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Zooplankton data from the Beaufort Sea, 1951 to 1975

by E.H.Grainger and C.Grohe

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by E. H. Grainger and K. Grohe

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Material obtained up to 1971 was collected as part of our continuing research programmes. Subsequently these were supplemented by outside funding, data for 1973 having been obtained under the Environmental-Social Program, Northern Pipelines, of the Task Force on Northern Oil Development, for 1974 and 1975 under the Beaufort Sea Project.

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ABSTRACT

Zooplankton collections, made during 7 years in the south Beaufort Sea, are described quantitatively. Copepods are the largest group, with 40 species, followed by amphipods with 15, then hydrozoans with 11. There are at least 92 species in all.

RESUME

Les collections de zooplancton ont durées 7 ans dans le sud de la mer de Beaufort, et sont décrites quantitativement. Les copépodes sont le grand groupe avec 40 espèces, suivit par les amphipodes avec 15, puis les hydrozoaires avec 11. Ils ne sont pas moins de 92 espèces en tout.

INTRODUCTION

The collections reported here were obtained by the Arctic Biological Station during the years 1951, 1961, 1962, 1971 and 1973 to 1975 in the Beaufort Sea. The 1951 collection came from the cruise of M. V. Cancolim II, the material from the 1960s and 1971 from M. V. Salvelinus, from 1973 from M. V. North Star of Herschel Island, from 1974 from the sea ice surface (using a helicopter) and from M. V. Theta, and from 1975 from the sea ice and from M. V. Salvelinus and M. V. Pandora.

All the collections originated in the southern and eastern parts of the Beaufort Sea, south of 73°21'N, and between the Alaska-Canada boundary and Banks Island (Figures 1 to 3 and Tables 2, 4, 6, 8, 10, 12, 14 and 16). Station numbers, locations, dates, times of day, mesh sizes and depths for all collections are shown in the tables above.

Collections were made using nets of various meshes (given in the tables as 73, 76, 233, 282 and 579 μ and as 1 mm) and of various sizes (30 cm to 1 metre diameter of opening). Hauls were made mainly vertically, but occasionally horizontally or obliquely, in depths from 2 to 700 metres. Fairly constant towing speed was maintained for vertical hauls. Numbers of organisms from these are given per cubic metre of water sampled, assuming full efficiency of collecting, and tend therefore to be low and hence indicate minimal values.

In the collection tables, date is given as day/month, time in hours PST (= GMT-8), net mesh in microns (unless shown otherwise), and depth in metres. In the species tables, the headings indicate collection numbers except for Table 5 in which they refer to station numbers (see Table 4). Numbers in the columns are of individuals per cubic metre of water sampled, unless shown otherwise. The exceptions refer only to total numbers of organisms in collections from which quantitative data could not readily be derived. Collections from which such numbers were obtained are marked with a superscript(*). Numbers smaller than 1 are shown as +.

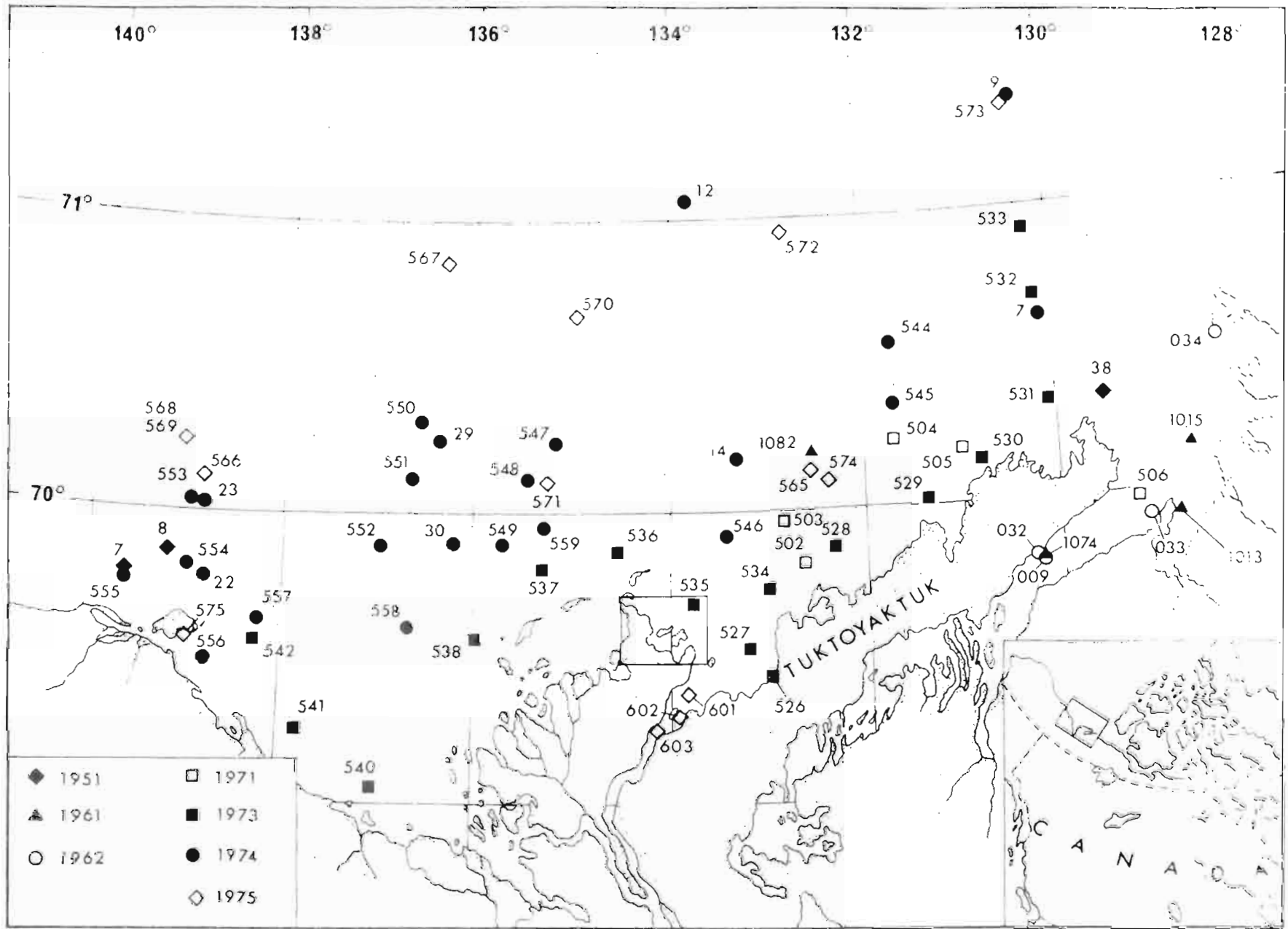


Figure 1. Station locations in the south Beaufort Sea.

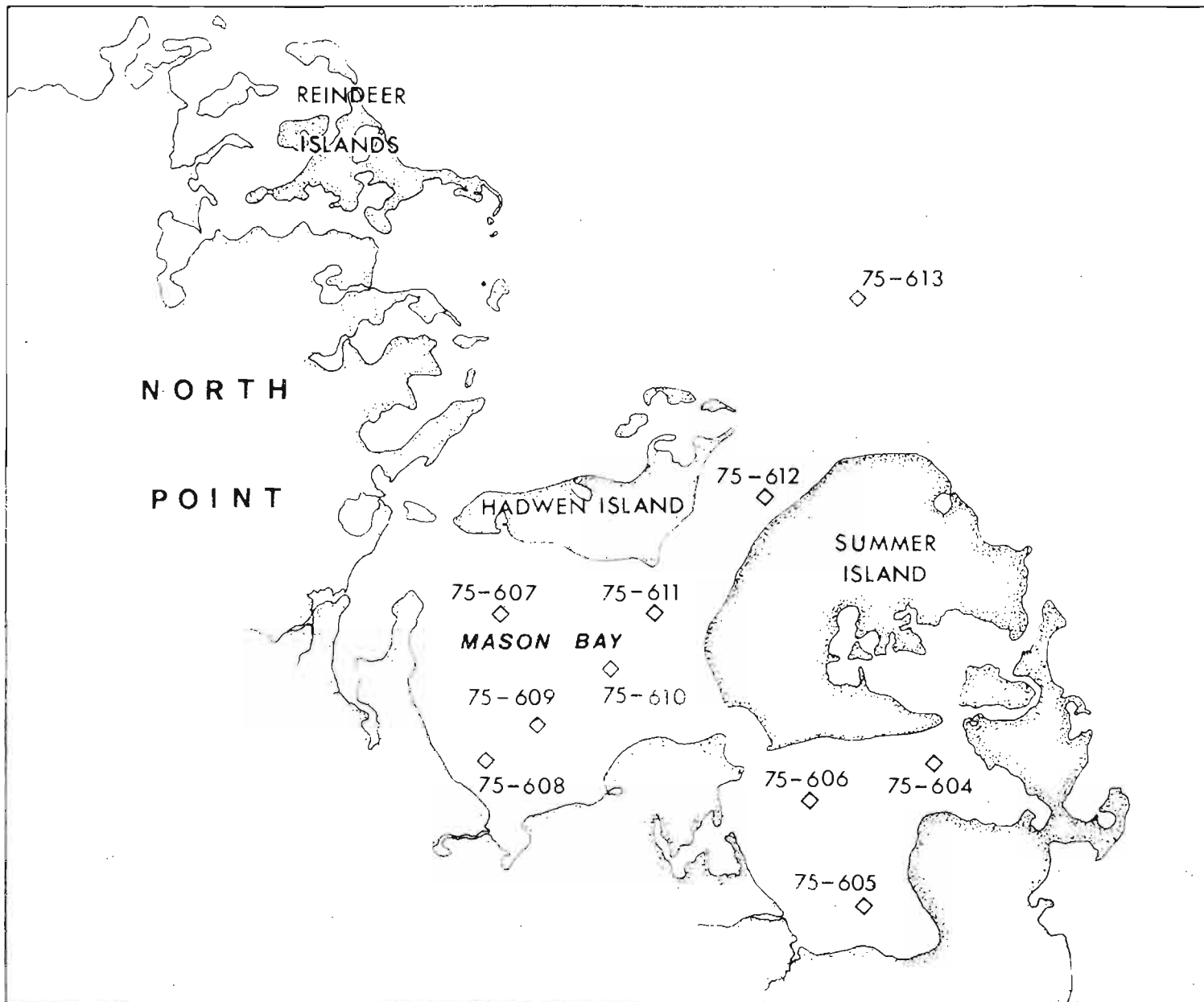


Figure 2. Station locations in Mason Bay (area indicated by rectangle in Fig. 1).

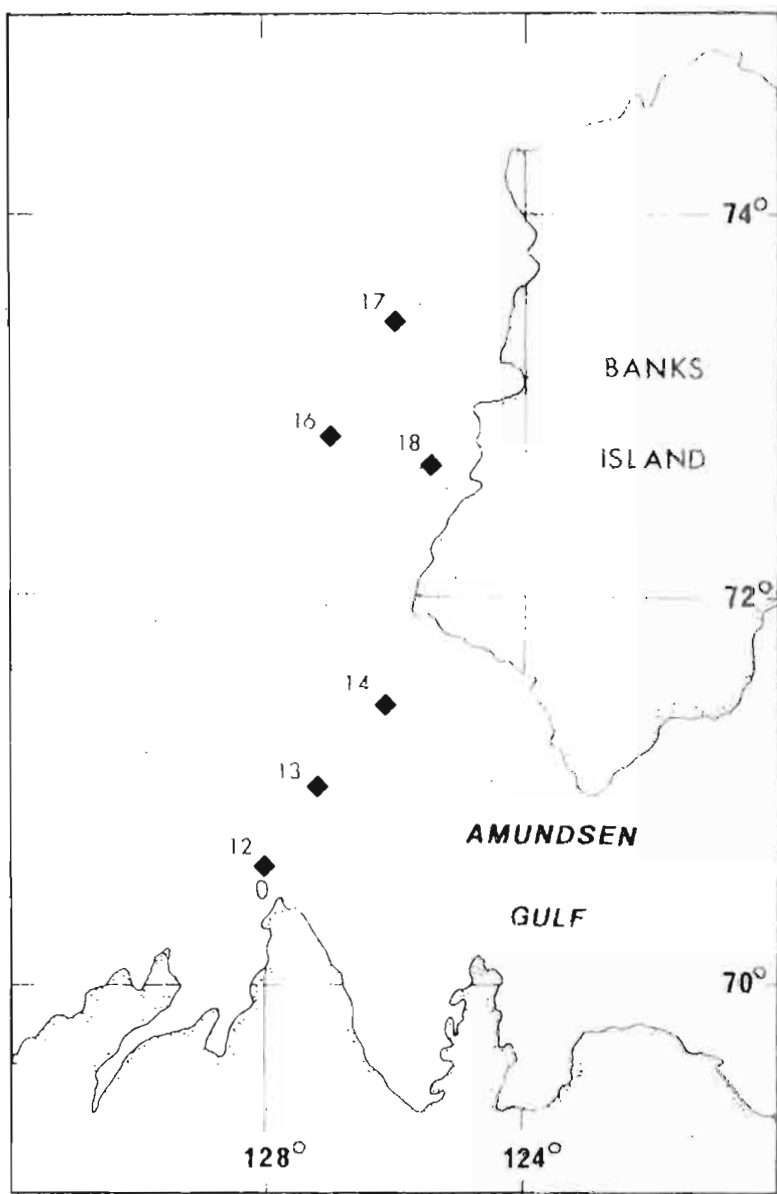


Figure 3. Station locations in the east Beaufort Sea.

Table 1. Zooplankton species reported here from the south Beaufort Sea.

HYDROZOA

Eumedusa birulai (Linko)
Sarsia princeps (Haeckel)
Halitholus cirratus Hartlaub
Euphysa flammea (Linko)
Obelia sp.
Melicertum octocostatum (M. Sars)
Tiaropsis multicirrata (M. Sars)
Aglantha digitale (O. F. Müller)
Aeginopsis laurenti Brandt
Dimophyes arctica (Chun)
Muggiaea bargmannae Totton

ANTHOZOA

Larvae

CTENOPHORA

Beroe cucumis Fabricius

NEMATODA

Unidentified

MOLLUSCA

Spiratella helicina (Phipps)
Clione limacina (Phipps)

ANNELIDA

Pelagobia sp.
Polychaete larvae

BRANCHIOPODA

Daphnia sp.
Podon leuckarti G. O. Sars
Bosmina sp.

OSTRACODA

Conchoecia borealis maxima Brady & Norman

Table 1. (continued)

COPEPODA

Acartia clausi Giesbrecht
Acartia longiremis (Lilljeborg)
Chiridius obtusifrons G. O. Sars
Derjuginia tolli (Linko)
Gaidius tenuispinus (G. O. Sars)
Calanus cristatus Krøyer
Calanus glacialis Yaschnov
Calanus hyperboreus Krøyer
Limnocalanus macrurus G. O. Sars
Diaptomus sp.
Eucalanus bungii bungii Johnson
Euchaeta glacialis Hansen
Heterorhabdus norvegicus (Boeck)
Metridia longa (Lubbock)
Metridia pacifica Brodsky
Drepanopus bungei G. O. Sars
Microcalanus pygmaeus (G. O. Sars)
Pseudocalanus minutus (Krøyer)
Spinocalanus longicornis G. O. Sars
Scaphocalanus brevicornis G. O. Sars
Scaphocalanus magnus (Scott)
Scolecithricella minor (Brady)
Epischura sp.
Eurytemora herdmani Thompson & Scott
Temorites brevis G. O. Sars
Ectinosoma neglectum G. O. Sars
Microsetella sp.
Pseudobradya minor (T. and A. Scott)
Harpacticus superflexus Willey
Danielssenia stefanssoni Willey
Tachidius sp.
Tisbe furcata (Baird)
Cyclops sp.
Cyclopina schneideri Scott
Mormonilla polaris G. O. Sars
Oithona similis Claus
Oncaea borealis G. O. Sars
Oncaea minuta Giesbrecht
Oncaea notopus Giesbrecht
Monstrilla sp.

CIRRIPEDIA

Nauplii
 Cypris larvae

MYSIDACEA

Mysis litoralis (Banner)

CUMACEA

Diastylis rathkei (Krøyer)

ISOPODA

Unidentified

AMPHIPODA

Apherusa glacialis (Hansen)
Halirages megalops (Bucholtz)
Gammaracanthus loricatus (Sabine)
Pseudalibrotus glacialis G. O. Sars
Monoculodes sp.
Pontoporeia affinis Lindström
Aceroides latipes (G. O. Sars)
Acanthostepheia malmgreni (Goës)
Acanthostepheia behringiensis (Lockington)
Pontogeneia inermis (Krøyer)
Metopa sp.
Hyperia galba (Montagu)
Hyperia medusarum (Müller)
Parathemisto abyssorum Boeck
Parathemisto libellula (Lichtenstein)

EUPHAUSIACEA

Thysanoessa inermis (Krøyer)
Thysanoessa raschi (M. Sars)
Thysanoessa longipes Brandt

DECAPODA

Sabinea septemcarinata (Sabine)
Pandulus sp.

CHAETOGNATHA

Eukrohnia hamata (Möbius)
Sagitta elegans Verrill
Sagitta maxima (Conant)

COPELATA

Fritillaria borealis Lohman
Oikopleura vanhoeffeni Lohmann

ASCIDIACEA

Larvae

Table 2
 Zooplankton collections, Cancolim II, 1951

<u>Collection</u>	<u>Station</u>	<u>N. Lat.</u>	<u>W. Long.</u>	<u>Date</u>	<u>Time</u>	<u>Mesh</u>	<u>Depth</u>
VP1	7	69°46'	139°42'	20/8	--	282	27-0
VP2	8	69°51'	139°08'	20/8	--	282	50-0
VP3	14	71°30'	126°12'	25/8	0100	-	405-0
VP4	16	72°51'	127°04'	25/8	1800	-	162-0
VP5	17	73°21'	126°00'	26/8	0330	282	81-0
HP3	12	70°40'	128°15'	24/8	1330	-	14
HP4	13	71°06'	127°13'	24/8	1820	-	77-63
HP7	18	72°41'	125°34'	26/8	1615	282	11-9
HP12	38	70°23'	129°27'	5/9	1800	79	2

Table 3

Zooplankton species, Cancolim II, 1951

	VP1	VP2	VP3	VP4	VP5
<i>Aglantha digitale</i>			6	+	1
<i>Aeginopsis laurenti</i>			+		
<i>Dimophyes arctica</i>		+	+	+	
<i>Beroe cucumis</i>			+		
<i>Spiratella helicina</i>			6	11	6
Polychaete larvae					+
<i>Podon leuckarti</i>	1				
<i>Conchoecia borealis maxima</i>			+		+
<i>Derjuginia tolli</i> IV	1				
<i>Gaidius tenuispinus</i> IV			+		
<i>Calanus glacialis</i> VI(F)	2	+		+	
V		1	+	6	2
IV	1	2	+	2	5
III	1	3	1	8	6
II	+		+	14	14
I		6	+	69	32
<i>Calanus hyperboreus</i> VI(F)	+	1	+	+	+
V	+	2	+	+	+
IV	+	2	3	14	10
III		+	+	5	1
II				+	
I			+		
<i>Euchaeta glacialis</i> VI(M)			+		
VI(F)					+
V			+		
IV				+	
III		+			
<i>Metridia longa</i> VI(M)			+		
VI(F)		3	4	6	
V		1	2	7	+
IV		+	2	1	
III			1	1	
II			2		+
I			+		+
<i>Microcalanus pygmaeus</i> VI(M)			+		+
VI(F)			3	2	6
V	1		3	17	7
IV		8	3	32	37
III			1	10	2

		VP1	VP2	VP3	VP4	VP5
Pseudocalanus minutus	VI(M)			+		
	VI(F)	+		+		+
	V				4	3
	IV	2	3	+	3	8
	III	4	20	+	6	5
	II	12	45	+	+	+
	I	2	26			+
Spinocalanus sp.	VI(F)			+		
Scolecithricella minor	VI(F)			+	+	
	V			+	+	
Ectinosoma neglectum		2				
Oithona similis	VI(M)	+	6	1	5	10
	VI(F)	4	28	9	56	73
	V	4	11	11	72	45
	IV		14	4	23	21
	III	+			2	7
	II	+			+	
Oncaea borealis	VI(M)			1	2	+
	VI(F)	1	3	5	26	20
	V			4		+
	IV			+		
Nauplii of copepods		14	20	23	193	63
Nauplii of cirripedes		+				
Cypris larvae					1	
Unidentified isopods				+		
Parathemisto abyssorum				+	+	+
Sabinea septemcarinata			+			
Eukrohnia hamata				+		
Sagitta elegans			1			
Fritillaria borealis				+	138	4
Oikopleura vanhoeffeni			+	9	+	8

	HP3*	HP4*	HP7*	HP12*
<i>Eumedusa birulai</i>	5			
<i>Sarsia princeps</i>	6			
<i>Halitholus cirratus</i>	2700			1
<i>Euphysa flammea</i>	4			
<i>Tiaropsis multicirrata</i>				4
<i>Aglantha digitale</i>	1700	900	3520	30
<i>Aeginopsis laurenti</i>		10	2	1
<i>Beroe cucumis</i>		12		
<i>Spiratella helicina</i>		34		
<i>Clione limacina</i>	14	65	43	
Polychaeta larvae				400
<i>Podon leuckarti</i>				2400
<i>Acartia clausi</i> VI(M)				800
VI(F)				800
III			8	
<i>Derjuginia tolli</i> V	300			
IV	1000			
<i>Calanus glacialis</i> VI(F)	50		1	
V	2400	100	1	
IV	155900	1600		
III	51900	550		
II		150	24	
I		100	56	
<i>Calanus hyperboreus</i> VI(F)	9	50		
V	300	750		
IV	3300	3800	2	
III	600	900		
<i>Limnocalanus macrurus</i> VI(M)	300			
<i>Euchaeta glacialis</i> III		100		
<i>Drepanopus bungei</i> V			8	
IV			8	
III			24	
I			8	
<i>Pseudocalanus minutus</i> VI(M)				800
VI(F)	3650			800
V				18400
IV				165600
III				276000
II				92000
I				76800
<i>Eurytemora herdmani</i> II				800
I				1600
<i>Cyclopina</i> sp.				800
<i>Oithona similis</i> VI(F)				6400
V				6400
IV			96	10400
III			8	800
II			56	2400
I			114	3200

	HP3*	HP4*	HP7*	HP12*
Oncaea borealis VI(F)			24	
V			8	
Nauplii of copepods		150	928	83200
Hyperia galba	35	11		2
Parathemisto abyssorum		1		
Parathemisto libellula		3		
Unidentified amphipods	300			
Pandalus sp.	24			
Eukrohnia hamata	1	7		
Sagitta elegans	7	73		25
Fritillaria borealis			1024	
Oikopleura vanhoeffeni			80	

Table 4

Zooplankton collections, Salvelinus, 1961

<u>Collection</u>	<u>Station</u>	<u>N. Lat.</u>	<u>W. Long.</u>	<u>Date</u>	<u>Time</u>	<u>Mesh</u>	<u>Depth</u>
--	61-1013	69°58'	128°54.5'	10/7	--	73	0
--	61-1015	70°11'	128°35'	10/7	--	73	12-0
--	61-1074	69°47.5'	130°18'	13/8	--	73	9-0
--	61-1082	70°13'	132°36'	19/8	--	73	28-0

Table 5

Zooplankton species, Salvelinus, 1961

	1013*	1015	1074	1082
<i>Aglantha digitale</i>				+
<i>Dimophyes arctica</i>				+
<i>Spiratella helicina</i>				10
Polychaete larvae	1000	18		15
<i>Podon leuckarti</i>			79	
<i>Acartia clausi</i> VI(M)			1572	
VI(F)			2830	
V	200		2594	
IV			2752	
III			4560	
II			5267	
I			3223	
<i>Acartia</i> sp.	3200			
<i>Calanus glacialis</i> IV				+
III				1
II	100	1		
<i>Calanus hyperboreus</i> IV		1		4
III		1		+
<i>Limnocalanus macrurus</i> VI(M)			629	+
VI(F)			315	
IV	100			
<i>Metridia longa</i> VI(F)				+
<i>Microcalanus pygmaeus</i> IV				5
<i>Pseudocalanus minutus</i> VI(M)		6		15
VI(F)		12	157	15
V			237	
IV			393	
III			943	25
II	200	12	472	76
I	200	117	1101	51
<i>Eurytemora herdmanni</i> VI(M)			708	
VI(F)			236	
V			314	
IV	100		786	
III	100		708	
II	1000	6	786	
I	4600	24	1101	
<i>Ectinosoma</i> sp.	7300	12		
<i>Cyclops</i> sp.	100			
<i>Oithona similis</i> VI(F)		6		10
V				5
IV				45
III				40
II				35
I				20

	1013*	1015	1074	1082
Oncaea borealis VI(M)		6	79	86
VI(F)		6	79	30
V		12		10
Nauplii of copepods	132500	2259	31132	258
Fritillaria borealis				5
Oikopleura vanhoeffeni				+

Table 6
Zooplankton collections, Salvelinus, 1962

<u>Collection</u>	<u>Station</u>	<u>N. Lat.</u>	<u>W. Long.</u>	<u>Date</u>	<u>Time</u>	<u>Mesh</u>	<u>Depth</u>
4	62-005	69°37'	130°19'	20/7	1700	73	7-0
7	62-009	69°48'	130°13'	25/7	1200	73	9-0
17	62-032	69°48'	130°19'	12/8	1300	233	10-0
20	62-033	69°55'	129°08'	12/8	1630	233	-
22	62-034	70°31'	128°19'	15/8	1345	233	6-0

Table 7

Zooplankton species, Salvelinus, 1962

	7	17	20*	22
Polychaete larvae	32	51	200	85
Podon leuckarti	8	1071	1000	17
Acartia clausi VI(M)	110	663	300	119
VI(F)	94	1327	400	237
V		1377	400	220
IV		1888	600	322
III	39	1429	1000	356
II	16	51	300	339
I	31			51
Derjuginia tolli IV	8	102		
III	8			
Calanus glacialis IV				+
Calanus hyperboreus V		+	5	
IV			100	
Limnocalanus macrurus VI(M)	24	102	300	17
VI(F)	16	102	400	17
V	16			
IV	8			
II	8			
Drepanopus bungei II	16			
I	47			
Pseudocalanus minutus VI(M)		51	600	68
VI(F)		208	400	153
V		306	1400	424
IV		459	2700	729
III		1174	8300	1322
II		612	3900	373
I			100	34
Eurytemora herdmani VI(M)	94	918	400	203
VI(F)	8	255	400	153
V	110	714	400	508
IV	8	306	600	373
III	31	408		288
II	24		400	85
I	24			17
Ectinosoma sp.				17
Tisbe furcata				17
Cyclopina sp.	8			
Oithona similis VI(F)				17
V			100	
IV		51		
Oncaea borealis VI(F)			100	
Nauplii of copepods	1559	153	200	31
Nauplii of cirripedes	8		200	17
Halirages megalops				2
Pseudalibrotus glacialis				4
Pontogeneia inermis				+
Sagitta elegans			1	2

Table 8
 Zooplankton collections, Salvelinus, 1971

<u>Collection</u>	<u>Station</u>	<u>N. Lat.</u>	<u>W. Long.</u>	<u>Date</u>	<u>Time</u>	<u>Mesh</u>	<u>Depth</u>
P-101	71-502	69°49.3'	132°41.5'	18/7	1730	233	8-0
P-102	71-502	69°49.3'	132°41.5'	18/7	1730	73	8-0
P-103	71-503	69°58.4	132°57'	18/7	2229	233	17-0
P-104	71-503	69°58.4'	132°57'	18/7	2229	73	17-0
P-105	71-504	70°16'	131°40'	19/7	0715	233	36-0
P-106	71-504	70°16'	131°40'	19/7	0715	73	36-0
P-107	71-505	70°13.2	131°06'	19/7	1300	233	15-0
P-108	71-505	70°13.2	131°06'	19/7	1300	73	15-0

Table 9

Zooplankton species, Salvelinus, 1971

	P101	P102	P103	P104
Sarsia princeps			+	
Halitholus cirratus			+	
Aglantha digitale			+	
Larvae of molluscs				2
Unidentified annelids	5	12	7	27
Podon leuckarti			+	
Acartia clausi VI(F)	9		2	4
V			2	3
IV	9		+	
III	2		+	
Acartia longiremis VI(F)		5		
V		4		
Derjuginia tolli V		2		+
IV	2	2	9	6
III	11	35	6	7
II	4	2	2	
I	2		+	
Calanus glacialis VI(M)			+	
VI(F)			+	+
V		2	2	+
IV	2			+
III	2	5		+
II	9	35	11	15
I	27	35	11	13
Limnocalanus macrurus VI(M)	11	5		2
VI(F)	71	117	2	3
V	46	95		+
IV	120	136	6	
III	23	35	+	
II	5	2		
Metridia longa VI(M)		2	+	2
VI(F)			+	
V				3
IV				+
Microcalanus pygmaeus V			+	
IV			+	
Pseudocalanus minutus VI(M)	4	5	2	3
VI(F)	25	60	102	118
V	4	11	8	15
IV	6	20	8	16
III	159	219	159	183
II	186	1280	229	476
I	18	3112	13	2157
Eurytemora herdmani VI(M)	4		+	
IV			+	
III			+	

	P101	P102	P103	P104
<i>Ectinosoma neglectum</i>				10
<i>Oithona similis</i> VI(M)		7	7	13
VI(F)	5	21	34	70
V	2	14	22	70
IV		14	2	126
III		35		80
II		120		143
I		163		180
<i>Oncaea borealis</i> VI(M)		50		80
VI(F)			+	20
Nauplii of copepods	28	12314	19	11342
Nauplii of cirripedes		4	3	3
Cypris larvae		4	5	10
Unidentified amphipods			2	
Unidentified chaetognaths			+	8
<i>Fritillaria borealis</i>			7	
<i>Oikopleura vanhoeffeni</i>			5	14

	P105	P106	P107	P108
<i>Sarsia princeps</i>				+
<i>Halitholus cirratus</i>	+		+	
<i>Aglantha digitale</i>	2	4	8	8
<i>Aeginopsis laurenti</i>		+	+	+
Larvae of molluscs			+	
Unidentified annelids	3	10	6	21
<i>Acartia clausi</i> VI(F)		+		
<i>Acartia longiremis</i> VI(F)	+			
<i>Derjuginia tolli</i> V			+	
IV		+	2	3
III	+		2	5
II				+
<i>Calanus glacialis</i> VI(F)	+	+		
V	4	6		
II		+		
I	+	2		
<i>Calanus hyperboreus</i> V	2	1		
III	59	66	4	8
II	8	6	3	2
I	3			+
<i>Limnocalanus macrurus</i> V			+	
IV				2
III	+		3	+
II		+		
I	+			
<i>Metridia longa</i> V	+	+		
IV		+		
III	2	6		
II	+	+		

		P105	P106	P107	P108
Microcalanus pygmaeus	VI(F)	2			
	V	5	3	+	
	IV		3		
	III		6		
	I		6		
Pseudocalanus minutus	VI(M)	4	+	3	64
	VI(F)	82	54	90	5
	V	4	5	3	6
	IV	2	3	3	+
	III	38	44	12	19
	II	97	189	67	83
	I	16	1424	2	284
Ectinosoma neglectum		+			
Harpacticus sp.		2			
Oithona similis	VI(M)	17	13	9	11
	VI(F)	160	245	55	117
	V	77	123	18	30
	IV	8	123	4	11
	III		107		15
	II		53		23
	I		151		60
Oncaea borealis	VI(M)		25		64
	VI(F)	1	9	+	23
Unidentified copepods					15
Nauplii of copepods		4	11818	8	5688
Nauplii of cirripedes		28	43	67	61
Cypris larvae		17	24	29	42
Mysis sp.				+	
Diastylis sp.		4			
Monoculodes sp.			+		3
Unidentified hyperiids		+		2	
Sagitta elegans				+	
Unidentified chaetognaths		+	2		4
Oikopleura sp.		4	6	3	2

Table 10

Zooplankton collections, North Star of Herschel Island, 1973

<u>Collection</u>	<u>Station</u>	<u>N. Lat.</u>	<u>W. Long.</u>	<u>Date</u>	<u>Time</u>	<u>Mesh</u>	<u>Depth</u>
BZ-1	73-526	69°23.7'	132°59.6'	20/7	0930	73	5-0
BZ-2	73-527	69°30'	133°15'	20/7	1355	73	4-0
BZ-3	73-528	69°50'	132°22'	22/7	1350	73	6-0
BZ-4	73-529	70°01'	131°26'	22/7	1800	73	10-0
BZ-5	73-530	70°11'	130°50'	23/7	0805	73	8-0
BZ-6	73-531	70°23'	130°01'	23/7	1230	73	14-0
BZ-7	73-532	70°43'	130°14'	23/7	1730	73	34-0
BZ-8	73-532	70°43'	130°14'	23/7	1755	579	2-0
BZ-9	73-533	70°56'	130°14'	23/7	2105	73	40-0
BZ-10	73-534	69°43'	133°06'	24/7	1545	73	6-0
BZ-11	73-535	69°40'	133°53'	25/7	1555	73	5-0
BZ-12	73-536	69°50'	134°30'	25/7	1935	73	8-0
BZ-13	73-537	69°48'	135°17'	25/7	2215	73	8-0
BZ-14	73-538	69°33'	136°00'	26/7	1125	73	5-0
BZ-15	73-538	69°33'	136°00'	26/7	1155	579	1-0
BZ-16	73-540	69°02'	137°12'	26/7	1850	73	4-0
BZ-17	73-541	69°14'	137°54'	27/7	1120	73	30-0
BZ-18	73-541	69°14'	137°54'	27/7	1125	73	10-0
BZ-19	73-541	69°14'	137°54'	27/7	1145	579	30-0
BZ-20	73-542	69°32'	138°18'	27/7	1635	73	90-0
BZ-21	73-542	69°32'	138°18'	27/7	1640	73	75-0
BZ-22	73-542	69°32'	138°18'	27/7	1645	73	50-0
BZ-23	73-542	69°32'	138°18'	27/7	1650	73	10-0
BZ-24	73-542	69°32'	138°18'	27/7	1655	579	90-0

Table 11

Zooplankton species, North Star of Herschel Island, 1973

		BZ1	BZ2	BZ3	BZ4	BZ5
Halitholus cirratus						2
Polychaete larvae						4
Acartia clausi	VI(M)					2
	VI(F)			23		2
	IV				1	
Acartia sp.					1	
Limnocalanus macrurus	VI(M)		141	610	45	9
	VI(F)	56	352	1784	37	34
	V		352	775	3	9
	IV		211	1127	14	34
	III		35	188	34	27
	II				6	4
	I				1	
Pseudocalanus minutus	VI(F)					2
	IV					4
	III					4
	II				3	
	I				3	
Eurytemora herdmani	VI(M)	169			3	34
	VI(F)	113			4	4
	V	169			7	21
	IV	507			8	25
	III	1296	70		3	18
	II	1239	141		1	12
	I	2310	35		1	41
Cyclops sp.		20226	845	23	10	
Cyclopina sp.						4
Nauplii of copepods		23493	599	47	79	963
Mysis sp.			18	14		
Diastylis sp.			11	2		
Aceroides latipes			11			
Monoculodes sp.			49	2		
		BZ6	BZ7	BZ8*	BZ9	BZ10
Sarsia princeps			+	1		
Obelia sp.			4	2		
Aglantha digitale			9	74	5	
Aeginopsis laurenti			1	1		
Spiratella helicina			4	1		
Polychaete larvae		8	96		7	

	BZ6	BZ7	BZ8*	BZ9	BZ10
Acartia clausi VI(M)	1				
VI(F)	1				
Acartia longiremis VI(M)	2				
Acartia sp.	2				
Derjuginia tolli V	1				
Calanus glacialis VI(F)		5	5	4	
V		10	2	6	5
III		+			
II				4	
Calanus hyperboreus VI(F)				+	
V		+		+	
IV		8		4	
III		4		7	
Limnocalanus macrurus VI(M)	14				47
VI(F)	10				283
V	1				165
IV	6				189
III	2				47
II					94
Metridia longa VI(M)		2			
VI(F)		3		+	
V		3			
Pseudocalanus minutus VI(F)	15		1		
IV	1			4	
III	3	25		7	
II	8	75		25	
I	25	183		85	
Eurytemora herdmanni VI(M)	2				
VI(F)	2				
V	5				
IV	1				
Ectinosoma sp.	1			4	
Cyclops sp.					24
Oithona similis VI(M)		4		7	
VI(F)		33		28	
V		13		4	
IV	1	38		35	
III		13		18	
II		46		18	
I		42		21	
Oncaea borealis VI(M)		25		57	
VI(F)		4		11	
V		8		18	
IV				11	
II		4		4	
Nauplii of copepods	714	2217		1105	118
Nauplii of cirripedes		13			
Mysis sp.					9
Diastylis sp.		2			
Monoculodes sp.	4				

	BZ6	BZ7	BZ8*	BZ9	BZ10
<i>Hyperia galba</i>			5		
<i>Parathemisto abyssorum</i>				+	
<i>Sagitta elegans</i>			2		
<i>Oikopleura vanhoeffeni</i>		38	1	28	

	BZ11	BZ12	BZ13	BZ14	BZ15*
<i>Daphnia</i> sp.					55
<i>Limnocalanus macrurus</i> VI(M)	113	71	53	6	7
VI(F)	312	283	425		11
V	142	106	372		
IV	113	71	283	6	
III	28	106	18		
II	28	18	35		
<i>Diaptomus</i> sp. VI(F)					3
<i>Pseudocalanus minutus</i> IV	28				
<i>Epischura</i> sp. VI(M)				3	30
VI(F)				3	64
IV					3
<i>Eurytemora herdmani</i> II				3	
I				3	1
<i>Cyclops</i> sp.	28		54	345	22
Nauplii of copepods			35	229	
<i>Mysis</i> sp.	3	5	18	6	2
<i>Monoculodes</i> sp.	3				

	BZ16	BZ17	BZ18	BZ19	BZ20
<i>Sarsia princeps</i>		+		+	
<i>Halitholus cirratus</i>					+
<i>Aglantha digitale</i>		+		1	+
<i>Aeginopsis laurenti</i>				+	+
<i>Dimophyes arctica</i>	4			+	+
<i>Spiratella</i> sp.		10			
Polychaete larvae		28	28		19
<i>Daphnia</i> sp.	64				
<i>Derjuginia tolli</i> IV		19	14	17	
III		5		5	
II		5		2	
<i>Calanus glacialis</i> VI(F)		+		+	
V		+			
IV		5			
III		5		7	2
II				2	2

		BZ16	BZ17	BZ18	BZ19	BZ20
Calanus hyperboreus	VI(F)				+	+
	V		+		+	2
	IV		+			16
	III		9	28	31	36
	II		14	14	22	3
Limnocalanus macrurus	VI(M)	4	71	269	228	22
	VI(F)	4	99	382	260	19
	V		28	42	20	6
Metridia longa	VI(F)		+			
	IV		5			5
	III					2
	II					2
Microcalanus pygmaeus	VI(M)		9			9
	VI(F)		14			8
	V		9			31
	IV		14	14		33
	III		14			28
	II		5			17
	I					8
Pseudocalanus minutus	VI(M)		19			
	VI(F)		127		124	14
	V		14		2	2
	IV		5			4
	III		5			2
	II		5			2
	I		19			11
Epischura sp.	VI(M)	4				
	VI(F)	7				
	III	4				
Eurytemora herdmani	III	18				
	II	46				
	I	36		14		
Ectinosoma sp.			19	14		25
Tachidius sp.		4				
Cyclops sp.		319	38			
Cyclopina schneideri				14		
Cyclopina sp.						6
Oithona similis	VI(M)		5	28		
	VI(F)		85	41		
	V		33			
	IV		52	71		
	III		33	14		
	II		85	28		
	I		42	28		
Oncaea borealis	VI(M)		42	14		
	VI(F)		14			
	V		28			
	IV		42			
	III		33			
	II		14			
	I				28	

	BZ16	BZ17	BZ18	BZ19	BZ20
Nauplii of copepods	1021	6714	6393		1780
Mysis sp.	4	+		+	
Hyperia galba					+
Thysanoessa raschi		+		+	
Fritillaria borealis					36
Oikopleura vanhoeffeni		+		+	3

	BZ21	BZ22	BZ23	BZ24
Halitholus cirratus				+
Euphysa flammea	2			+
Aglantha digitale	+	+		+
Aeginopsis laurenti		+		+
Dimophyes arctica	4	+		
Spiratella helicina				+
Larvae of molluscs		11	14	
Polychaete larvae	38	45	85	
Derjuginia tolli IV				2
III	4	7		
I		3		
Calanus glacialis VI(M)	2			
V				+
IV				1
III		3		
Calanus hyperboreus VI(F)	+	+		+
V	2			+
IV	11	11	14	13
III	57	20	42	73
II	2	6		11
Limnocalanus macrurus VI(M)	34	51	240	51
VI(F)	51	57	255	55
V	4	11	113	11
IV		3	14	+
II	2			
Euchaeta glacialis V		+		
IV	2			
III	2			
Metridia longa VI(F)	2			2
V				+
IV	8			16
III				11
II		3		
Microcalanus pygmaeus VI(M)	2	3		
VI(F)	11	3		
V	44	43		
IV	36	48	28	
III	32	20		
II	9	25		
I	11	8		

		BZ21	BZ22	BZ23	BZ24
Pseudocalanus minutus	VI(M)		3		
	VI(F)	40	17	113	18
	V	4		14	
	IV	2		14	+
	III	4	6		
	II	13	3		
	I	2	17	14	
Eurytemora herdmani	III			14	
Ectinosoma neglectum			6		
Ectinosoma sp.		15	3	28	
Cyclopina sp.		8			
Oithona similis	VI(M)	25	11		
	VI(F)	64	93		
	V	23	37	28	
	IV	21	3		
	III	17	31		
	II	25	31	85	
	I	8	25	57	
Oncaea borealis	VI(M)	68	65	14	
	VI(F)	23	8		
	V	53	57		
	IV	34	40		
	III	6	11		
	II		3		
Nauplii of copepods		2013	2954	8600	
Mysis sp.		+			
Pseudalibrotus glacialis					+
Acanthostepheia behringiensis					+
Hyperia medusarum			+		
Parathemisto abyssorum					+
Parathemisto libellula					+
Sabinea septemcarinata					+
Eukrohnia hamata					+
Sagitta elegans					+
Fritillaria borealis		19	28	14	5
Oikopleura vanhoeffeni		1	5		3
Larvae of ascidians		2			

Table 12
Zooplankton collections, Helicopter, 1974

<u>Collection</u>	<u>Station</u>	<u>N. Lat.</u>	<u>W. Long.</u>	<u>Date</u>	<u>Time</u>	<u>Mesh</u>	<u>Depth</u>
P-1016	74-14	70°09'	133°24'	14/7	1400	73	32-0
P-1023	74-7	70°39'	130°06'	19/7	1500	73	20-0
P-1026	74-9	71°22'	130°24'	25/7	1550	73	100-0
P-1029	74-9	71°22'	130°24'	25/7	1625	233	50-0
P-1036	74-12	71°02'	133°56'	29/7	1510	73	200-0
P-1037	74-12	71°02'	133°56'	29/7	1525	73	100-0
P-1038	74-12	71°02'	133°56'	29/7	1535	73	50-0
P-1048	74-29	70°17'	136°26'	2/8	1330	73	50-0
P-1049	74-29	70°17'	136°26'	2/8	1330	73	20-0
P-1052	74-30	69°55'	136°12'	2/8	1730	73	20-0
P-1071	74-22	69°46'	138°52'	12/8	1530	73	75-0
P-1072	74-22	69°46'	138°52'	12/8	1530	73	50-0
P-1080	74-23	70°01'	138°56'	16/8	1400	73	200-0
P-1081	74-23	70°01'	138°56'	16/8	1400	73	100-0
P-1082	74-23	70°01'	138°56'	16/8	1400	73	50-0

Table 13

Zooplankton species, Helicopter, 1974

	P1016	P1023	P1026	P1029
<i>Aglantha digitale</i>	+		2	6
<i>Aeginopsis laurenti</i>			+	+
Unidentified hydrozoans	3	+		
Unidentified nematodes	5			
<i>Spiratella</i> sp.	+			
Larvae of molluscs	113		9	5
Polychaete larvae	6		1	+
<i>Conchoecia borealis maxima</i>			+	
<i>Derjuginia tolli</i> V		+		
IV	9	1		
III		4		
<i>Calanus glacialis</i> VI(F)	2		+	+
V	+			+
III	2		1	+
II	7			1
I	16		1	4
<i>Calanus hyperboreus</i> VI(F)	+		2	6
V	+		1	5
IV	+		1	+
III	6			+
II	+		1	+
I				2
<i>Limnocalanus macrurus</i> VI(M)	2			
VI(F)	4			
V	16			
IV	77			
III	82			
II	75			
I	12			
<i>Euchaeta glacialis</i> V			+	
IV				+
III			+	
<i>Metridia longa</i> VI(M)	+			
VI(F)			2	
V			+	
<i>Microcalanus pygmaeus</i> VI(F)	2		1	
V	4	+	6	
IV	5	6	1	
III	4	+	3	+
II		+	1	
I			1	+
<i>Pseudocalanus minutus</i> VI(M)	2		1	
VI(F)	42	10		
V		+		
III	5		2	+
II	5		5	
I	17	14	1	

	P1016	P1023	P1026	P1029
<i>Ectinosoma neglectum</i>	43		+	
<i>Ectinosoma</i> sp.		1		
<i>Harpacticus superflexus</i>	8	+		
<i>Tisbe furcata</i>				+
<i>Oithona similis</i> VI(M)	5		2	+
VI(F)	82	56	28	24
V	73	39	47	13
IV	31	23	12	7
III	14	11	7	5
II	24		7	2
I	12		24	2
<i>Oncaea borealis</i> VI(M)	12	17	27	+
VI(F)	5	11	8	+
V	4		43	
IV	7		63	
III			29	+
II			14	
I			1	
Nauplii of copepods	1334	2693	405	13
Nauplii of cirripedes		+		
<i>Diastylis rathkei</i>		9		
Unidentified isopods			+	
<i>Monoculodes</i> sp.	+			
<i>Parathemisto abyssorum</i>				+
<i>Parathemisto libellula</i>				+
Nauplii of euphausiids			7	
<i>Eukrohnia hamata</i>			+	+
<i>Sagitta elegans</i>	+		+	
Unidentified chaetognaths		+		+
<i>Fritillaria borealis</i>	19		6	5
<i>Oikopleura vanhoeffeni</i>	28		4	2
Unidentified eggs	431	56	115	6
	P1036	P1037	P1038	P1048
<i>Aglantha digitale</i>	+	+	2	+
<i>Aeginopsis laurenti</i>				+
<i>Dimophyes arctica</i>	+			2
<i>Muggiaea bargmannae</i>	+			
Larvae of molluscs	5	1	2	2
Polychaete larvae	+			6
<i>Conchoecia borealis maxima</i>	+			+
<i>Acartia</i> sp.	+			
<i>Derjuginia tolli</i> V				+
IV				1
III				+

	P1036	P1037	P1038	P1048
Calanus glacialis VI(M)				+
VI(F)	+		+	+
V	+			
Calanus hyperboreus VI(F)	+	2	3	
V	1	3	5	
IV	1	1	5	+
III	+	+	1	
II		+		
I	+			
Limnocalanus macrurus VI(M)				2
VI(F)				2
V				7
IV				43
III				61
II				25
I				32
Euchaeta glacialis VI(F)	+			
V		+	1	
IV	+		+	
III	+	+		
II	+	+		
Heterorhabdus norvegicus VI(M)		1		
V	+			
IV	+	+		
Metridia longa VI(F)	2	2		1
V	+	+		1
IV	+			
I	+			
Microcalanus pygmaeus VI(M)	+			2
VI(F)	+			14
V	7	2		37
IV	10	3	1	16
III	5	3	2	7
II	2		2	7
I	1	+		9
Pseudocalanus minutus VI(M)				3
VI(F)				20
V	+			
III				2
II				2
I				9
Scaphocalanus magnus V	+			
Scolecithricella minor VI(M)	+	+		
VI(F)	+	1	+	+
V	1	+		1
IV	+			3
Ectinosoma sp.	+			37
Microsetella sp.	+			

	P1036	P1037	P1038	P1048
<i>Pseudobradia</i> sp.				5
<i>Harpacticus superflexus</i>	+			2
<i>Oithona similis</i> VI(M)	4	1	23	11
VI(F)	13	27	41	73
V	15	7	16	41
IV	7	7	10	5
III	2	3	9	7
II	3	5	11	7
I	6	9	10	11
<i>Oncaea borealis</i> VI(M)	26	19	23	39
VI(F)	10	4	8	61
V	6	1	5	9
IV	20	3	9	9
III	14	12	14	18
II	5	12	14	11
I	+	2		
Nauplii of copepods	221	86	88	1301
Unidentified isopods	+	+	1	+
<i>Parathemisto abyssorum</i>	+	+		+
<i>Parathemisto libellula</i>	+		+	
Nauplii of euphausiids	10			
<i>Eukrohnia hamata</i>		+	1	+
<i>Sagitta elegans</i>		+		1
Unidentified chaetognaths			+	
<i>Fritillaria borealis</i>	2	1	1	+
<i>Oikopleura vanhoeffeni</i>	2	4	14	53
Unidentified eggs	79	21	57	197

	P1049	P1052	P1071	P1072
<i>Aglantha digitale</i>	+		+	
<i>Dimophyes arctica</i>			+	
Unidentified nematodes			+	
Larvae of molluscs	12	34	2	
Polychaete larvae		4	3	+
<i>Acartia clausi</i> VI(M)			+	
VI(F)			+	
V			+	
IV			+	
<i>Derjuginia tolli</i> V	+	11	+	1
IV	5	39	2	
III	+	40	2	
I	+			
<i>Calanus hyperboreus</i> IV				+

		P1049	P1052	P1071	P1072	
<i>Limnocalanus macrurus</i>	VI(F)	3	23			
	V	23	85	4	7	
	IV	60	170	11	3	
	III	62	108	2	3	
	II	43	62	+	1	
	I	31	45	2		
<i>Euchaeta glacialis</i>	V				+	
	III			+		
	II			+		
<i>Metridia longa</i>	VI(F)		2	1		
	V			+		
	IV				+	
	III			+		
	II			+		
<i>Drepanopus bungei</i>	VI(F)			+		
<i>Microcalanus pygmaeus</i>	VI(M)		6			
	VI(F)	3		+	2	
	V	9	6	11	6	
	IV	9		8	8	
	III		6	8	10	
	II	3	6	8	5	
	I		11	5	2	
<i>Pseudocalanus minutus</i>	VI(M)	3		2	1	
	VI(F)	23	79	13	11	
	V				5	
	IV			+	1	
	III	3		2	3	
	II	3		+		
<i>Scolecithricella minor</i>	VI(F)			+	2	
	V			+	+	
				+		
<i>Eurytemora herdmani</i>	VI(M)			+		
	VI(F)	3				
<i>Ectinosoma</i> sp.		17	13	+	5	
<i>Pseudobradya minor</i>		3			2	
<i>Pseudobradya</i> sp.			8	+		
<i>Danielssenia stefanssoni</i>		+				
<i>Oithona similis</i>	VI(M)	3	6		1	
	VI(F)	20	45	5	18	
	V	14	23	16	6	
	IV	9		6	1	
	III	28	6	+	5	
	II	20	34	4	2	
	I	37	23	5	3	
	<i>Oncaea borealis</i>	VI(M)	23	45	27	16
		VI(F)	3	17	10	5
V		6		5		
IV		17	11	18	5	
III		6		16	14	
II			6	6	7	
	I			+		

	P1049	P1052	P1071	P1072
Nauplii of copepods	928	2780	322	180
Nauplii of cirripedes	+		+	
Unidentified isopods		+		
Parathemisto abyssorum			+	
Sabinea Septemcarinata		+		
Eukrohnia hamata				+
Fritillaria borealis	+	6	+	+
Oikopleura vanhoeffeni	68			1
Unidentified eggs	284	181	57	142

	P1080	P1081	P1082
Aglantha digitale		+	+
Dimophyes arctica	+		+
Unidentified nematodes	+		
Spiratella helicina	+		
Larvae of molluscs	+	+	
Polychaete larvae	+	2	4
Conchoecia borealis maxima	+		+
Chiridius obtusifrons VI(M)	+		
V	+		
Derjuginia tolli V	+	+	+
IV	+		1
III	+		
II		+	1
Calanus cristatus V	+		
I	+		
Calanus glacialis VI(F)		+	+
Calanus hyperboreus VI(F)		+	
V	+		+
IV	+	+	
Limnocalanus macrurus VI(M)	2	2	5
VI(F)	3	1	12
V	4	7	19
IV	1	2	11
III	+		3
II	+		
Eucalanus bungii bungii VI(F)	+		
Euchaeta glacialis V	+	+	+
III	+		
II	+	+	
Heterorhabdus norvegicus VI(F)	+		
IV	+		
III	+		

		P1080	P1081	P1082
Metridia longa	VI(M)	+		
	VI(F)	+	2	2
	V	1	+	+
	IV	+		
	III	+		
	II	+		1
	I			1
Metridia pacifica	VI(F)		+	+
Microcalanus pygmaeus	VI(M)	+		
	VI(F)	1		2
	V	13	11	13
	IV	17	9	14
	III	8	12	14
	II	6	7	9
	I	2	3	2
Pseudocalanus minutus	VI(M)	+		+
	VI(F)	2	5	3
	V			2
	IV	+	+	
	III	+	+	
	II	+	+	2
	I			1
Scaphocalanus magnus	VI(F)	+		+
	V		+	
Scolecithricella minor	VI(F)	+	+	
	V	+	+	
Ectinosoma sp.		+	3	5
Microsetella sp.		1	2	1
Pseudobradya minor		+	3	2
Harpacticus superflexus		+		
Oithona similis	VI(M)	+	1	1
	VI(F)	4	23	37
	V	15	5	3
	IV	5	4	6
	III		2	18
	II	+	3	9
	I	+	7	6
Oncaea borealis	VI(M)	18	38	73
	VI(F)	6	12	15
	V	5	5	19
	IV	7	6	16
	III	5	28	88
	II	3	15	8
	I	+		
Nauplii of copepods		174	279	684
Unidentified isopods		+	+	3
Apherusa glacialis		+		
Parathemisto abyssorum		+	+	+

	P1080	P1081	P1082
<i>Thysanoessa raschi</i>	+	+	
<i>Eukrohnia hamata</i>		+	
<i>Sagitta elegans</i>	+		
<i>Fritillaria borealis</i>	4	1	2
<i>Oikopleura vanhoeffeni</i>	2	2	3
Unidentified eggs	28	28	85

Table 14
 Zooplankton collections, Theta, 1974

<u>Collection</u>	<u>Station</u>	<u>N. Lat.</u>	<u>W. Long.</u>	<u>Date</u>	<u>Time</u>	<u>Mesh</u>	<u>Depth</u>
P-808	74-547	70°18'	135°10.2'	28/8	2145	73	50-0
P-810	74-548	70°08.1'	135°34.3'	29/8	2150	73	40-0
P-812	74-549	69°56.2'	135°47.8'	30/8	0630	73	18-0
P-814	74-550	70°21.1'	136°36.3'	30/8	1545	73	55-0
P-816	74-551	70°06.9'	136°50.2'	30/8	2310	73	35-0
P-818	74-552	69°56.2'	137°04.7'	31/8	0700	73	35-0
P-820	74-553	70°05.4'	139°08.2'	31/8	2145	73	50-0
P-822	74-553	70°05.4'	139°08.2'	31/8	2150	73	100-0
P-824	74-553	70°05.4'	139°08.2'	31/8	2200	73	190-0
P-826	74-554	69°47.4'	138°55.7'	1/9	0900	73	50-0
P-828	74-554	69°47.4'	138°55.7'	1/9	0905	73	100-0
P-830	74-555	69°44.9'	139°36.7'	1/9	1150	73	26-0
P-832	74-556	69°27'	138°48.5'	1/9	1720	73	50-0
P-834	74-557	69°36.3'	138°21'	2/9	0810	73	50-0
P-836	74-557	69°36.3'	138°21'	2/9	0815	73	100-0
P-838	74-557	69°36.3'	138°21'	2/9	0820	73	120-0
P-842	74-559	69°59.7'	135°21'	2/9	1920	73	29-0
P-844	74-552	69°56.2'	137°04.7'	31/8	--	569	150-0

Table 15

Zooplankton species, Theta, 1974

	P808	P810	P812	P814
<i>Aglantha digitale</i>	5	4	+	3
<i>Aeginopsis laurenti</i>	3	2		+
<i>Dimophyes arctica</i>				+
Unidentified hydrozoans	+			
Larvae of molluscs	21	5		6
Polychaete larvae	3	6		2
<i>Derjuginia tolli</i> IV		3		
III		3	6	
<i>Calanus glacialis</i> VI(F)	+	+		+
V	+	+		
IV	1	+		+
III	+	3	+	+
II	+			
I	1			2
<i>Calanus hyperboreus</i> V		2		+
IV		1		+
III	2	2		2
<i>Limnocalanus macrurus</i> VI(M)	14	8	206	8
VI(F)	22	17	119	6
V	52	11	6	10
IV	41			
III	43	3	6	
II	3			
<i>Euchaeta glacialis</i> III				+
<i>Metridia longa</i> VI(F)		+		+
V				+
III				+
II	2			1
I				2
<i>Microcalanus pygmaeus</i> VI(M)	6	6		8
VI(F)	6	25		21
V	17	16		19
IV	6	6	6	6
III	5	6	6	2
II		6	6	3
I			6	
<i>Pseudocalanus minutus</i> VI(F)		14	31	16
V	2			
IV	9	8		5
III	32	8	13	13
II	27	28	19	19
I	11	14	19	19
<i>Scolecithricella minor</i> VI(F)				+
V				+

	P808	P810	P812	P814
Ectinosoma sp.	20	20	19	15
Pseudobradya minor	5	3	13	2
Harpacticus superflexus		+		
Cyclopina sp.	1			
Oithona similis VI(M)	16	8	13	8
VI(F)	60	48	6	52
V	77	102	56	79
IV	34	23	6	24
III	24	17	25	18
II	34	45	13	20
I	32	14	44	20
Oncaea borealis VI(M)	43	82		55
VI(F)	24	34	6	18
V	9	11		3
IV	5	8		6
III	1	3		2
II	2	3		4
I	3			6
Nauplii of copepods	561	633	1713	1187
Mysis sp.			+	
Unidentified isopods	+	+		+
Apherusa glacialis	+			
Acanthostepheia malmgreni	+	1		
Parathemisto abyssorum				+
Larvae of decapods			1	
Eukrohnia hamata				+
Sagitta elegans	1	+		
Fritillaria borealis				+
Oikopleura vanhoeffeni	5	1		8
Unidentified eggs	105	110	150	356
	P816	P818	P820	P822
Aglantha digitale	4	+	1	
Aeginopsis laurenti	2	+		+
Unidentified nematodes	+			
Larvae of molluscs	2			+
Polychaete larvae	+	6	1	+
Conchoecia borealis maxima	+	+	+	+
Acartia longiremis VI(F)		+		
Acartia sp.				+
Derjuginia tolli VI(F)		+		
V	8	6	2	+
IV	2		2	1
III			+	+
II				+

	P816	P818	P820	P822
Gaidius tenuispinus VI(F)				+
Calanus glacialis VI(F)	+	+	+	
V			+	
Calanus hyperboreus VI(F)		+		
V	+	+		
IV		+	+	+
Limnocalanus macrurus VI(M)	66	6	7	9
VI(F)	69	3	3	7
V	26	6		1
IV	3			
Euchaeta glacialis V		+	+	+
IV				+
Heterorhabdus nervegicus V				+
Metridia longa VI(M)		+		
VI(F)		+	1	+
V		+	+	+
III	+			
II		3		+
I	+			
Microcalanus pygmaeus VI(M)		3		+
VI(F)	8	10		2
V	17	35	12	12
IV	16	51	19	13
III	13	23	18	11
II	3	23	8	3
I	3	16	3	3
Pseudocalanus minutus VI(M)				+
VI(F)	24	16	3	3
V				+
IV				+
III	3		+	+
II	5	6	+	
I	5	6		
Scolecithricella minor VI(F)	1	+	+	+
V	+	+		+
IV		+		
Ectinosoma sp.	26	10	1	1
Microsetella sp.				+
Pseudobradya minor	3		1	+
Cyclopina sp.				+
Oithona similis VI(M)	6		1	+
VI(F)	71	44	26	37
V	53	42	18	12
IV	6	13	11	6
III	10	10	8	3
II	18	23	16	3
I	10	26	8	3

	P816	P818	P820	P822
<i>Oncaea borealis</i> VI(M)	44	66	61	52
VI(F)	18	39	9	8
V	11	29	11	12
IV	6	29	26	28
III	10	23	37	23
II	3	10	10	6
I	2	3		+
Nauplii of copepods	1089	803	289	303
Unidentified isopods	3	+	+	1
<i>Parathemisto abyssorum</i>				+
<i>Parathemisto libellula</i>			+	
<i>Thysanoessa inermis</i>			2	1
<i>Thysanoessa raschi</i>		+	+	1
<i>Eukrohnia hamata</i>	+			
<i>Sagitta elegans</i>			+	+
<i>Fritillaria borealis</i>		3	+	7
<i>Oikopleura vanhoeffeni</i>	+	+	5	2
Unidentified eggs	335	152	28	85

	P824	P826	P828	P830
<i>Eumedusa birulai</i>		+		
<i>Aglantha digitale</i>	+	+	+	
<i>Dimophyes arctica</i>	+		+	
<i>Beroe</i> sp.			+	
Larvae of molluscs	3	1	1	6
Polychaete larvae		6	2	3
<i>Conchoecia borealis maxima</i>	+			1
<i>Chiridius obtusifrons</i> V	+			
<i>Derjuginia tolli</i> V	+		1	+
IV	1		1	2
<i>Calanus glacialis</i> VI(F)	+	+		
V			+	
<i>Calanus hyperboreus</i> VI(F)	+			
V	+	+	+	+
IV	+	+		
<i>Limnocalanus macrurus</i> VI(M)	4	26	3	15
VI(F)	2	34	6	9
V	1			2
IV		1		2
<i>Euchaeta glacialis</i> VI(F)	+			
IV				+
III	+	1	+	
II	+		+	
<i>Heterorhabdus norvegicus</i> VI(F)	+			
V				+

	P824	P826	P828	P830
Metridia longa VI(F)	+	+	+	+
V	1		+	
IV	+		+	
III				+
Metridia pacifica VI(F)	+			
Microcalanus pygmaeus VI(M)	+		2	4
VI(F)	1	3	1	9
V	18	18	17	46
IV	16	21	8	32
III	10	11	5	17
II	8	3	1	4
I	3	5	1	4
Pseudocalanus minutus VI(F)	2	23	14	11
V		2	1	4
IV			2	2
III		1		
II	+	1	5	2
I			5	2
Scaphocalanus magnus VI(F)	+			
V	+			
Scolecithricella minor VI(F)	1		+	2
V	+	1	+	
Ectinosoma sp.	2	3	+	3
Pseudobradya minor		2	+	1
Cyclopina sp.		1	1	
Oithona similis VI(M)	5		2	2
VI(F)	15	39	9	22
V	18	10	15	11
IV	4	10	5	2
III	1	17	3	9
II	4	10	2	2
I	5	10	8	4
Oncaea borealis VI(M)	65	36	24	119
VI(F)	11	3	8	19
V	11	3	1	19
IV	27	19	15	28
III	18	12	12	52
II	4	6	2	2
I		3		
Unidentified copepods	+			+
Nauplii of copepods	410	818	615	759
Mysis sp.			+	
Unidentified isopods	+		+	1
Parathemisto abyssorum	+		+	
Parathemisto libellula	+		+	
Thysanoessa inermis	+	+		
Thysanoessa raschi	+		+	
Eukrohnia hamata	+	+		+
Unidentified chaetognaths			+	

	P824	P826	P828	P830
<i>Fritillaria borealis</i>	17	8	+	15
<i>Oikopleura vanhoeffeni</i>	7	1	2	3
Unidentified eggs	117	227	107	106

	P832	P834	P836
<i>Aglantha digitale</i>	+	1	+
<i>Dimophyes arctica</i>			+
Larvae of molluscs		+	
Polychaete larvae	3	8	1
<i>Derjuginia tolli</i> V	1	+	
IV	8	+	1
III	9	+	
II	8		
I	10		+
<i>Calanus glacialis</i> VI(F)		+	
<i>Calanus hyperboreus</i> VI(F)			+
V	1		
IV		+	
III		+	
<i>Limnocalanus macrurus</i> VI(M)	91	14	14
VI(F)	122	19	14
V	1		
<i>Euchaeta glacialis</i> V			+
IV	+		+
III	+	+	
II		+	
<i>Metridia longa</i> VI(M)	1		
VI(F)	+	2	2
V	+	1	
IV	+		
III	2	1	
II	1		+
I	+		
<i>Microcalanus pygmaeus</i> VI(M)	7		1
VI(F)	20	6	2
V	71	20	11
IV	18	19	12
III		15	8
II		5	4
I		1	5
<i>Pseudocalanus minutus</i> VI(M)	3	1	
VI(F)	44	15	10
V	13	2	+
IV	3	2	
III	5	2	
II		1	1
I			+

	P832	P834	P836
Scaphocalanus magnus V		+	
Scolecithricella minor VI(F)	2	1	2
V	+		
IV			+
Ectinosoma sp.		9	+
Pseudobradya minor		1	
Cyclopina sp.		4	2
Oithona similis VI(M)	5	5	3
VI(F)	41	41	30
V	11	5	3
IV	10	5	2
III	1	9	2
II		2	3
I		9	3
Oncaea borealis VI(M)	6	63	25
VI(F)	14	7	15
V		5	5
IV		32	8
III		9	19
II		2	2
Unidentified copepods		2	
Nauplii of copepods	14	616	447
Mysis sp.	+		
Apherusa glacialis			+
Metopa sp.			+
Parathemisto libellula			+
Thysanoessa inermis		2	1
Thysanoessa raschi		+	+
Eukrohnia hamata		+	
Fritillaria borealis		5	12
Oikopleura vanhoeffeni		+	2
Unidentified eggs	12	91	28
	P838	P842	P844
Eumedusa birulai			+
Aglantha digitale	+	3	
Aeginopsis laurenti		+	
Larvae of anthozoans			+
Larvae of molluscs	1	14	
Polychaete larvae	2	2	
Conchoecia borealis maxima	+		+
Chiridius obtusifrons VI(F)			+
Derjuginia tolli V	+	14	1
IV	1	2	2
II	+		

	P838	P842	P844
Gaidius tenuispinus VI(F)	+		
Calanus cristatus V			+
Calanus glacialis VI(F)			+
V	+	+	+
IV		3	
III		4	
II		+	
Calanus hyperboreus VI(F)			+
V	+		+
IV	+	+	+
III		2	
Limnocalanus macrurus VI(M)	10	17	97
VI(F)	21	37	159
V	+	47	
IV		4	
II		2	
Eucalanus bungii bungii VI(F)			+
Euchaeta glacialis VI(M)			+
VI(F)			+
V	+		+
IV			+
III	+		+
Heterorhabdus norvegicus VI(F)			+
V(M)			+
Metridia longa VI(F)	2		2
V	+		3
IV	+		
III	+	+	
Metridia pacifica VI(F)	+		
Microcalanus pygmaeus VI(M)	+		
VI(F)	4	4	
V	25	8	
IV	8	4	
III	11		
II		2	
I		2	
Pseudocalanus minutus VI(M)	+		
VI(F)	8	21	2
V	+	4	
IV	1	12	
III	+	47	
II	1	74	
I	+	31	
Scolecithricella minor VI(F)	+		

	P838	P842	P844
Ectinosoma sp.	2	27	
Microsetella sp.	+		
Pseudobradya minor	+	4	
Cyclops sp.	2	2	
Oithona similis VI(M)	2	6	
VI(F)	31	140	
V	8	27	
IV	3	45	
III	3	68	
II	2	52	
I	2	52	
Oncaea borealis VI(M)	36	56	
VI(F)	16	21	
V	8	4	
IV	26	4	
III	16	2	
II	2		
I	4		
Monstrilla sp.	+		
Unidentified copepods	+		
Nauplii of copepods	736	1557	
Mysis sp.	+		+
Unidentified isopods	1	+	+
Apherusa glacialis			+
Pseudalibrotus glacialis		+	
Parathemisto abyssorum			+
Parathemisto libellula	+		+
Thysanoessa inermis	+		+
Thysanoessa raschi	+	3	+
Thysanoessa longipes			+
Eukrohnia hamata	+		+
Sagitta elegans	+	+	+
Fritillaria borealis	40		+
Oikopleura vanhoeffeni	3		+
Unidentified eggs	116	177	

Table 16
Zooplankton collections, 1975

<u>Collection</u>	<u>Station</u>	<u>N. Lat.</u>	<u>W. Long.</u>	<u>Date</u>	<u>Time</u>	<u>Mesh</u>	<u>Depth</u>
P-6	75-565	70°08'	132°37'	17/6	1530	73	30-0
P-11	75-566	70°06'	138°56'	5/7	1840	73	315-0
P-14	75-567	70°49'	136°22'	12/7	1950	73	700-0
P-509	75-570	70°42'	134°45'	5/8	1615	1 mm	5-10
P-513	75-572	70°56'	132°33'	7/8	1300	1 mm	5-10
P-601	75-601	69°23.3'	133°47'	11/7	1450	73	0
P-602	75-602	69°18.6'	133°54.5'	11/7	1700	73	8-0
P-603	75-603	69°15.6'	134°10'	11/7	1900	73	7-0
P-605	75-604	69°32.3'	133°52.5'	13/7	1105	1 mm	3
P-608	75-606	69°31.8'	133°57'	13/7	1805	73	14-0
P-614	75-610	69°33.5'	134°05'	14/7	1825	73	17-0
P-622	75-612	69°35.9'	133°58.5'	17/7	1045	73	5.5-0

Table 17

Zooplankton species, 1975

	P6	P11	P14
<i>Aglantha digitale</i>	+	+	+
<i>Aeginopsis laurenti</i>	1		+
<i>Dimophyes arctica</i>		1	+
<i>Muggiaea bargmannae</i>		+	+
Larvae of anthozoans			+
<i>Spiratella helicina</i>			+
Larvae of molluscs	13	+	1
Polychaete larvae	15	2	4
Unidentified annelids		+	
<i>Pelagobia</i> sp.			+
<i>Conchoecia borealis maxima</i>		4	2
<i>Chiridius obtusifrons</i> V		+	
IV			+
III			+
<i>Derjuginia tolli</i> IV	1		+
III	+		
<i>Gaidius tenuispinus</i> IV			+
III			+
II			+
I			+
<i>Calanus glacialis</i> VI(F)	+	+	+
V	+	+	+
IV	+	+	
III			1
II			3
I			3
<i>Calanus hyperboreus</i> VI(F)		+	+
V		+	+
IV		+	1
III	44	1	2
II	4	1	2
I	21	1	1
<i>Limnocalanus macrurus</i> VI(F)		+	
V		+	+
IV			+
III		+	+
II	7		
I	2		
<i>Euchaeta glacialis</i> VI(F)			+
V		+	+
IV		1	
III		+	+
II		+	+

		P6	P11	P14
Heterorhabdus norvegicus	VI(M)		+	
	VI(F)		+	+
	V		+	+
	IV			+
	III		1	1
	II			+
Metridia longa	VI(F)		2	+
	V		+	2
	IV		1	
	III			+
	II		+	+
	I		1	1
Drepanopus bungei	II	+		
	I	2		
Microcalanus pygmaeus	VI(M)	2		1
	VI(F)	2	5	4
	V	10	8	9
	IV	8	6	8
	III	4	13	9
	II	11	6	9
Pseudocalanus minutus	I	6	6	7
	VI(M)			+
	VI(F)	2		1
	V			+
	IV			1
	III		+	1
Spinocalanus longicornis	II	2	+	8
	I	10	+	14
	VI(M)			+
	VI(F)			1
	V			2
	IV			2
Spinocalanus sp.	III			3
	II			2
	I			1
	VI(F)		+	
	IV		1	
	VI(M)			+
Scaphocalanus magnus	VI(F)		+	+
	V		+	+
	III			+
Scaphocalanus brevicornis	VI(M)			+
	VI(F)			+
	V			1
Scolecithricella minor	IV			+
	VI(M)		+	+
	VI(F)		+	+
	V		+	+
	IV		1	
	III		1	+
II		+	+	

	P6	P11	P14
Temorites brevis V			+
Microsetella sp.		1	1
Harpacticus superflexus			+
Oithona similis VI(M)	13	1	1
VI(F)	55	10	7
V	34	5	3
IV	21	2	2
III	8	1	2
II	8	2	3
I	11	2	2
Oncaea borealis VI(M)	4	55	
VI(F)	21	13	7
V	4	8	
I-IV	143	85	
Oncaea notopus VI(M)		4	
VI(F)		9	8
V		1	
Oncaea minuta VI(M)			2
VI(F)			3
Oncaea sp.			98
Mormonilla polaris VI(F)			1
V			1
III			+
II			+
Unidentified copepods	2	2	
Nauplii of copepods	636	73	190
Nauplii of cirripedes	2		
Diastylis rathkei		+	
Unidentified isopods			+
Acanthostepheia malmgreni	+		
Parathemisto abyssorum		+	+
Thysanoessa inermis		1	
Eukrohnia hamata	+	3	2
Sagitta elegans		+	
Sagitta maxima			+
Fritillaria borealis	280	9	1
Oikopleura vanhoffeni	66	2	8
Unidentified eggs		18	
	P509*	P513*	P601
Halitholus cirratus	13	1	
Melicertum octocostatum	1	4	
Aglantha digitale	92	65	
Spiratella helicina	1344	1904	
Clione limacina	24	116	

	P509*	P513*	P601
Bosmina sp.			+
Unidentified copepods			15
Nauplii of copepods			7
Pontoporeia affinis			+
Parathemisto libellula		14	
Sabinea septemcarinata	1		

	P602	P603	P605*
Unidentified nematodes	5	4	
Daphnia sp.		2	
Bosmina sp.	2	2	
Drepanopus bungei III			2
Epischura sp. VI(F)		2	
Unidentified cyclopoids	11	22	
Nauplii of copepods	4	6	
Pseudalibrotus glacialis			1
Larvae of insects	5	2	

	P608	P614	P622
Halitholus cirratus	5	+	
Polychaete larvae	1658	5800	
Podon leuckarti	8	+	
Derjuginia tolli VI(M)		2	
III		6	
Limnocalanus macrurus V	32	53	34
IV	510	253	25
III	307	93	6
II	235	93	6
I	16		
Drepanopus bungei VI(M)	857	107	
VI(F)	1132	600	
IV	8	40	
III	307	67	25
II	7571	6000	199
I	6495	3227	72
Pseudocalanus minutus VI(M)		+	
VI(F)		16	
V		4	
IV		4	
III		27	
II		27	

	P608	P614	P622
<i>Danielssenia stefanssoni</i>			37
<i>Cyclopina</i> sp.	81	67	6
Unidentified copepods	56	30	
Nauplii of copepods	5598	2773	109
<i>Mysis litoralis</i>			4
<i>Pontoporeia affinis</i>			+
<i>Gammaracanthus loricatus</i>			+
<i>Monoculodes</i> sp.			+
<i>Fritillaria borealis</i>	8		
Unidentified eggs	4287	333	3