 Est. Av. Depth: 86.9  
NET DEPTH RANGE m: 80 m. from surface Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 120° T SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.5<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: H. flood  
WIND DIRECTION: 270° WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Small 5 fm. schools on bottom.  
SOUNDER SUMMARY: Poor net sounder picture.

VESSEL: M/V NEMESIS DATE: 78 07 07 Yr Mo Day SET/HAUL NO: 5  
LOCATION: Dixon Entrance AREA: (Bend) Two peaks  
START: Lat. 54°20.8' Long. 131°16.6'  
END: Lat. 54°22.5' Long. 131°14.9'  
GEAR: C. D. #7 START TIME (2014) : 2047 DURATION: 33<sup>min.</sup>  
BOTTOM DEPTH m: Start: 124.4 End: 120.7 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 90-100 Est. Av. Depth: 95  
DIRECTION OF SET °true: \_\_\_\_\_ SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.9<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: Ebb.  
WIND DIRECTION: 270° WIND SPEED: 10 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Net opening 22.5 m. (chains crossed on tow)  
SOUNDER SUMMARY: Footrope 1 - 20 m. off bottom ( $\bar{X}$  = 10 m.).

VESSEL: M/V NEMESIS DATE: 78 07 08 Yr Mo Day SET/HAUL NO: 6  
LOCATION: Dixon Entrance AREA: (Bend) Two peaks  
START: Lat. 54°24.8' Long. 131°11.8'  
END: Lat. 54°25.0' Long. 131°09.0'  
GEAR: C. D. #7 START TIME (0943) : 1013 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 115.2 End: 120.7 Est. Av. Depth: 115.2  
NET DEPTH RANGE m: 80-80 m. SAMLPE Depth: 80-98 m.  
DIRECTION OF SET °true: 60 m SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: Low at 1010 h.  
WIND DIRECTION: 270° WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 100 fms. 18 m. mouth opening  
SOUNDER SUMMARY: Layer (medium density fish 40-50 fathoms).  
Footrope 13 m. off bottom.

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 08 SET/HAUL NO: 7  
LOCATION: Dixon Entrance AREA: (Bend) Two peaks  
START: Lat. 54°24.1' Long. 131°11.5'  
END: Lat. 54°23.8' Long. 131°13.0'  
GEAR: C.D. #7 START TIME (1115) : 1147 DURATION: 32<sup>min.</sup>  
BOTTOM DEPTH m: Start: 84.1 End: 80.5 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 65-60 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 195° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: flood to 1640  
WIND DIRECTION: 270° WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 100 fms. Net opening 17.5 m.  
SOUNDER SUMMARY: Gear towed with chains. Bottom 84.1-80.5 m.  
Footrope 1-2 m. off bottom.

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Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 08 SET/HAUL NO: 8  
LOCATION: Tow Hill AREA: Dixon Entrance  
START: Lat. 54°19.0' Long. 131°20.8'  
END: Lat. 54°19.2' Long. 131°21.0'  
GEAR: C.D. #7 START TIME (1310): 1341 DURATION: 31<sup>min.</sup>  
BOTTOM DEPTH m: Start: 120 End: 120 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 97-99 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 0° M SPEED kn: 3.5 kts. DISTANCE TRAVELLED: \_\_\_\_\_  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: flood to 1640  
WIND DIRECTION: 270° WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 125 fms. Net opening 15.0 m.  
SOUNDER SUMMARY: 900 lbs. chain /wing tip. 30 fm. sweeplines.

VESSEL: M/V NEMESIS DATE: 78 07 08 Yr Mo Day SET/HAUL NO: 9  
LOCATION: S. W. Edge AREA: Dixon Entrance  
START: Lat. 54°18.7' Long. 131°25.0'  
END: Lat. 54°18.3' Long. 131°26.9'  
GEAR: C. D. #7 START TIME (1455) : 1525 DURATION: 30 min.  
BOTTOM DEPTH m: Start: 124.4 End: 124.4 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 100-100 m. Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: 240° M SPEED kn: 3.5 DISTANCE TRAVELLED: 1.2  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: flood to 1640  
WIND DIRECTION: \_\_\_\_\_ WIND SPEED: \_\_\_\_\_ RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 125 fms. Net opening 15-18.0 m.  
SOUNDER SUMMARY: Footrope 2-5 m off bottom. Net festooned with euphausiids and jellyfish.

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VESSEL: M/V NEMESIS DATE: 78 07 08 Yr Mo Day SET/HAUL NO: 10  
LOCATION: S. W. Edge AREA: Dixon Entrance  
START: Lat. 54°18.9' Long. 131°29.0'  
END: Lat. 54°19.9' Long. 131°29.1'  
GEAR: C. D. #7 START TIME (1635): \_\_\_\_\_ DURATION: 30 min.  
BOTTOM DEPTH m: Start: 150 End: 160.9 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 120-130 Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: 330° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_  
SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: flood to 1640  
WIND DIRECTION: 270° W WIND SPEED: 15 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 125 fms. Net opening 17.5-20.0 m.  
SOUNDER SUMMARY: Footrope towed 15.0 m. off bottom. Eulachons in web of net gilled.

VESSEL: M/V NEMESIS DATE: 78 07 09 Yr Mo Day SET/HAUL NO: 11  
LOCATION: S.W. Edge AREA: Dixon Entrance  
START: Lat. 54°18.1' Long. 131°34.4'  
END: Lat. 54°18.2' Long. 131°31.8'  
GEAR: C.D. #7 START TIME (0837) ; 0910 DURATION: 33<sup>min.</sup>  
BOTTOM DEPTH m: Start: 151.8 End: 151.8 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 120<sup>+</sup>-120 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 60°M SPEED kn: 3.5 DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: Bottom layer WATER CONDITION: ripple TIDE: low water 1050  
WIND DIRECTION: 290° M WIND SPEED: 10 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 14 OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 150 fms. Net opening 17.5m., 52.5 F.  
SOUNDER SUMMARY: Footrope 5.0<sup>+</sup> off bottom. P.O.P. caught, net not closer than 5 m. to bottom.

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VESSEL: M/V NEMESIS DATE: 78 07 09 Yr Mo Day SET/HAUL NO: 12  
LOCATION: S.W. Edge AREA: Dixon Entrance  
START: Lat. 54°17.0' Long. 131°33.0'  
END: Lat. 54°16.8' Long. 131°34.0'  
GEAR: C.D. #7 MWT START TIME (0947) : 1017 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 139 End: 133.5 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 60-60 109.7 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 250° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.0<sup>mi.</sup>  
SET ON: Top layer WATER CONDITION: ripple TIDE: low water 1050  
WIND DIRECTION: 290° M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 15 OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 75 fms. Net opening 18.0 m.  
SOUNDER SUMMARY: Footrope 30 m. off bottom. Net festooned with euphausiids.

VESSEL: M/V NEMESIS DATE: 78 07 09 Yr Mo Day SET/HAUL NO: 13  
LOCATION: S.W. Edge AREA: Dixon Entrance  
START: Lat. 54°15.8' Long. 131°37.0'  
END: Lat. 54°16.8' Long. 131°35.0'  
GEAR: C.D. #7 MWT START TIME (1110) : 1140 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 128 End: 113.4 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 90-100 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 70° M SPEED kn: 2.8 DISTANCE TRAVELLED: 1.4<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: slack  
WIND DIRECTION: 290° M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 16 OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 105 add 25 fms. 1120 hr. Net opening 19.5 m.  
SOUNDER SUMMARY: Chain came up shiny. Footrope 5 m. off bottom.  
6 large red jellyfish. Net full of euphausiids.

VESSEL: M/V NEMESIS DATE: 78 07 09 Yr Mo Day SET/HAUL NO: 14  
LOCATION: S.W. Edge AREA: Dixon Entrance  
START: Lat. 54°23.0' Long. 131°37.8'  
END: Lat. 54°22.7' Long. 131°33.3'  
GEAR: C.D. #7 MWT START TIME (1251): 1321 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 190.2 End: 201.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 85-100 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 60° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 2.8?<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: highwater 1700  
WIND DIRECTION: 290° M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 52.9° F  
REMARKS: Warp 105 , Net opening 15-18 m.  
SOUNDER SUMMARY: Net loaded small jellyfish and euphausiids.  
MW layer 50 fms. to 65. Light density during  
tow. 91.4-118.9 light scatter.

VESEL: M/V NEMESIS DATE: 78 07 09 SET/HAUL NO: 15  
LOCATION: S.W. Edge AREA: Dixon Entrance  
START: Lat. 54°23.4' Long. 131°24.3'  
END: Lat. 54°24.8' Long. 131°18.8'  
GEAR: C.D. #7 MWT START TIME (1442) : 1515 DURATION: 33<sup>min.</sup>  
BOTTOM DEPTH m: Start: 235.9 End: 239.6 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 100-87 Est. Av. Depth: \_\_\_\_\_<sup>mi.</sup>  
DIRECTION OF SET °true: 75° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: high at 1700  
WIND DIRECTION: 290° M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 53.8° F  
REMARKS: Warp 100 fms. Net opening 18.0  
SOUNDER SUMMARY: Some jellyfish in net. Light scattering layer MW.

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VESEL: M/V NEMESIS DATE: 78 07 09 SET/HAUL NO: 16  
LOCATION: Flats of Dundas AREA: Dixon Entrance'  
START: Lat. 54°30.8' Long. 131°16.5'  
END: Lat. 54°31.1' Long. 131°14.9'  
GEAR: C.D. #7 MWT START TIME (1724): 1754 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 129.8 End: 135.3 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 100-110 Est. Av. Depth: \_\_\_\_\_<sup>mi.</sup>  
DIRECTION OF SET °true: 75° M SPEED kn: 3.0 DISTANCE TRAVELLED: 1.5  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: high at 1700  
WIND DIRECTION: 290° M WIND SPEED: 10 kts RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 100 fms. Net opening 18 m., 55.5 F.  
SOUNDER SUMMARY: Euachons escaping during hauling. Red jellyfish.  
Footrope 1-5 m. off bottom. Small balls scattered  
throughout last 30 fms. to bottom.



VESSEL: M/V NEMESIS DATE: 78 07 09 Yr Mo Day SET/HAUL NO: 17  
LOCATION: Flats off Dundas AREA: Dixon Entrance  
START: Lat. 54°30.0' Long. 131°14.5'  
END: Lat. 54°28.0' Long. 131°13.8'  
GEAR: C.D. #7 MWT START TIME (1828) : 1858 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 135.3 End: 131.7 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 97-110 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 105° M SPEED kn: 2.4 DISTANCE TRAVELLED: 1.2<sup>mi.</sup>  
SET ON: Small balls WATER CONDITION: ripple TIDE: low at 2305  
WIND DIRECTION: 290° M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 58.4° F  
REMARKS: Warp 100. Light smallschools (Balls) light scatter.  
SOUNDER SUMMARY: Footrope 20 m. off bottom.

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VESSEL: M/V NEMESIS DATE: 78 07 10 Yr Mo Day SET/HAUL NO: 18  
LOCATION: Gully btw. Zayas, Dundas AREA: Dixon Entrance  
START: Lat. 54°30.1' Long. 131°03.5'  
END: Lat. 54°31.3' Long. 131°03.8'  
GEAR: C.D. #7 MWT START TIME (0900) : 0930 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 164.6 End: 157.3 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 100-96 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 315° M SPEED kn: 3.0 DISTANCE TRAVELLED: 1.5<sup>mi.</sup>  
SET ON: MW scatter WATER CONDITION: ripple TIDE: low 1120 P.D.T.  
WIND DIRECTION: SW 225° M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 54.2° F  
REMARKS: Warp 100. Light MW scatter layer. Opening 21.0 m.  
SOUNDER SUMMARY: Light scatter layer 82.3-109.7 m. More floats = greater opening. 6 large red jellyfish.

VESSEL: M/V NEMESIS DATE: 78 07 10 Yr Mo Day SET/HAUL NO: 19  
LOCATION: Gully btw. Zayas, Dundas AREA: Dixon Entrance  
START: Lat. 54°30.2' Long. 131°04.8'  
END: Lat. 54°30.3' Long. 131°07.0'  
GEAR: C.D. #7 MWT START TIME (1024) : 1054 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 151.8 End: 148.1 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 130-130 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 315° M SPEED kn: 3.6 DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: Under layer WATER CONDITION: Lt. chop TIDE: low 1120 P.D.T.  
WIND DIRECTION: 225° M WIND SPEED: 10 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 150 fms. Net opening 18.0 m.  
SOUNDER SUMMARY: Footrope 1 m. to bottom. 12 large red jellyfish.  
Some floats removed. Gear towed on bottom. Set  
under layer on bottom, some marks.

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VESSEL: M/V NEMESIS DATE: 78 07 10 Yr Mo Day SET/HAUL NO: 20  
LOCATION: Gully btw. Zayas, Dundas AREA: Dixon Entrance  
START: Lat. 54°29.8' Long. 131°09.5'  
END: Lat. 54°28.9' Long. 131°07.5'  
GEAR: C.D. #7 MWT START TIME (1217) : 1247 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 135.3 End: 139.0 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 30-20 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 150° M SPEED kn: 3.4 DISTANCE TRAVELLED: 1.7<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: low slack  
WIND DIRECTION: 225° M WIND SPEED: 10 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: #22 OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 50. Net opening 15.0 m.  
SOUNDER SUMMARY: 6 large red jellyfish. Gear towed above layer.  
Headrope 20-30 m. from surface. More floats  
removed from net - smaller opening.

VESSEL: M/V NEMESIS DATE: Yr 78 Mo 07 Day 10 SET/HAUL NO: 21  
LOCATION: Marsden Gully AREA: Dixon Entrance  
START: Lat. 54°27.5' Long. 131°11.0'  
END: Lat. 54°26.7' Long. 131°11.5'  
GEAR: C.D. #7 MWT START TIME (1415): 1447 DURATION: 32<sup>min.</sup>  
BOTTOM DEPTH m: Start: 133.5 End: 146.3 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 110-137 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 210° M SPEED kn: 3.0 DISTANCE TRAVELLED: 1.5<sup>mi.</sup>  
SET ON: Small scattered layer WATER CONDITION: Lt. chop TIDE: high 1745 P.D.T.  
WIND DIRECTION: 225° M WIND SPEED: 10 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 23 OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 175 fms. Net opening 17.5 m.  
SOUNDER SUMMARY: Yellow and red jellyfish. Small scattered schools  
91 m. to bottom. Footrope 5-10 m. off bottom.

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VESSEL: M/V NEMESIS DATE: Yr 78 Mo 07 Day 11 SET/HAUL NO: 22  
LOCATION: off Masset Bar AREA: Dixon Entrance  
START: Lat. 54°15.2' Long. 132°19.2'  
END: Lat. 54°14.5' Long. 132°17.0'  
GEAR: C.D. #7 MWT START TIME (1014): 1044 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 168.4 End: 150.1 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 63-63 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 110° M SPEED kn: 3.6 DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: Midwater layer WATER CONDITION: chop TIDE: low 1150 P.D.T.  
WIND DIRECTION: NW 315° M WIND SPEED: 20 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 100 fm. Net opening 16.0 m.  
SOUNDER SUMMARY: Net festooned with jellyfish. Two light scattering  
layers 45.7-82.3, 25 fm.-45 fm. Set on top shallower  
layer.

VESSEL: M/V NEMESIS DATE: 78 07 11 Yr Mo Day SET/HAUL NO: 23  
LOCATION: off Masset Bar AREA: Dixon Entrance  
START: Lat. 54° 14.7' Long. 132° 20.0'  
END: Lat. 54° 13.8' Long. 132° 17.7'  
GEAR: C.D. #7 MWT START TIME (1126): 1157 DURATION: 31<sup>min.</sup>  
BOTTOM DEPTH m: Start: 153.7 End: 143.8 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 87-80 Est. Av. Depth: \_\_\_\_\_<sup>mi.</sup>  
DIRECTION OF SET °true: \_\_\_\_\_ SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_  
SET ON: MW layer WATER CONDITION: chop TIDE: low 1150  
WIND DIRECTION: 315° M WIND SPEED: 15 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 25 OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 105 fm. Net opening 17 m.  
SOUNDER SUMMARY: Net full of euphausiids, jellyfish. Set on a deeper scattering layer 82.3-100.6.

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VESSEL: M/V NEMESIS DATE: 78 07 11 Yr Mo Day SET/HAUL NO: 24  
LOCATION: Tow Hill AREA: Dixon Entrance  
START: Lat. 54° 16.8' Long. 132° 01.0'  
END: Lat. 54° 16.3' Long. 131° 58.0'  
GEAR: C.D. #7 MWT START TIME (1340): 1410 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 204.8 End: 215.9 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 100-108 Est. Av. Depth: \_\_\_\_\_<sup>mi.</sup>  
DIRECTION OF SET °true: 85° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 2.0<sup>mi.</sup>  
SET ON: MW layer WATER CONDITION: chop TIDE: high 1820  
WIND DIRECTION: 315° M WIND SPEED: 15 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 26 OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 130 fms., 1352 h. add 20 fm., T = 150 fm. Net opening 17.0 m.  
SOUNDER SUMMARY: Net full of jellyfish.

VESSEL: M/V NEMESIS DATE: Yr 78 Mo 07 Day 11 SET/HAUL NO: 25  
LOCATION: off Tow Hill AREA: Dixon Entrance  
START: Lat. 54° 12.7' Long. 131° 54.2'  
END: Lat. 54° 12.2' Long. 131° 52.2'  
GEAR: C.D. #7 MWT START TIME (1508) : 1538 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 128 End: 120.7 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 110- Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 95° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.3<sup>mi.</sup>  
SET ON: Small bottom scatter WATER CONDITION: Lt. chop TIDE: high @ 1820  
WIND DIRECTION: 31° M WIND SPEED: 1.2 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 51.9° F  
REMARKS: Warp 130 fms. Net opening 16 m.  
SOUNDER SUMMARY: Little showing on sounder. Footrope 1-5 m. off bottom.

VESSEL: M/V NEMESIS DATE: Yr 78 Mo 07 Day 11 SET/HAUL NO: 26  
LOCATION: off Tow Hill AREA: Dixon Entrance  
START: Lat. 54° 12.8' Long. 131° 37.2'  
END: Lat. 54° 14.3' Long. 131° 43.2'  
GEAR: C.D. #7 MWT START TIME (1629): 1700 DURATION: 31<sup>min.</sup>  
BOTTOM DEPTH m: Start: 104.2 End: 104.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 80-82 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 225° M SPEED kn: 5.6 DISTANCE TRAVELLED: 2.8<sup>mi.</sup>  
SET ON: Small bottom scatter WATER CONDITION: chop TIDE: High @ 1820  
WIND DIRECTION: 318° M WIND SPEED: 18 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 28 OTHER OCEANOGRAPHIC DATA: 51.9° F  
REMARKS: Warp 100 fm. Net opening 16 m.  
SOUNDER SUMMARY: 1 juvenile pollock 5 cm. in net, euphausiids and jellyfish. Small 2-4 fm. schools scattered from 30 fm. to bottom. Footrope 1-2 meters off bottom.

VESSEL: M/V NEMESIS DATE: 78 07 11 Yr Mo Day SET/HAUL NO: 27  
LOCATION: off Tow Hill AREA: Dixon Entrance  
START: Lat. 54° 13.5' Long. 131° 41.0'  
END: Lat. 54° 13.9' Long. 131° 40.0'  
GEAR: C.D. #7 MWT START TIME (1753) : 1825 DURATION: 32<sup>min.</sup>  
BOTTOM DEPTH m: Start: 78.6 End: 78.6 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 55-60 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 230° M SPEED kn: 2.0 DISTANCE TRAVELLED: 1.0<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: chop TIDE: high @ 1840  
WIND DIRECTION: 315° M WIND SPEED: 15 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 100 fm. Net Opening 17.0.

SOUNDER SUMMARY: Small scattered marks 25 fms to bottom. Gear towed with footrope 1 meter off bottom. Heavy tide in area, missed fish.

VESSEL: M/V NEMESIS DATE: 78 07 12 Yr Mo Day SET/HAUL NO: 28  
LOCATION: off Cape Chacon AREA: Dixon Entrance  
START: Lat. 54° 37.8' Long. 132° 04.1'  
END: Lat. 54° 37.2' Long. 132° 08.7'  
GEAR: C.D. #7 MWT START TIME (0947): 1017 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 157.3 End: 164.6 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 73-74 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 245° M SPEED kn: 4.5 DISTANCE TRAVELLED: 2.25<sup>mi.</sup>  
SET ON: Middle MW layer WATER CONDITION: Lt. chop TIDE: low @ 1230 P.D.T.  
WIND DIRECTION: 130° M WIND SPEED: 12 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: 30 OTHER OCEANOGRAPHIC DATA: 54.0° F  
REMARKS: Warp 100 fm. Net opening 17 m.

SOUNDER SUMMARY: MW layer 73.2-128 m. Approx. 1 tup jellyfish in net. Heavy tide this tow.

VESSEL: M/V NEMESIS DATE: Yr 78 Mo 07 Day 12 SET/HAUL NO: 29  
LOCATION: off Cape Chacon AREA: Dixon Entrance  
START: Lat. 54° 36.5' Long. 132° 05.0'  
END: Lat. 54° 36.0' Long. 132° 03.8  
GEAR: C.D. #7 MWT START TIME (1132) : 1202 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 263.5 End: 186.7 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 75-82 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 225° M SPEED kn: 2.0 DISTANCE TRAVELLED: 1.0<sup>mi.</sup>  
SET ON: Top of MW layer WATER CONDITION: Lt. chop TIDE: low@ 1230 P.D.T.  
WIND DIRECTION: 130° M WIND SPEED: 10 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: NOBT OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 100. Net opening 18.0 m.  
SOUNDER SUMMARY: Midwater layer 73.2-128 m. Net festooned with euphausiids, red and yellow jellyfish.

VESSEL: M/V NEMESIS DATE: Yr 78 Mo 07 Day 12 SET/HAUL NO: 30  
LOCATION: off Cape Chacon AREA: Dixon Entrance  
START: Lat. 54° 34.3' Long. 132° 06.1'  
END: Lat. 54° 34.5' Long. 132° 08.5'  
GEAR: C.D. #7 MWT START TIME (1313) : 1344 DURATION: 31<sup>min.</sup>  
BOTTOM DEPTH m: Start: 193.8 End: 201.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 73-62-80 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 265° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: M.W. layer WATER CONDITION: Lt. chip TIDE: high 1910  
WIND DIRECTION: 225° M WIND SPEED: 15 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 54.9° F  
REMARKS: Warp 100, 1324 h. hauled 20 fm-80 fm, 1335 + 20 = 100 fm.  
SOUNDER SUMMARY: Net opening 17.0 m.  
MW layer 73.2-12.8 m. ≈ 1 tub red jellyfish in net, euphausiids in mesh.

VESSEL: M/V NEMESIS DATE: 78 07 12 Yr Mo Day SET/HAUL NO: 31  
LOCATION: off Cape Chacon AREA: Dixon Entrance  
START: Lat. 54° 33.5' Long. 132° 05.5'  
END: Lat. 54° 32.5' Long. 132° 04.8  
GEAR: C.D. #7 MWT START TIME (1430) : 1500 DURATION: 30 min.  
BOTTOM DEPTH m: Start: 223.1 End: 259.7 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 95-149-160 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 160° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.0 mi.  
SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: high @ 1910  
WIND DIRECTION: 225°, WIND SPEED: 15 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 54.9° F  
REMARKS: Warp 175, 1440-200 fm. Net opening 16 m.  
SOUNDER SUMMARY: Net ≈ 1 tub red jellyfish, euphausiids in web.

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VESSEL: M/V NEMESIS DATE: 78 07 12 Yr Mo Day SET/HAUL NO: 32  
LOCATION: off Cape Chacon AREA: Dixon Entrance  
START: Lat. 54° 33.2' Long. 132° 07.8'  
END: Lat. 54° 32.7' Long. 132° 05.8'  
GEAR: C.D. #7 MWT START TIME (\_\_\_\_): \_\_\_\_\_ DURATION: \_\_\_\_\_ min.  
BOTTOM DEPTH m: Start: 236.1 End: 258.0 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 170-200-200 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: \_\_\_\_\_ SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.5 mi.  
SET ON: Near bottom WATER CONDITION: Lt. chop TIDE: high @ 1910  
WIND DIRECTION: 225° M WIND SPEED: 16 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 54.8° F  
REMARKS: Warp 200, add 50 fm. at 1632. Net opening 17 m.  
SOUNDER SUMMARY: Captain thought caught pollock on way down 120-140 m.  
1 tub jellyfish (red) net  
euphausiids  
Gear towed with footrope 2.5 m. off bottom.



VESSEL: M/V NEMESIS DATE: Yr Mo Day  
78 07 12 SET/HAUL NO: 33  
LOCATION: off Cape Chacon AREA: Dixon Entrance  
START: Lat. 54° 34.7' Long. 132° 18.1'  
END: Lat. 54° 34.5' Long. 132° 16.8'  
GEAR: C.D. #7 MWT START TIME (1858) : 1929 DURATION: 31<sup>min.</sup>  
BOTTOM DEPTH m: Start: 246.9 End: 214 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 122-130-138 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 135° M SPEED kn: 2.4 DISTANCE TRAVELLED: 1.2<sup>mi.</sup>  
SET ON: Under main layer WATER CONDITION: Lt. chop TIDE: high 1910  
WIND DIRECTION: 225° M WIND SPEED: 16 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 53.5° F  
REMARKS: Warp 150 fms. Net opening 18.0.  
SOUNDER SUMMARY:

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VESSEL: M/V NEMESIS DATE: Yr Mo Day  
78 07 13 SET/HAUL NO: 34  
LOCATION: West Devil Rks. AREA: Dixon Entrance  
START: Lat. 54° 39.3' Long. 131° 30.8'  
END: Lat. 54° 38.3' Long. 131° 30.0'  
GEAR: C.D #7 MWT START TIME (1022) : 1052 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 190.2 End: 179.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 140-160-152 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 95° M SPEED kn: 2.4 DISTANCE TRAVELLED: 1.2<sup>mi.</sup>  
SET ON: Bottom, nothing WATER CONDITION: Lt. chop TIDE: low 1130 P.D.T.  
WIND DIRECTION: 225° M WIND SPEED: 12 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 54.2° F  
REMARKS: Warp 225 fms, 1041 h., haul 25 fm.  
SOUNDER SUMMARY: Euphausiids in net, 2-3 jellyfish, large yellow.  
Footrope 2-3 m. off bottom. Gear touched bottom  
then hauled 25 fms. warp.

VESSEL: M/V NEMESIS DATE: 78 07 13 Yr Mo Day SET/HAUL NO: 35  
LOCATION: West Devil Rk. AREA: Dixon Entrance  
START: Lat. 54° 36.0' Long. 131° 25.0'  
END: Lat. 54° 35.8' Long. 131° 23.0'  
GEAR: C.D. #7 MWT START TIME (1207) : 1237 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 166.4 End: 137.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 100-110-110 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 90° M SPEED kn: 3.2 DISTANCE TRAVELLED: 1.6<sup>mi.</sup>  
SET ON: Nothing WATER CONDITION: Lt. chop TIDE: low slack  
WIND DIRECTION: 225° M WIND SPEED: 8 kts. RECORDER: W. Barner  
TIM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 54.2° F  
REMARKS: Warp 125 fms. Net opening 17 m.

SOUNDER SUMMARY: Net covered with juv. Pricklebacks (Stichaeidae) (5-6 cm.).  
Also juv. and adult eulachons, some small squid.

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VESSEL: M/V NEMESIS DATE: 78 07 13 Yr Mo Day SET/HAUL NO: 36  
LOCATION: McCulloch Rk. AREA: Dixon Entrance  
START: Lat. 54° 35.4' Long. 131° 19.1'  
END: Lat. 54° 35.0' Long. 131° 17.1'  
GEAR: C.D. #7 MWT START TIME (1324) : 1357 DURATION: 33<sup>min.</sup>  
BOTTOM DEPTH m: Start: 117.0 End: 120.7 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 87-97 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 80° M SPEED kn: 3.0 DISTANCE TRAVELLED: 1.5<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: high @ 2000 h.  
WIND DIRECTION: 225° M WIND SPEED: 5 kts. RECORDER: W. Barner  
TIM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 53.2° F  
REMARKS: Warp 125 fms.

SOUNDER SUMMARY: Net on bottom, gear let out, wings full basket stars  
and sea pens. Net ripped along wings. Footrope 5.0 m.  
off bottom.

VESSEL: M/V NEMESIS DATE: 78 07 15 Yr Mo Day SET/HAUL NO: 37  
LOCATION: Boston Islands AREA: Dixon Entrance  
START: Lat. 54° 41.5' Long. 130° 33.1'  
END: Lat. 54° 42.2' Long. 130° 36.6'  
GEAR: Danish MWT START TIME (1139) : 1209 DURATION: 30 min.  
BOTTOM DEPTH m: Start: 179.2 End: 153.6 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 50-38-45 Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: 245° M SPEED kn: 4.2 DISTANCE TRAVELLED: 2.1  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: low @ 1540  
WIND DIRECTION: \_\_\_\_\_ WIND SPEED: \_\_\_\_\_ RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 55.5° F  
REMARKS: Warp 75 fm. Net opening 40 m. Net temp 7° C (45 F).  
SOUNDER SUMMARY: - net - euphausiids  
- scattered type layer 45.7-91.4 m., 25-50 fms.  
Gear towed 27 fm, headrope 50 fm.

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VESSEL: M/V NEMESIS DATE: 78 07 15 Yr Mo Day SET/HAUL NO: 38  
LOCATION: off Haystack AREA: Dixon Entrance  
START: Lat. 54° 42.1' Long. 130° 39.8'  
END: Lat. 54° 41.8' Long. 130° 35.6'  
GEAR: Danish MWT START TIME (1325): 1357 DURATION: 32 min.  
BOTTOM DEPTH m: Start: 162.8 End: 175.6 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 60-65-65 Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: \_\_\_\_\_ SPEED kn: 5.2 DISTANCE TRAVELLED: 2.6  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: low @ 1540  
WIND DIRECTION: \_\_\_\_\_ WIND SPEED: \_\_\_\_\_ RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 55.5° F  
REMARKS: Warp 100 fm. Net opening 37.0 m. Net temp. 7° C.  
SOUNDER SUMMARY: Headrope 36 fm., footrope 57 fms. Net full of euphausiids,  
13.5 kg. euphausiids. 32 floats on headrope.

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 15 SET/HAUL NO: 39  
LOCATION: off Gnarled Is. AREA: Dixon Entrance  
START: Lat. 54° 38.6' Long. 130° 48.7'  
END: Lat. 54° 39.5' Long. 130° 46.5'  
GEAR: Danish MWT START TIME (1546) : 1616 DURATION: 30 min.  
BOTTOM DEPTH m: Start: 197.5 End: 446.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 60-60-75 Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: 10° M SPEED kn: 4.2 DISTANCE TRAVELLED: 2.1 mi.  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: low at 1540  
WIND DIRECTION: 260° M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 56.5° F  
REMARKS: Warp 100, add 25, 1611 h. Net opening 40 m.  
SOUNDER SUMMARY: No net sounder picture.

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 15 SET/HAUL NO: 40  
LOCATION: mouth Portland Inlet AREA: Dixon Entrance  
START: Lat. 54° 41.6' Long. 130° 32.2'  
END: Lat. 54° 41.7' Long. 130° 35.3'  
GEAR: Danish MWT START TIME (1859): 1930 DURATION: 31 min.  
BOTTOM DEPTH m: Start: 226.9 End: 161.0 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 20-15-12 Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: 240° M SPEED kn: 3.6 DISTANCE TRAVELLED: 1.8 mi.  
SET ON: Surface scatter WATER CONDITION: glass TIDE: 2210 high  
WIND DIRECTION: \_\_\_\_\_ WIND SPEED: \_\_\_\_\_ RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 55.2° F  
REMARKS: Warp 50 fm, Net opening 37 m.  
SOUNDER SUMMARY: Net full of euphausiids.

VESSEL: M/V NEMESIS DATE: 78 07 16 SET/HAUL NO: 41  
LOCATION: Top of Peaks AREA: Dixon Entrance  
START: Lat. 54° 26.0' Long. 131° 09.0'  
END: Lat. 54° 25.1' Long. 131° 13.0'  
GEAR: WCBT Bottom START TIME (0853) : 0923 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 109.7 End: 113.4 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: on bottom Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 225° M SPEED kn: 4.0 DISTANCE TRAVELLED: 2.0<sup>mi.</sup>  
SET ON: Bottom WATER CONDITION: ripple TIDE: high 1010 PDT  
WIND DIRECTION: 160° M WIND SPEED: 5 kts. RECORDER: \_\_\_\_\_  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 53.3° F  
REMARKS: Warp 175.  
SOUNDER SUMMARY: (25-50 fms. layer scattered small balls).  
Net mouth opening 18 ft.

VESSEL: M/V NEMESIS DATE: 78 07 16 SET/HAUL NO: 42  
LOCATION: N. West Edge AREA: Dixon Entrance  
START: Lat. 54° 23.5' Long. 131° 10.8'  
END: Lat. 54° 22.0' Long. 131° 14.0'  
GEAR: WCBT Bottom START TIME (0953) : 1023 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 93.3 End: 93.3 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: on bottom Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 185° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_<sup>mi.</sup>  
SET ON: Bottom WATER CONDITION: ripple TIDE: high 1010 PDT  
WIND DIRECTION: \_\_\_\_\_ WIND SPEED: \_\_\_\_\_ RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 52.9° F  
REMARKS: Warp 150 fm.  
SOUNDER SUMMARY:

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 16 SET/HAUL NO: 43  
LOCATION: Bend AREA: Dixon Entrance  
START: Lat. 54° 18.8' Long. 131° 15.3'  
END: Lat. 54° 18.4' Long. 131° 19.0  
GEAR: WCBT Bottom START TIME (1103) : 1133 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 78.7 End: 73.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: on bottom Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 240° M SPEED kn: 4.0 DISTANCE TRAVELLED: 2.0<sup>mi.</sup>  
SET ON: Bottom WATER CONDITION: ripple TIDE: low @ 1650  
WIND DIRECTION: \_\_\_\_\_ WIND SPEED: \_\_\_\_\_ RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 52.8° F  
REMARKS: Warp 125 fm.  
SOUNDER SUMMARY:

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 16 SET/HAUL NO: 44  
LOCATION: S.W. Edge AREA: Dixon Entrance  
START: Lat. 54° 20.9' Long. 131° 26.9  
END: Lat. 54° 20.2' Long. 131° 29.8  
GEAR: WCBT Bottom START TIME (1225): 1255 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 183 End: 181.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: \_\_\_\_\_ Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 205° M SPEED kn: 3.6 DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: Bottom WATER CONDITION: ripple TIDE: low @ 1650  
WIND DIRECTION: \_\_\_\_\_ WIND SPEED: \_\_\_\_\_ RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 53.0° F  
REMARKS: Warp 300 fms.  
SOUNDER SUMMARY:

VESSEL: M/V NEMESIS DATE: 78 07 16 Yr Mo Day SET/HAUL NO: 45  
LOCATION: Rose Spit bouy AREA: Dixon Entrance  
START: Lat. 54° 14.7' Long. 131° 37.5'  
END: Lat. 54° 14.5' Long. 131° 40.1'  
GEAR: WCBT Bottom START TIME (1409) : 1439 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 102.5 End: 104 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: \_\_\_\_\_ Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 195° M SPEED kn: 2.6 DISTANCE TRAVELLED: 1.8<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: low 1650  
WIND DIRECTION: 250° M WIND SPEED: 5 kts. RECORDER: \_\_\_\_\_  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 53.0° F  
REMARKS: Warp 150 fm.  
SOUNDER SUMMARY:

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VESSEL: M/V NEMESIS DATE: 78 07 16 Yr Mo Day SET/HAUL NO: 46  
LOCATION: Rose Pt. AREA: Dixon Entrance  
START: Lat. 54° 10.3' Long. 131° 41.0'  
END: Lat. 54° 10.1' Long. 131° 43.0'  
GEAR: WCBT Bottom START TIME (1520) : 1550 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 12.6 End: 21.6 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: \_\_\_\_\_ Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 225° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: low 1650  
WIND DIRECTION: 250° M WIND SPEED: 5 kts. RECORDER: \_\_\_\_\_  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 54.3° F  
REMARKS: Warp 50 fms.  
SOUNDER SUMMARY:

Yr Mo Day  
 VESSEL: M/V NEMESIS DATE: 78 07 16 SET/HAUL NO: 47  
 LOCATION: off Naden Harbour AREA: Dixon Entrance  
 START: Lat. 54° 13.2' Long. 132° 26.8'  
 END: Lat. 54° 13.6' Long. 132° 30.0'  
 GEAR: WCFT Bottom START TIME (1905) : 1935 DURATION: 30<sup>min.</sup>  
 BOTTOM DEPTH m: Start: 137.2 End: 122.5 Est. Av. Depth: \_\_\_\_\_  
 NET DEPTH RANGE m: \_\_\_\_\_ Est. Av. Depth: \_\_\_\_\_  
 DIRECTION OF SET °true: 235° M SPEED kn: 3.8 DISTANCE TRAVELLED: 1.9<sup>mi.</sup>  
 SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: high 2310 PDT  
 WIND DIRECTION: 250° M WIND SPEED: 15 kts. RECORDER: W. Barner  
 TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 55.5° F  
 REMARKS: Warp 250.

SOUNDER SUMMARY:

Yr Mo Day  
 VESSEL: M/V NEMESIS DATE: 78 07 17 SET/HAUL NO: 48  
 LOCATION: Learmonth Bank AREA: Dixon Entrance  
 START: Lat. 54° 27.2' Long. 132° 58.0'  
 END: Lat. 54° 17.0' Long. 132° 57.3'  
 GEAR: Danish MWT START TIME (0958): 1437 DURATION: 279<sup>min.</sup>  
 BOTTOM DEPTH m: Start: 142.7 End: 439.2 Est. Av. Depth: \_\_\_\_\_  
 NET DEPTH RANGE m: 20-65-70-90-65 Est. Av. Depth: \_\_\_\_\_  
 DIRECTION OF SET °true: 225° M SPEED kn: 3.8 DISTANCE TRAVELLED: 16.0<sup>mi.</sup>  
 SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: high @ 1220  
 WIND DIRECTION: \_\_\_\_\_ WIND SPEED: \_\_\_\_\_ RECORDER: W. Barner  
 TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 52.0° F  
 REMARKS: Warp 50 fms.

SOUNDER SUMMARY: Net full jellyfish Festooned with juy. pollock.  
 Start haul 1037, trouble power take off, necessary to  
 continue towing gear to deeper water to haul. Headrope  
 20 m. from surface 22 minutes 1030 h. - headrope 65 m.  
 Fish caught 5.0 m. off bottom 70 fms. Footrope 5 m.  
 off bottom.



VESSEL: M/V NEMESIS DATE: 78 07 19 Yr Mo Day SET/HAUL NO: 49  
LOCATION: Learmonth AREA: Dixon Entrance  
START: Lat. 54° 27.1' Long. 133° 07.2'  
END: Lat. 54° 26.0' Long. 133° 06.2'  
GEAR: Danish MWT START TIME (0911) : 0920 DURATION: 9 min.  
BOTTOM DEPTH m: Start: 109.8 End: 128.1 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: ≈ 20 Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: 100° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.5  
SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: high 1357 PDT  
WIND DIRECTION: 270° M WIND SPEED: 8 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 50.2° F  
REMARKS: Warp 25 fm.  
SOUNDER SUMMARY: Net full jellyfish. No net sounder, poor bottom; variable.

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VESSEL: M/V NEMESIS DATE: 78 07 19 Yr Mo Day SET/HAUL NO: 50  
LOCATION: off Langara AREA: Dixon Entrance  
START: Lat. 54° 21.5' Long. 133° 00.0'  
END: Lat. 54° 19.5' Long. 132° 54.3'  
GEAR: Danish MWT START TIME (1040): 1134 DURATION: 54 min.  
BOTTOM DEPTH m: Start: 329.4 End: 413.6 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 100-110-170-200 Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: \_\_\_\_\_ SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_  
SET ON: Midlayer WATER CONDITION: Lt. chop TIDE: high 1357 PDT  
WIND DIRECTION: 270° M WIND SPEED: 5 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 53.8° F  
REMARKS: Warp 100 fm.  
SOUNDER SUMMARY: Main warp had backlash towed with 100 fm. warp till 1130,  
add 200 fm. Headrope 200 m. from surface.

VESSEL: M/V NEMESIS DATE: 78 07 19 Yr Mo Day SET/HAUL NO: 51  
LOCATION: off Langara AREA: Dixon Entrance  
START: Lat. 54° 15.0' Long. 132° 52.5'  
END: Lat. 54° 13.8' Long. 132° 52.4'  
GEAR: Danish MWT START TIME (1303) : 1333 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 351.4 End: 175.7 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 140-110 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 165° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: 1.5<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: ripple TIDE: high 1357  
WIND DIRECTION: 270° M WIND SPEED: 5 kts. RECORDER: \_\_\_\_\_  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 50.2° F  
REMARKS: Warp 150.

SOUNDER SUMMARY: 15 lbs. euphausiids. 1 juv. pollock 5 cm. MW layer  
40-75 fm. Net - euphausiids and jellyfish.

VESSEL: M/V NEMESIS DATE: 78 07 19 Yr Mo Day SET/HAUL NO: 52  
LOCATION: off Langara AREA: Dixon Entrance  
START: Lat. 54° 13.0' Long. 132° 49.5'  
END: Lat. 54° 11.9' Long. 132° 48.8'  
GEAR: Danish MWT START TIME (1407): 1437 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 161.0 End: 159.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 120-112 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 100° M SPEED kn: 2.6 DISTANCE TRAVELLED: 1.3<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: high 1357, slack  
WIND DIRECTION: 270° M WIND SPEED: 15 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 53.3° F  
REMARKS: Warp 75 fms. Net opening 40 m.

SOUNDER SUMMARY: Net full of euphausiids and jellyfish. Gear on bottom.  
Footrope 9-10 m. off bottom.

VESSEL: M/V NEMESIS DATE: 78 07 19 Yr Mo Day SET/HAUL NO: 53  
LOCATION: off Langara AREA: Dixon Entrance  
START: Lat. 54° 13.3' Long. 132° 46.3'  
END: Lat. 54° 12.8' Long. 132° 46.5'  
GEAR: Danish MWT START TIME (1509) : 1539 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 199.5 End: 212.3 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 80-60-60 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 90 M SPEED kn: 2.4 DISTANCE TRAVELLED: 1.2<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: chop TIDE: low 1942 PDT  
WIND DIRECTION: 270 M WIND SPEED: 15 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: \_\_\_\_\_  
REMARKS: Warp 100 fm.

SOUNDER SUMMARY: 12 juv. pollock caught up in web. Headrope 60 m. from surface. Net full of jellyfish.

VESSEL: M/V NEMESIS DATE: 78 07 19 Yr Mo Day SET/HAUL NO: 54  
LOCATION: Middle AREA: Dixon Entrance  
START: Lat. 54° 26.3' Long. 132° 48.1'  
END: Lat. 54° 27.8' Long. 132° 47.1'  
GEAR: Danish MWT START TIME (1729): 1759 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 391.6 End: 395.3 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 100 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 0° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: \_\_\_\_\_ TIDE: low @ 1942  
WIND DIRECTION: 270° M WIND SPEED: 20 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 52.2° F  
REMARKS: Warp 150.

SOUNDER SUMMARY: Net full of euphausiids.

VESSEL: M/V NEMESIS DATE: 78 07 20 Yr Mo Day SET/HAUL NO: 55  
LOCATION: Cape Muzon AREA: Dixon Entrance  
START: Lat. 54° 36.1' Long. 132° 47.0'  
END: Lat. 54° 35.1' Long. 132° 43.5'  
GEAR: Danish MWT START TIME (0923) : 1053 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 164.7 End: 201.3 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 30-38-38 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 90° M SPEED kn: 4.4 DISTANCE TRAVELLED: 2.2<sup>mi.</sup>  
SET ON: Top layer WATER CONDITION: Lt. chop TIDE: high 1442  
WIND DIRECTION: 225° M WIND SPEED: 15 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 50.2° F  
REMARKS: Warp 50. + 5 @ 0944.  
SOUNDER SUMMARY: Net full of large red jellyfish.

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VESSEL: M/V NEMESIS DATE: 78 07 20 Yr Mo Day SET/HAUL NO: 56  
LOCATION: Cape Muzon AREA: Dixon Entrance  
START: Lat. 54° 35.0' Long. 132° 42.0'  
END: Lat. 54° 34.8' Long. 132° 42.5'  
GEAR: Danish MWT START TIME (1020) : 1050 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 183.0 End: 161.0 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 65-70-70 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: \_\_\_\_\_ SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_<sup>mi.</sup>  
SET ON: In layer WATER CONDITION: Lt. chop TIDE: high 1442 PDT  
WIND DIRECTION: 225° M WIND SPEED: 20 kts. RECORDER: \_\_\_\_\_  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 50.2° F  
REMARKS: Warp 100.  
SOUNDER SUMMARY: 6 large red jellyfish.

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 20 SET/HAUL NO: 57  
LOCATION: off Cape Muzon AREA: Dixon Entrance  
START: Lat. 54° 34.3' Long. 132° 43.0'  
END: Lat. 54° 33.3' Long. 132° 40.2'  
GEAR: Danish MWT START TIME (1256) : 1326 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 241.6 End: 302.0 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 80-70-75 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 80° M SPEED kn: 4.4 DISTANCE TRAVELLED: 2.2<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: chop TIDE: high 1447 PDT  
WIND DIRECTION: 225° M WIND SPEED: 25 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 50.5° F  
REMARKS: Warp 125 fm. Net opening 35.0 m.  
SOUNDER SUMMARY: 12 large red jellyfish in net.

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 20 SET/HAUL NO: 58  
LOCATION: Middle AREA: Dixon Entrance  
START: Lat. 54° 23.5' Long. 131° 55.9'  
END: Lat. 54° 22.2' Long. 131° 54.5'  
GEAR: Danish MWT START TIME (1612) : 1644 DURATION: 32<sup>min.</sup>  
BOTTOM DEPTH m: Start: 259.9 End: 245.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: 100 Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 80° M SPEED kn: 2.4 DISTANCE TRAVELLED: 1.2<sup>mi.</sup>  
SET ON: Mid layer WATER CONDITION: h. chop TIDE: low 2037  
WIND DIRECTION: 225° M WIND SPEED: 25+ RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 51.9° F  
REMARKS: Warp 125.  
SOUNDER SUMMARY: Poor net sounder picture.

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 21 SET/HAUL NO: 59  
LOCATION: inside edge off Butterworth AREA: Hecate Straits  
START: Lat. 54° 15.3' Long. 131° 03.0'  
END: Lat. 54° 16.5' Long. 131° 03.8'  
GEAR: W.C.F.T. Bottom START TIME (0913) : 0943 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 106.1 End: 98.8 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: Bottom Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 290° M SPEED kn: 3.4 DISTANCE TRAVELLED: 1.7<sup>mi.</sup>  
SET ON: \_\_\_\_\_ WATER CONDITION: h. chop TIDE: low 0923  
WIND DIRECTION: 250° M WIND SPEED: 25 kts. RECORDER: \_\_\_\_\_  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 53.3° F  
REMARKS: Warp 150 fm.  
SOUNDER SUMMARY: Gear fouled, headrope float under footrope. Small log  
in net.

Yr Mo Day  
VESSEL: M/V NEMESIS DATE: 78 07 21 SET/HAUL NO: 60  
LOCATION: inside Edge AREA: Hecate Straits  
START: Lat. 54° 16.8' Long. 131° 04.1'  
END: Lat. 54° 15.7' Long. 131° 03.4'  
GEAR: WCFT Bottom START TIME (1012) : 1042 DURATION: 30<sup>min.</sup>  
BOTTOM DEPTH m: Start: 69.5 End: 84.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: Bottom Est. Av. Depth: \_\_\_\_\_  
DIRECTION OF SET °true: 145° M SPEED kn: 2.2 DISTANCE TRAVELLED: \_\_\_\_\_<sup>mi.</sup>  
SET ON: bottom WATER CONDITION: Lt. chop TIDE: high 1543  
WIND DIRECTION: 250° M WIND SPEED: 20 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 52.0° F  
REMARKS: Warp 150 fm.  
SOUNDER SUMMARY: Large log in net.

VESSEL: M/V NEMESIS DATE: 78 07 21 Yr Mo Day SET/HAUL NO: 61  
LOCATION: Steep Edge AREA: Hecate Straits  
START: Lat. 54°05.0' Long. 131°02.5'  
END: Lat. 54°03.0' Long. 131°02.2'  
GEAR: WCFT Bottom START TIME (1304) : 1334 DURATION: 30 min.  
BOTTOM DEPTH m: Start: 91.5 End: 95.2 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: Bottom Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: 180° M SPEED kn: \_\_\_\_\_ DISTANCE TRAVELLED: \_\_\_\_\_  
SET ON: \_\_\_\_\_ WATER CONDITION: Lt. chop TIDE: high 1543  
WIND DIRECTION: 250° M WIND SPEED: 20 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 52.8° F  
REMARKS: Warp 150 fms.  
SOUNDER SUMMARY:

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VESSEL: M/V NEMESIS DATE: 78 07 22 Yr Mo Day SET/HAUL NO: 62  
LOCATION: Goose Is. Grounds AREA: Queen Charlotte Sound  
START: Lat. 51°43.6' Long. 129°28.2'  
END: Lat. 51°42.0' Long. 129°27.2'  
GEAR: WCFT Bottom START TIME (1821) : 1900 DURATION: 40 min.  
BOTTOM DEPTH m: Start: 91.5 End: 91.5 Est. Av. Depth: \_\_\_\_\_  
NET DEPTH RANGE m: Bottom Est. Av. Depth: \_\_\_\_\_ mi.  
DIRECTION OF SET °true: 170-350 SPEED kn: 3.6 DISTANCE TRAVELLED: 1.3 mi.  
SET ON: Bottom WATER CONDITION: h. chop TIDE: low 2121 PDT  
WIND DIRECTION: 270° M WIND SPEED: 20 kts. RECORDER: W. Barner  
TTM: \_\_\_\_\_ TDM: \_\_\_\_\_ BT: \_\_\_\_\_ OTHER OCEANOGRAPHIC DATA: 54.9° F  
REMARKS: Warp 150 fm.  
SOUNDER SUMMARY: Set gear turn 180° start tow, gear turned 1830 h.

