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# Phytoplankton Data from Frobisher Bay, 1979 to 1981

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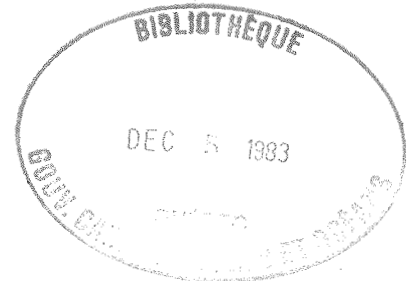
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by



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## ABSTRACT

Hsiao, Stephen I. C. and Nadia Pinkewycz. 1983. Phytoplankton data from Frobisher Bay, 1979 to 1981. Can. Data Rep. Fish. Aquat. Sci. 419: iv + 37 p.

Phytoplankton collections made during the summers of 1979, 1980 and 1981 in Frobisher Bay, in the Canadian arctic, are tabulated quantitatively. A total of 77 species representing 40 genera of phytoplankton occurred in the water column. The Bacillariophyta consisted of 57 species (13 centric and 44 pennate), the Chlorophyta of 7 species, the Pyrrophyta of 6 species, the Chrysophyta of 3 species, the Cryptophyta and the Euglenophyta of 2 species each. Centric diatoms had fewer species but a greater abundance of cells than did the pennate forms.

Key words: Arctic, marine phytoplankton, quantitative species composition, vertical distribution, abundance.

## RESUME

Hsiao, Stephen I. C. and Nadia Pinkewycz. 1983. Phytoplankton data from Frobisher Bay, 1979 to 1981. Can. Data Rep. Fish. Aquat. Sci. 419: iv + 37 p.

Des données provenant d'échantillons de phytoplancton recueillis dans la baie de Frobisher au cours des étés 1979, 1980 et 1981 sont présentées sous forme de tableaux quantitatifs. Au total, 77 espèces représentant 40 genres de phytoplancton ont été rencontrées dans la colonne d'eau. Le phytoplancton était regroupé par espèce de la façon suivante: 57 espèces de Bacillariophytes (dont 13 de forme centrique et 44 de forme pennée), 7 espèces de Chlorophytes, 6 espèces de Pyrrophytes, 3 espèces de Chrysophytes et 2 espèces de Cryptophytes et d'Euglénophytes chacun. Les diatomées de forme centrique affichaient un nombre réduit d'espèces bien que l'abondance des cellules ait été comparativement supérieure à celle des diatomées de forme pennée.

## INTRODUCTION

Large areas of the eastern Canadian Arctic are being opened to exploration for oil, gas and minerals. For the detection of possible future environmental changes resulting from these developments, data on standing stock, community structure, species composition, and distribution of phytoplankton are of great importance. Little published work is available on the qualitative and quantitative distribution of phytoplankton in this region (Bursa, 1961, 1971; Hsiao, 1979; Hsiao and Trucco, 1980). As part of an arctic marine ecosystem study to obtain data on phytoplankton and environmental parameters, particularly the relationships between the seasonal cycles of these parameters and succession in the phytoplankton assemblage, a baseline study of phytoplankton composition, vertical distribution and abundance was conducted in Frobisher Bay during the open water months of July, August and September in the years 1979, 1980 and 1981. These data provide information for future monitoring of the Frobisher Bay marine ecosystem. They will also be useful for comparison with other arctic regions.

## MATERIALS AND METHODS

Phytoplankton samples were collected at intervals of 1-2 weeks at station 1 in Frobisher Bay (Fig. 1) during the summers of 1979, 1980, and 1981. Collections were made with a 5-litre Niskin sampling bottle (model 1010) from the surface, 10 m and the bottom (30-44 m). They were preserved in formalin neutralized with calcium carbonate at a final concentration of 2%. The preserved phytoplankton were quantitatively analyzed for species composition and standing stock. The techniques for preparing permanent slides of cleaned diatoms for species identifications were described by Foy and Hsiao (1976). The species were identified with the aid of a Leitz phase-contrast compound microscope. Standard references for identifications were used and are listed in Hsiao (1979). The cells were enumerated by the method of Hsiao (1979) with the aid of a Leitz inverted microscope.

The data on environmental parameters were reported separately by Lovrity (1981, 1982a, b).

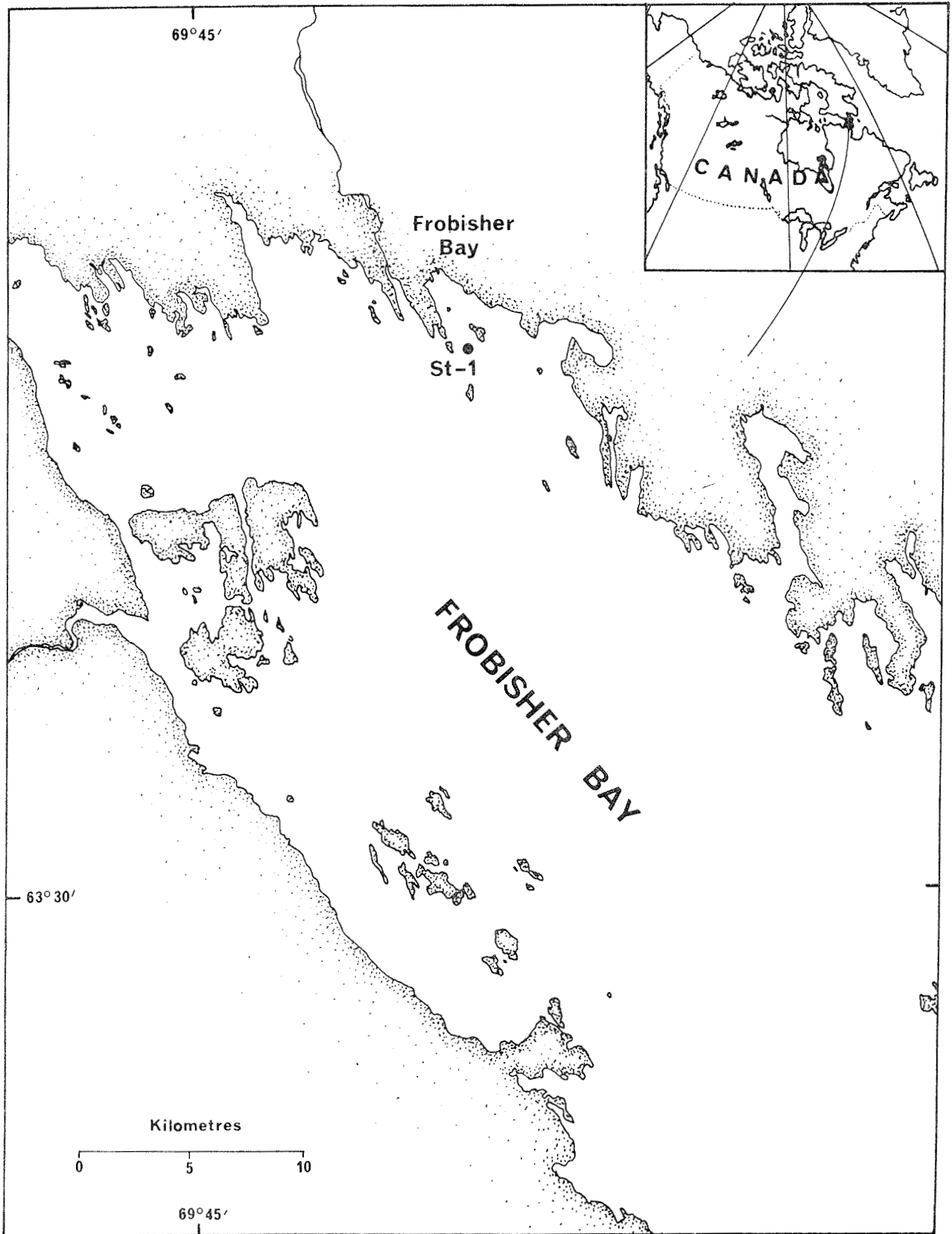


Fig. 1. Map showing station location in Frobisher Bay.

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Table 1. Phytoplankton taxa found in Frobisher Bay during the summers of 1979-1981.

	1979	1980	1981
<u>Bacillariophyta</u>			
<u>Centrales</u>			
<u>Chaetoceros affinis</u> Lauder	X	X	X
<u>C. decipiens</u> Cleve	X	X	X
<u>C. furcellatus</u> Bailey	X	X	X
<u>C. lauderi</u> Ralfs	X	X	
<u>C. septentrionalis</u> Oestrup	X	X	X
<u>C. socialis</u> Lauder		X	X
<u>C. wighamii</u> Brightwell	X	X	X
<u>Coscinodiscus lacustris</u> Grunow	X	X	X
<u>Melosira arctica</u> (Ehrenberg) Dickie		X	
<u>Rhizosolenia setigera</u> Brightwell	X		X
<u>Thalassiosira decipiens</u> (Grunow) Joergensen	X	X	X
<u>T. gravida</u> Cleve	X	X	X
<u>T. nordenskiöldii</u> Cleve	X	X	X
<u>Pennales</u>			
<u>Achnanthes lanceolata</u> (Brébisson) Grunow		X	
<u>Amphiprora concilians</u> Cleve	X	X	
<u>A. gigantea</u> var. <u>septentrionalis</u> (Grunow) Cleve	X		
<u>Amphora ovalis</u> (Kützing) Kützing	X	X	X
<u>Asterionella japonica</u> Cleve	X		
<u>Cocconeis californica</u> (Grunow) Grunow	X		
<u>C. costata</u> Gregory	X	X	
<u>C. decipiens</u> Cleve	X		
<u>C. scutellum</u> Ehrenberg	X	X	X
<u>C. scutellum</u> var. <u>parva</u> (Grunow) Cleve	X	X	X
<u>Cylindrotheca closterium</u> (Ehrenberg) Reimann et Lewin	X	X	X
<u>Diploneis bomboides</u> (Schmidt) Cleve			X
<u>D. incurvata</u> (Gregory) Cleve			X
<u>D. smithii</u> (Brébisson) Cleve	X	X	X
<u>Eunotia veneris</u> (Kützing) De Toni		X	
<u>Fragilaria bidens</u> Heiberg	X	X	
<u>F. construens</u> (Ehrenberg) Grunow	X		
<u>F. pinnata</u> Ehrenberg	X		
<u>Gomphonema olivaceum</u> (Lyngbye) Desmazières	X	X	
<u>Grammatophora arctica</u> Cleve	X		
<u>Licmophora dalmatica</u> (Kützing) Grunow	X	X	
<u>Navicula capitata</u> var. <u>hungarica</u> (Grunow) Ross	X		
<u>N. decipiens</u> O'Meara		X	
<u>N. delicatula</u> Cleve	X		
<u>N. directa</u> (Wm. Smith) Ralfs	X	X	X
<u>N. forcipata</u> Greville	X		
<u>N. gelida</u> Grunow	X	X	X
<u>N. granii</u> (E. Joergensen) Gran	X	X	X

Table 1. (Continued)

	1979	1980	1981
<u>N. humerosa</u> Brébisson		X	
<u>N. peregrina</u> (Ehrenberg) Kützing	X	X	X
<u>N. protracta</u> (Grunow) Cleve	X	X	X
<u>N. trigonocephala</u> Cleve	X		
<u>N. valida</u> Cleve et Grunow	X	X	
<u>Nitzschia angustata</u> Grunow	X	X	
<u>N. cylindrus</u> (Grunow) Hasle			X
<u>N. distans</u> Gregory	X		
<u>N. frigida</u> Grunow	X	X	X
<u>N. seriata</u> Cleve	X	X	X
<u>Pinnularia intermedia</u> (Lagerstedt) Cleve	X		
<u>Rhabdonema arcuatum</u> (Lyngbye) Kützing	X	X	X
<u>R. minutum</u> Kützing	X	X	
<u>Synedra tabulata</u> (Agardh) Kützing	X	X	
<u>S. tabulata</u> var. <u>parva</u> (Kützing) Hustedt	X		
<u>Tabellaria flocculosa</u> (Roth) Kützing	X	X	X
<u>Thalassionema nitzschioides</u> (Grunow) Van Heurck	X	X	X
Chlorophyta			
<u>Ankistrodesmus falcatus</u> (Corda) Ralfs	X	X	
<u>Carteria cordiformis</u> (Carter) Dill	X	X	X
<u>Chlamydomonas plethora</u> Butcher	X		
<u>C. pulsatilla</u> Wohlenweber	X	X	X
<u>Staurastrum megacanthum</u> Lundell	X	X	
<u>Tetraselmis tetrathele</u> (West) Butcher	X		
<u>Trochiscia multispinosa</u> (Moebius) Lemmermann	X	X	X
Chrysophyta			
<u>Dinobryon balticum</u> (Schuett) Lemmermann	X	X	
<u>Phaeocystis pouchetii</u> (Hariot) Lagerheim	X	X	
<u>Salpingoeca natans</u> Grøntved	X	X	X
Cryptophyta			
<u>Chroomonas placoidea</u> Butcher			X
<u>Hemiselmis rotunda</u> Butcher	X		
Euglenophyta			
<u>Euglena schmitzii</u> Gojdics	X	X	X
<u>E. viridis</u> Ehrenberg	X	X	
Pyrrophyta			
<u>Dinophysis acuminata</u> Claparède et Lachmann	X		
<u>Goniaulax monilata</u> Howell	X	X	X
<u>Peridinium diabolus</u> Cleve	X		X
<u>P. punctulatum</u> Paulsen	X		X
<u>Prorocentrum micans</u> Ehrenberg	X	X	X
<u>P. ovalis</u> Rampi	X	X	X

Table 2. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, July 1, 1979.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	21,700	17,400	6,200
Bacillariophyta	20,700	15,400	5,300
Centrales	2,900	11,400	2,600
<u>Chaetoceros affinis</u>	400	1,100	200
<u>C. decipiens</u>	200	3,000	500
<u>C. furcellatus</u>	800	5,500	1,800
<u>C. septentrionalis</u>	300	--	--
<u>Coscinodiscus lacustris</u>	--	200	--
<u>Thalassiosira decipiens</u>	1,100	1,100	100
<u>T. gravida</u>	--	100	--
<u>T. nordenskiöldii</u>	100	400	--
Pennales	17,800	4,000	2,700
<u>Amphiprora gigantea</u> var. <u>septentrionalis</u>	500	--	--
<u>Amphora ovalis</u>	600	100	--
<u>Cocconeis decipiens</u>	300	--	--
<u>C. scutellum</u>	100	--	100
<u>Cylindrotheca closterium</u>	600	1,200	1,100
<u>Diploneis smithii</u>	100	--	--
<u>Fragilaria</u> sp.	200	300	500
<u>F. bidens</u>	700	--	--
<u>F. construens</u>	300	--	--
<u>F. pinnata</u>	100	100	--
<u>Gomphonema olivaceum</u>	200	--	--
<u>Grammatophora arctica</u>	1,700	--	--
<u>Licmophora dalmatica</u>	500	--	--
<u>Navicula capitata</u> var. <u>hungarica</u>	400	--	--
<u>N. delicatula</u>	100	--	--
<u>N. directa</u>	200	--	--
<u>N. gelida</u>	800	--	--
<u>N. granii</u>	3,400	1,800	600
<u>N. protracta</u>	1,500	100	100
<u>N. valida</u>	300	--	--
<u>Nitzschia angustata</u>	--	100	--
<u>N. distans</u>	100	--	--
<u>N. frigida</u>	1,800	200	100
<u>N. seriata</u>	300	--	100
<u>Pinnularia</u> sp.	1,200	--	--
<u>P. intermedia</u>	100	--	--
<u>Rhabdonema arcuatum</u>	100	--	--
<u>Synedra tabulata</u>	100	100	--
<u>S. tabulata</u> var. <u>parva</u>	500	--	--
<u>Tabellaria flocculosa</u>	900	--	--
<u>Thalassionema nitzschioides</u>	100	--	100

Table 2. (Continued)

Seawater depth (m)	0	10	40
Chlorophyta	800	1,100	700
<u>Carteria cordiformis</u>	100	200	100
<u>Chlamydomonas pulsatilla</u>	300	800	600
<u>Staurastrum megacanthum</u>	300	--	--
<u>Trochiscia multispinosa</u>	100	100	--
Chrysophyta	200	500	--
<u>Dinobryon balticum</u>	100	--	--
<u>Salpingoeca natans</u>	--	100	--
Unidentified	100	400	--
Euglenophyta	--	--	200
<u>Euglena schmitzii</u>	--	--	200
Pyrrophyta	--	400	--
<u>Prorocentrum ovalis</u>	--	400	--

Table 3. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, July 15, 1979.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	15,800	33,200	39,900
Bacillariophyta	13,400	29,600	37,800
Centrales	5,900	21,400	25,300
<u>Chaetoceros affinis</u>	700	5,800	8,500
<u>C. decipiens</u>	1,900	4,200	5,500
<u>C. furcellatus</u>	200	5,100	4,800
<u>C. lauderi</u>	--	--	100
<u>C. septentrionalis</u>	300	200	300
<u>C. wighamii</u>	--	400	200
<u>Coscinodiscus lacustris</u>	200	--	--
<u>Thalassiosira decipiens</u>	2,400	4,000	5,100
<u>T. gravida</u>	--	300	300
<u>T. nordenskiöldii</u>	200	1,400	500
Pennales	7,500	8,200	12,500
<u>Amphora ovalis</u>	400	--	200
<u>Cocconeis costata</u>	100	--	--
<u>C. decipiens</u>	100	--	--
<u>C. scutellum</u>	400	--	--
<u>Cylindrotheca closterium</u>	700	4,100	5,900
<u>Fragilaria sp.</u>	200	--	--
<u>Grammatophora arctica</u>	400	--	--
<u>Licmophora dalmatica</u>	100	--	--
<u>Navicula capitata var. hungarica</u>	100	--	--
<u>N. gelida</u>	400	--	100
<u>N. granii</u>	2,700	2,400	5,100
<u>N. peregrina</u>	100	400	--
<u>N. protracta</u>	400	--	--
<u>Nitzschia frigida</u>	--	--	200
<u>N. seriata</u>	300	900	600
<u>Pinnularia sp.</u>	400	--	100
<u>Rhabdonema arcuatum</u>	100	--	--
<u>R. minutum</u>	100	--	--
<u>Synedra tabulata</u>	300	--	--
<u>Thalassionema nitzschioides</u>	200	400	300
Chlorophyta	1,300	1,400	1,200
<u>Chlamydomonas pulsatilla</u>	1,100	1,200	1,200
<u>Staurastrum megacanthum</u>	200	--	--
<u>Tetraselmis tetrathele</u>	--	100	--
Unidentified	--	100	--
Chrysophyta	400	200	--
<u>Salpingoeca natans</u>	100	--	--
Unidentified	300	200	--

Table 3. (Continued)

Seawater depth (m)	0	10	40
Euglenophyta	--	1,100	--
<u>Euglena schmitzii</u>	--	1,100	--
Pyrrophyta	700	900	900
<u>Dinophysis acuminata</u>	--	--	100
<u>Goniaulax sp.</u>	200	200	--
<u>G. monilata</u>	--	--	300
<u>Peridinium diabolus</u>	100	100	--
<u>Prorocentrum ovalis</u>	400	400	500
Unidentified	--	200	--

Table 4. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, July 29, 1979.

Seawater depth (m)	0	10	30
Total phytoplankton (cells/litre)	4,000	787,059	22,300
Bacillariophyta	2,800	714,519	19,400
Centrales	1,200	656,487	15,900
<u>Chaetoceros affinis</u>	200	181,350	4,900
<u>C. decipiens</u>	100	181,350	3,900
<u>C. furcellatus</u>	300	228,501	5,000
<u>C. lauderi</u>	--	7,254	--
<u>C. septentrionalis</u>	200	--	--
<u>C. wighami</u>	--	10,881	200
<u>Coscinodiscus lacustris</u>	--	--	200
<u>Thalassiosira decipiens</u>	300	43,524	1,600
<u>T. gravida</u>	--	3,627	100
<u>T. nordenskioldii</u>	100	--	--
Pennales	1,600	58,032	3,500
<u>Asterionella japonica</u>	300	--	--
<u>Cocconeis californica</u>	--	--	100
<u>C. scutellum</u>	100	--	--
<u>Cylindrotheca closterium</u>	200	3,627	700
<u>Grammatophora arctica</u>	--	--	100
<u>Navicula gelida</u>	300	10,881	200
<u>N. granii</u>	100	29,016	1,800
<u>N. peregrina</u>	--	--	200
<u>Nitzschia frigida</u>	300	--	100
<u>N. seriata</u>	200	10,881	200
<u>Rhabdonema minutum</u>	--	--	100
<u>Synedra tabulata</u>	100	3,627	--
Chlorophyta	500	50,778	1,900
<u>Chlamydomonas pulsatilla</u>	500	50,778	1,700
<u>Trochiscia multispinosa</u>	--	--	200
Chrysophyta	100	3,627	--
<u>Salpingoeca natans</u>	--	3,627	--
Unidentified	100	--	--
Euglenophyta	100	7,254	300
<u>Euglena schmitzii</u>	100	3,627	300
<u>E. viridis</u>	--	3,627	--
Pyrrophyta	500	10,881	700
<u>Goniaulax</u> sp.	--	--	300
<u>G. monilata</u>	--	3,627	--
<u>Peridinium diabolus</u>	300	--	--
<u>P. punctulatum</u>	--	--	200
<u>Prorocentrum micans</u>	100	--	--
<u>P. ovalis</u>	100	7,254	200

Table 5. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, August 8, 1979.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	6,000	12,600	620,217
Bacillariophyta	3,700	11,500	580,320
Centrales	3,100	10,600	536,796
<u>Chaetoceros affinis</u>	400	2,600	97,929
<u>C. decipiens</u>	600	900	94,302
<u>C. furcellatus</u>	1,500	3,900	268,398
<u>C. septentrionalis</u>	100	300	7,254
<u>C. wighami</u>	--	400	21,762
<u>Thalassiosira decipiens</u>	500	1,600	39,897
<u>T. gravida</u>	--	100	7,254
<u>T. nordenskioldii</u>	--	800	--
Pennales	600	900	43,524
<u>Cocconeis scutellum var. parva</u>	--	100	--
<u>Cylindrotheca closterium</u>	--	300	14,508
<u>Fragilaria pinnata</u>	100	100	--
<u>Navicula gelida</u>	--	100	--
<u>N. granii</u>	200	200	10,881
<u>N. peregrina</u>	--	--	3,627
<u>N. protracta</u>	--	--	3,627
<u>Nitzschia angustata</u>	--	--	3,627
<u>N. frigida</u>	--	100	--
<u>N. seriata</u>	200	--	3,627
<u>Pinnularia sp.</u>	100	--	--
<u>Rhabdonema minutum</u>	--	--	3,627
Chlorophyta	500	300	18,135
<u>Chlamydomonas pulsatilla</u>	500	300	18,135
Chrysophyta	900	100	3,627
<u>Dinobryon sp.</u>	100	--	--
<u>D. balticum</u>	100	--	--
<u>Salpingoeca natans</u>	400	--	3,627
Unidentified	300	100	--
Euglenophyta	300	500	3,627
<u>Euglena schmitzii</u>	300	300	3,627
<u>E. viridis</u>	--	200	--
Pyrrophyta	600	200	14,508
<u>Goniaulax sp.</u>	--	--	10,881
<u>G. monilata</u>	--	100	--
<u>Peridinium diabolus</u>	300	--	--
<u>P. punctulatum</u>	--	100	--
<u>Prorocentrum micans</u>	100	--	--
<u>P. ovalis</u>	200	--	3,627

Table 6. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, August 16, 1979.

Seawater depth (m)	0	10	30
Total phytoplankton (cells/litre)	54,100	89,000	23,000
Bacillariophyta	53,500	87,500	21,600
Centrales	53,100	85,800	21,300
<u>Chaetoceros affinis</u>	14,800	12,000	1,500
<u>C. decipiens</u>	8,300	11,200	4,000
<u>C. furcellatus</u>	25,900	55,400	15,200
<u>C. lauderi</u>	200	200	--
<u>C. septentrionalis</u>	900	700	100
<u>C. wighamii</u>	2,400	4,400	--
<u>Thalassiosira decipiens</u>	300	1,500	500
<u>T. nordenskiöldii</u>	300	400	--
Pennales	400	1,700	300
<u>Cylindrotheca closterium</u>	--	100	100
<u>Navicula granii</u>	--	1,200	--
<u>N. peregrina</u>	100	--	--
<u>Nitzschia frigida</u>	200	100	200
<u>N. seriata</u>	100	300	--
Chlorophyta	100	200	400
<u>Chlamydomonas pulsatilla</u>	100	200	400
Chrysophyta	100	500	100
<u>Dinobryon sp.</u>	--	100	--
<u>Phaeocystis pouchetii</u>	--	100	--
<u>Salpingoeca natans</u>	100	--	100
Unidentified	--	300	--
Cryptophyta	100	--	--
<u>Hemiselmis rotunda</u>	100	--	--
Euglenophyta	300	400	100
<u>Euglena schmitzii</u>	300	400	100
Pyrrophyta	--	400	800
<u>Peridinium diabolus</u>	--	100	700
<u>Prorocentrum micans</u>	--	100	100
<u>P. ovalis</u>	--	200	--

Table 7. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, August 24, 1979.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	58,300	81,300	19,300
Bacillariophyta	57,800	78,800	18,700
Centrales	56,500	76,700	18,700
<u>Chaetoceros affinis</u>	8,200	23,800	2,700
<u>C. decipiens</u>	12,300	13,100	2,900
<u>C. furcellatus</u>	29,800	30,900	10,800
<u>C. septentrionalis</u>	500	1,300	200
<u>C. wighamii</u>	5,000	6,100	700
<u>Coscinodiscus lacustris</u>	--	--	100
<u>Thalassiosira decipiens</u>	500	1,200	1,300
<u>T. nordenskioldii</u>	200	300	--
Pennales	1,300	2,100	--
<u>Cocconeis scutellum</u>	100	--	--
<u>Cylindrotheca closterium</u>	--	200	--
<u>Licmophora dalmatica</u>	--	100	--
<u>Navicula gelida</u>	--	100	--
<u>N. granii</u>	800	1,400	--
<u>Nitzschia angustata</u>	100	--	--
<u>N. seriata</u>	300	300	--
Chlorophyta	100	1,000	100
<u>Chlamydomonas plethora</u>	--	400	--
<u>C. pulsatilla</u>	100	600	100
Chrysophyta	100	300	200
<u>Dinobryon sp.</u>	--	200	--
<u>Salpingoeca natans</u>	100	100	200
Euglenophyta	--	200	--
<u>Euglena schmitzii</u>	--	200	--
Pyrrophyta	300	1,000	300
<u>Dinophysis acuminata</u>	--	--	100
<u>Goniaulax sp.</u>	--	500	100
<u>Prorocentrum micans</u>	--	200	100
<u>P. ovalis</u>	300	300	--

Table 8. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, September 1, 1979.

Seawater depth (m)	0	10	35
Total phytoplankton (cells/litre)	21,700	28,800	6,200
Bacillariophyta	21,300	26,800	5,100
Centrales	17,600	26,100	4,700
<u>Chaetoceros affinis</u>	2,400	5,400	200
<u>C. decipiens</u>	2,100	3,800	900
<u>C. furcellatus</u>	10,200	13,400	2,700
<u>C. septentrionalis</u>	--	400	--
<u>C. wighamii</u>	800	400	--
<u>Rhizosolenia setigera</u>	--	100	--
<u>Thalassiosira decipiens</u>	2,000	1,700	800
<u>T. gravida</u>	--	100	--
<u>T. nordenskiöldii</u>	100	800	100
Pennales	3,700	700	400
<u>Amphiprora concilians</u>	100	--	--
<u>Cylindrotheca closterium</u>	--	100	300
<u>Navicula gelida</u>	--	--	100
<u>N. granii</u>	1,500	--	--
<u>N. peregrina</u>	--	200	--
<u>N. trigonocephala</u>	100	--	--
<u>Nitzschia frigida</u>	400	400	--
<u>N. seriata</u>	100	--	--
<u>Tabellaria flocculosa</u>	1,500	--	--
Chlorophyta	200	1,100	700
<u>Ankistrodesmus falcatus</u>	--	500	--
<u>Chlamydomonas plethora</u>	--	--	100
<u>C. pulsatilla</u>	200	600	500
<u>Trochiscia multispinosa</u>	--	--	100
Chrysophyta	100	500	--
<u>Dinobryon sp.</u>	--	100	--
<u>Salpingoeca natans</u>	--	100	--
Unidentified	100	300	--
Euglenophyta	--	--	100
<u>Euglena viridis</u>	--	--	100
Pyrrophyta	100	400	300
<u>Goniaulax sp.</u>	--	--	100
<u>G. monilata</u>	--	--	200
<u>Peridinium diabolus</u>	--	200	--
<u>Prorocentrum micans</u>	100	200	--

Table 9. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, September 9, 1979.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	54,800	34,400	12,700
Bacillariophyta	53,300	32,300	11,400
Centrales	51,300	31,800	10,800
<u>Chaetoceros affinis</u>	1,800	3,600	--
<u>C. decipiens</u>	6,700	3,200	1,400
<u>C. furcellatus</u>	21,400	16,700	7,900
<u>C. lauderi</u>	400	--	--
<u>C. septentrionalis</u>	700	--	100
<u>C. socialis</u>	100	100	--
<u>C. wighami</u>	4,300	1,400	--
<u>Thalassiosira decipiens</u>	10,700	6,400	1,300
<u>T. gravida</u>	500	--	100
<u>T. nordenskioldii</u>	4,700	400	--
Pennales	2,000	500	600
<u>Cocconeis scutellum</u>	--	--	200
<u>Cylindrotheca closterium</u>	100	100	--
<u>Fragilaria pinnata</u>	--	100	100
<u>Navicula forcipata</u>	--	100	--
<u>N. gelida</u>	100	100	100
<u>N. granii</u>	1,000	--	--
<u>N. peregrina</u>	--	100	--
<u>Nitzschia frigida</u>	200	--	200
<u>N. seriata</u>	600	--	--
Chlorophyta	700	900	700
<u>Ankistrodesmus falcatus</u>	200	--	300
<u>Carteria cordiformis</u>	--	100	--
<u>Chlamydomonas plethora</u>	100	400	100
<u>C. pulsatilla</u>	400	400	300
Chrysophyta	400	200	300
<u>Dinobryon balticum</u>	200	--	--
<u>Phaeocystis pouchetii</u>	--	100	100
<u>Salpingoeca natans</u>	200	--	100
Unidentified	--	100	100
Cryptophyta	--	100	--
<u>Hemiselmis rotunda</u>	--	100	--
Euglenophyta	100	200	--
<u>Euglena schmitzii</u>	100	--	--
<u>E. viridis</u>	--	200	--

Table 9. (Continued)

Seawater depth (m)	0	10	40
Pyrrophyta	300	700	300
<u>Dinophysis acuminata</u>	--	100	--
<u>Goniaulax sp.</u>	100	200	--
<u>G. monilata</u>	100	100	--
<u>Peridinium diabolus</u>	--	100	--
<u>Prorocentrum ovalis</u>	100	200	300

Table 10. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, September 22, 1979.

Seawater depth (m)	0	10	44
Total phytoplankton (cells/litre)	6,000	5,500	7,200
Bacillariophyta	5,200	4,200	4,600
Centrales	4,600	3,900	4,000
<u>Chaetoceros affinis</u>	800	400	200
<u>C. decipiens</u>	100	--	--
<u>C. furcellatus</u>	1,200	900	1,200
<u>C. septentrionalis</u>	200	200	100
<u>C. socialis</u>	--	--	200
<u>Coscinodiscus lacustris</u>	--	--	200
<u>Thalassiosira decipiens</u>	1,600	2,200	1,600
<u>T. nordenskiöldii</u>	700	200	500
Pennales	600	300	600
<u>Cocconeis scutellum</u>	--	100	--
<u>Cylindrotheca closterium</u>	100	--	--
<u>Fragilaria pinnata</u>	200	--	--
<u>Navicula granii</u>	--	--	200
<u>N. peregrina</u>	--	--	100
<u>N. protracta</u>	100	--	100
<u>Nitzschia frigida</u>	--	200	--
<u>N. seriata</u>	200	--	100
<u>Synedra tabulata</u>	--	--	100
Chlorophyta	400	700	2,000
<u>Ankistrodesmus falcatus</u>	--	--	1,400
<u>Carteria cordiformis</u>	--	300	--
<u>Chlamydomonas plethora</u>	200	--	--
<u>C. pulsatilla</u>	200	400	600
Chrysophyta	300	300	100
<u>Dinobryon sp.</u>	--	200	--
<u>D. balticum</u>	200	--	--
<u>Phaeocystis pouchetii</u>	--	100	--
<u>Salpingoeca natans</u>	100	--	100
Euglenophyta	100	100	100
<u>Euglena schmitzii</u>	100	100	--
<u>E. viridis</u>	--	--	100
Pyrrophyta	--	200	400
<u>Goniaulax sp.</u>	--	100	--
<u>G. monilata</u>	--	100	--
<u>Prorocentrum micans</u>	--	--	100
<u>P. ovalis</u>	--	--	300

Table 11. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, July 1, 1980.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	18,800	16,800	3,100
Bacillariophyta	13,300	15,000	2,900
Centrales	5,100	10,600	1,700
<u>Chaetoceros affinis</u>	200	2,000	--
<u>C. decipiens</u>	400	3,900	600
<u>C. furcellatus</u>	3,400	3,400	800
<u>C. septentrionalis</u>	100	400	--
<u>C. socialis</u>	100	100	--
<u>Coscinodiscus lacustris</u>	400	100	--
<u>Thalassiosira decipiens</u>	300	500	100
<u>T. nordenskioldii</u>	200	200	200
Pennales	8,200	4,400	1,200
<u>Achnanthes lanceolata</u>	100	--	--
<u>Amphora ovalis</u>	300	100	--
<u>Cocconeis costata</u>	100	--	--
<u>C. scutellum</u>	--	--	100
<u>Cylindrotheca closterium</u>	400	1,600	300
<u>Diploneis smithii</u>	100	--	--
<u>Fragilaria bidens</u>	100	--	--
<u>Gomphonema olivaceum</u>	200	--	--
<u>Navicula decipiens</u>	--	--	100
<u>N. directa</u>	200	--	--
<u>N. gelida</u>	1,000	--	--
<u>N. granii</u>	2,100	2,100	200
<u>N. peregrina</u>	--	--	100
<u>N. protracta</u>	500	100	--
<u>Nitzschia seriata</u>	1,100	500	100
<u>Pinnularia sp.</u>	900	--	100
<u>Rhabdonema minutum</u>	1,000	--	--
<u>Synedra tabulata</u>	100	--	--
<u>Thalassionema nitzschioides</u>	--	--	200
Chlorophyta	3,900	--	100
<u>Ankistrodesmus falcatus</u>	300	--	--
<u>Carteria cordiformis</u>	200	--	100
<u>Chlamydomonas pulsatilla</u>	3,200	--	--
<u>Staurastrum megacanthum</u>	200	--	--
Chrysophyta	1,300	700	100
<u>Dinobryon sp.</u>	--	300	--
<u>D. balticum</u>	1,300	--	--
<u>Salpingoeca natans</u>	--	200	100
Unidentified	--	200	--

Table 11. (Continued)

Seawater depth (m)	0	10	40
Euglenophyta	--	500	--
<u>Euglena schmitzii</u>	--	500	--
Pyrrophyta	300	600	--
Goniaulax sp.	200	--	--
<u>G. monilata</u>	100	300	--
<u>Prorocentrum micans</u>	--	100	--
<u>P. ovalis</u>	--	200	--

Table 12. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, July 13, 1980.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	37,200	1,157,013	1,048,203
Bacillariophyta	34,000	1,048,203	993,798
Centrales	31,600	787,059	863,226
<u>Chaetoceros affinis</u>	11,700	192,231	253,890
<u>C. decipiens</u>	5,300	181,350	134,199
<u>C. furcellatus</u>	6,300	293,787	398,970
<u>C. septentrionalis</u>	400	21,762	3,627
<u>C. socialis</u>	2,900	--	3,627
<u>C. wighami</u>	--	21,762	14,508
<u>Coscinodiscus lacustris</u>	--	3,627	3,627
<u>Melosira arctica</u>	1,600	--	--
<u>Thalassiosira decipiens</u>	2,100	29,016	21,762
<u>T. gravida</u>	500	18,135	10,881
<u>T. nordenskioldii</u>	800	25,389	18,135
Pennales	2,400	261,144	130,572
<u>Cylindrotheca closterium</u>	200	10,881	14,508
<u>Eunotia veneris</u>	100	--	--
<u>Licmophora dalmatica</u>	100	--	--
<u>Navicula granii</u>	1,300	235,755	112,437
<u>N. humerosa</u>	100	--	--
<u>N. peregrina</u>	200	3,627	--
<u>N. valida</u>	--	3,627	--
<u>Nitzschia frigida</u>	--	3,627	3,627
<u>Rhabdonema arcuatum</u>	--	3,627	--
<u>Tabellaria flocculosa</u>	100	--	--
<u>Thalassionema nitzschioides</u>	300	--	--
Chlorophyta	1,200	72,540	39,897
<u>Carteria cordiformis</u>	--	43,524	7,254
<u>Chlamydomonas pulsatilla</u>	1,000	29,016	32,643
<u>Trochiscia multispinosa</u>	200	--	--
Chrysophyta	1,600	14,508	7,254
<u>Dinobryon sp.</u>	--	3,627	--
<u>D. balticum</u>	600	--	--
<u>Salpingoeca natans</u>	900	10,881	3,627
Unidentified	100	--	3,627
Euglenophyta	--	3,627	--
<u>Euglena schmitzii</u>	--	3,627	--
Pyrrophyta	400	18,135	7,254
<u>Goniaulax sp.</u>	100	--	3,627
<u>G. monilata</u>	--	18,135	3,627
<u>Peridinium diabolus</u>	200	--	--
<u>Prorocentrum ovalis</u>	100	--	--

Table 13. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, July 25, 1980.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	16,300	23,700	1,069,965
Bacillariophyta	11,100	20,400	986,545
Centrales	8,900	15,500	801,568
<u>Chaetoceros affinis</u>	400	1,600	195,859
<u>C. decipiens</u>	1,200	2,700	170,469
<u>C. furcellatus</u>	400	2,700	290,160
<u>C. lauderi</u>	100	200	3,627
<u>C. septentrionalis</u>	200	100	--
<u>C. wighami</u>	800	100	14,508
<u>Coscinodiscus lacustris</u>	--	--	14,508
<u>Thalassiosira decipiens</u>	4,800	5,700	97,929
<u>T. gravida</u>	--	1,600	--
<u>T. nordenskiöldii</u>	1,000	800	14,508
Pennales	2,200	4,900	184,977
<u>Amphiprora concilians</u>	--	200	--
<u>Amphora ovalis</u>	--	--	7,254
<u>Cocconeis scutellum</u> var. <u>parva</u>	--	--	3,627
<u>Cylindrotheca closterium</u>	200	100	14,508
<u>Fragilaria</u> sp.	--	--	3,627
<u>Navicula gelida</u>	100	200	3,627
<u>N. granii</u>	1,100	3,900	105,183
<u>N. peregrina</u>	100	--	--
<u>N. protracta</u>	--	--	3,627
<u>Nitzschia frigida</u>	100	300	43,524
<u>N. seriata</u>	200	--	--
<u>Pinnularia</u> sp.	300	--	--
<u>Synedra tabulata</u>	--	200	--
<u>Thalassionema nitzschioides</u>	100	--	--
Chlorophyta	2,600	1,500	54,405
<u>Carteria cordiformis</u>	300	200	--
<u>Chlamydomonas pulsatilla</u>	2,100	1,000	47,151
<u>Staurastrum megacanthum</u>	200	300	--
<u>Trochiscia multispinosa</u>	--	--	7,254
Chrysophyta	2,000	800	3,627
<u>Dinobryon</u> sp.	100	100	--
<u>Salpingoeca natans</u>	1,100	300	3,627
Unidentified	800	400	--
Euglenophyta	100	--	3,627
<u>Euglena schmitzii</u>	100	--	3,627

Table 13. (Continued)

Seawater depth (m)	0	10	40
Pyrrophyta	500	1,000	21,762
<u>Goniaulax</u> sp.	--	300	--
<u>G. monilata</u>	--	--	7,254
<u>Peridinium diabolus</u>	200	200	--
<u>Prorocentrum micans</u>	--	200	--
<u>P. ovalis</u>	300	300	14,508

Table 14. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, August 7, 1980.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	12,700	37,400	11,700
Bacillariophyta	11,400	33,800	11,500
Centrales	11,100	33,300	11,100
<u>Chaetoceros affinis</u>	1,200	3,700	4,100
<u>C. decipiens</u>	800	2,600	2,100
<u>C. furcellatus</u>	600	6,300	2,800
<u>C. lauderi</u>	100	--	--
<u>C. septentrionalis</u>	300	300	--
<u>C. wighami</u>	200	1,800	700
<u>Thalassiosira decipiens</u>	5,600	10,900	1,200
<u>T. gravida</u>	700	1,700	--
<u>T. nordenskioldii</u>	1,600	6,000	200
Pennales	300	500	400
<u>Navicula granii</u>	--	400	200
<u>Nitzschia angustata</u>	--	--	100
<u>N. frigida</u>	200	--	100
<u>N. seriata</u>	100	100	--
Chlorophyta	100	900	100
<u>Carteria cordiformis</u>	--	200	--
<u>Chlamydomonas pulsatilla</u>	100	700	100
Chrysophyta	300	1,200	100
<u>Dinobryon sp.</u>	--	500	--
<u>Salpingoeca natans</u>	100	500	--
Unidentified	200	200	100
Euglenophyta	100	100	--
<u>Euglena schmitzii</u>	100	100	--
Pyrrophyta	800	1,400	--
<u>Goniaulax sp.</u>	100	--	--
<u>G. monilata</u>	100	--	--
<u>Peridinium diabolus</u>	600	900	--
<u>Prorocentrum micans</u>	--	100	--
<u>P. ovalis</u>	--	400	--

Table 15. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, August 21, 1980.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	2,600	82,700	2,600
Bacillariophyta	1,600	81,000	2,200
Centrales	1,100	79,700	1,900
<u>Chaetoceros affinis</u>	400	10,000	300
<u>C. decipiens</u>	100	5,600	--
<u>C. furcellatus</u>	100	6,000	--
<u>C. lauderi</u>	--	300	--
<u>C. septentrionalis</u>	100	900	--
<u>C. wighami</u>	--	3,500	--
<u>Thalassiosira decipiens</u>	400	36,800	1,500
<u>T. gravida</u>	--	4,700	--
<u>T. nordenskioldii</u>	--	11,900	100
Pennales	500	1,300	300
<u>Cylindrotheca closterium</u>	400	--	--
<u>Navicula gelida</u>	--	200	--
<u>N. granii</u>	--	300	200
<u>Nitzschia frigida</u>	--	300	--
<u>N. seriata</u>	--	400	100
<u>Pinnularia</u> sp.	--	100	--
<u>Thalassionema nitzschioides</u>	100	--	--
Chlorophyta	500	500	400
<u>Ankistrodesmus falcatus</u>	300	--	--
<u>Carteria cordiformis</u>	--	200	--
<u>Chlamydomonas pulsatilla</u>	100	300	400
<u>Staurastrum megacanthum</u>	100	--	--
Chrysophyta	500	600	--
<u>Dinobryon balticum</u>	500	--	--
<u>Phaeocystis pouchetii</u>	--	100	--
<u>Salpingoeca natans</u>	--	500	--
Pyrrophyta	--	600	--
<u>Goniaulax</u> sp.	--	300	--
<u>Peridinium diabolus</u>	--	200	--
<u>Prorocentrum ovalis</u>	--	100	--

Table 16. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, September 4, 1980.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	3,800	26,100	9,400
Bacillariophyta	2,400	23,700	8,000
Centrales	1,300	23,000	7,800
<u>Chaetoceros affinis</u>	--	1,600	--
<u>C. decipiens</u>	--	600	100
<u>C. furcellatus</u>	300	300	1,900
<u>C. socialis</u>	--	--	200
<u>C. wighamii</u>	--	--	200
<u>Thalassiosira decipiens</u>	900	11,600	4,800
<u>T. gravida</u>	--	2,700	500
<u>T. nordenskiöldii</u>	100	6,200	100
Pennales	1,100	700	200
<u>Cylindrotheca closterium</u>	100	--	--
<u>Navicula granii</u>	200	500	--
<u>Nitzschia frigida</u>	100	--	--
<u>N. seriata</u>	600	200	100
<u>Rhabdonema minutum</u>	--	--	100
<u>Thalassionema nitzschioides</u>	100	--	--
Chlorophyta	300	500	900
<u>Carteria cordiformis</u>	200	100	--
<u>Chlamydomonas pulsatilla</u>	100	400	800
Unidentified	--	--	100
Chrysophyta	600	800	100
<u>Dinobryon balticum</u>	100	100	--
<u>Salpingoeca natans</u>	500	600	100
Unidentified	--	100	--
Pyrrophyta	500	1,100	400
<u>Prorocentrum ovalis</u>	500	1,100	400

Table 17. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, September 18, 1980.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	442,494	67,500	10,400
Bacillariophyta	275,652	65,100	8,300
Centrales	250,263	61,000	7,700
<u>Chaetoceros affinis</u>	32,643	7,400	200
<u>C. decipiens</u>	36,270	5,800	400
<u>C. furcellatus</u>	58,032	6,400	500
<u>C. septentrionalis</u>	3,627	200	200
<u>C. wighami</u>	--	1,900	600
<u>Thalassiosira decipiens</u>	112,437	32,000	5,200
<u>T. gravida</u>	--	600	--
<u>T. nordenskioldii</u>	7,254	6,700	600
Pennales	25,389	4,100	600
<u>Cocconeis scutellum</u>	3,627	--	--
<u>C. scutellum var. parva</u>	--	100	--
<u>Cylindrotheca closterium</u>	3,627	100	--
<u>Fragilaria bidens</u>	--	200	--
<u>Licmophora dalmatica</u>	7,254	--	--
<u>Navicula directa</u>	--	100	--
<u>N. gelida</u>	--	100	--
<u>N. granii</u>	--	500	--
<u>N. peregrina</u>	--	--	100
<u>Nitzschia frigida</u>	--	800	--
<u>N. seriata</u>	7,254	2,000	400
<u>Synedra tabulata</u>	--	200	100
<u>Tabellaria flocculosa</u>	3,627	--	--
Chlorophyta	116,064	700	700
<u>Chlamydomonas pulsatilla</u>	116,064	700	700
Chrysophyta	39,897	1,000	1,000
<u>Dinobryon sp.</u>	3,627	--	--
<u>Phaeocystis pouchetii</u>	--	--	100
<u>Salpingoeca natans</u>	36,270	900	900
Unidentified	--	100	--
Euglenophyta	3,627	300	--
<u>Euglena schmitzii</u>	3,627	200	--
<u>E. viridis</u>	--	100	--
Pyrrophyta	7,254	400	400
<u>Goniaulax sp.</u>	3,627	--	--
<u>G. monilata</u>	--	--	200
<u>Prorocentrum ovalis</u>	3,627	400	200

Table 18. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, July 27, 1981.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	9,200	39,200	20,600
Bacillariophyta	8,400	35,700	19,400
Centrales	7,900	27,100	14,000
<u>Chaetoceros affinis</u>	400	4,600	4,400
<u>C. decipiens</u>	100	2,600	2,900
<u>C. furcellatus</u>	1,800	2,100	2,300
<u>C. septentrionalis</u>	100	300	100
<u>C. wighamii</u>	200	400	--
<u>Coscinodiscus lacustris</u>	--	400	100
<u>Thalassiosira decipiens</u>	3,100	9,700	3,200
<u>T. nordenskioldii</u>	2,200	7,000	1,000
Pennales	500	8,600	5,400
<u>Cocconeis scutellum</u>	--	100	--
<u>C. scutellum var. parva</u>	--	--	100
<u>Cylindrotheca closterium</u>	200	2,000	300
<u>Diploneis incurvata</u>	--	--	100
<u>Navicula gelida</u>	100	300	200
<u>N. granii</u>	--	4,000	3,300
<u>N. peregrina</u>	--	600	500
<u>Nitzschia cylindrus</u>	--	--	400
<u>N. frigida</u>	100	600	100
<u>N. seriata</u>	--	900	100
<u>Rhabdonema arcuatum</u>	--	100	100
<u>Tabellaria flocculosa</u>	--	--	200
<u>Thalassionema nitzschioides</u>	100	--	--
Chlorophyta	300	2,600	500
<u>Carteria cordiformis</u>	--	100	--
<u>Chlamydomonas pulsatilla</u>	300	2,300	500
<u>Trochiscia multispinosa</u>	--	200	--
Chrysophyta	300	200	200
<u>Salpingoeca natans</u>	100	100	200
Unidentified	200	100	--
Cryptophyta	--	--	300
<u>Chroomonas placoidea</u>	--	--	300
Euglenophyta	--	400	--
<u>Euglena schmitzii</u>	--	400	--
Pyrrophyta	200	300	200
<u>Goniaulax sp.</u>	--	100	100
<u>G. monilata</u>	100	100	100
<u>Prorocentrum micans</u>	100	--	--
<u>P. ovalis</u>	--	100	--

Table 19. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, August 3, 1981.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	38,800	44,900	29,900
Bacillariophyta	36,700	43,400	27,800
Centrales	35,000	37,600	26,100
<u>Chaetoceros affinis</u>	9,200	8,000	7,900
<u>C. decipiens</u>	7,400	5,900	3,700
<u>C. furcellatus</u>	7,100	10,500	6,800
<u>C. septentrionalis</u>	--	100	--
<u>C. wighami</u>	1,000	2,000	100
<u>Coscinodiscus lacustris</u>	--	--	100
<u>Rhizosolenia setigera</u>	--	--	100
<u>Thalassiosira decipiens</u>	7,200	9,100	5,400
<u>T. gravida</u>	100	--	--
<u>T. nordenskioldii</u>	3,000	2,000	2,000
Pennales	1,700	5,800	1,700
<u>Amphora ovalis</u>	--	--	100
<u>Cocconeis scutellum</u> var. <u>parva</u>	--	100	--
<u>Cylindrotheca closterium</u>	200	100	300
<u>Navicula gelida</u>	300	500	400
<u>N. granii</u>	800	4,500	--
<u>N. peregrina</u>	100	100	100
<u>Nitzschia frigida</u>	--	--	600
<u>N. seriata</u>	300	500	200
Chlorophyta	1,000	1,100	1,900
<u>Carteria cordiformis</u>	200	--	300
<u>Chlamydomonas pulsatilla</u>	800	1,000	1,500
<u>Trochiscia multispinosa</u>	--	100	100
Chrysophyta	600	100	100
<u>Salpingoeca natans</u>	100	100	100
Unidentified	500	--	--
Pyrrophyta	500	300	100
<u>Goniaulax monilata</u>	--	100	--
<u>Peridinium diabolus</u>	200	--	--
<u>P. punctulatum</u>	--	100	--
<u>Prorocentrum micans</u>	300	100	--
<u>P. ovalis</u>	--	--	100

Table 20. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, August 10, 1981.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	57,000	1,167,894	22,300
Bacillariophyta	56,700	1,149,759	21,900
Centrales	55,900	1,131,624	17,700
<u>Chaetoceros affinis</u>	18,100	366,327	5,900
<u>C. decipiens</u>	11,000	134,199	300
<u>C. furcellatus</u>	13,900	340,938	8,300
<u>C. septentrionalis</u>	1,000	50,778	300
<u>C. wighami</u>	2,500	137,826	200
<u>Coscinodiscus lacustris</u>	--	--	400
<u>Rhizosolenia setigera</u>	--	--	200
<u>Thalassiosira decipiens</u>	7,100	61,659	1,600
<u>T. graviora</u>	700	7,254	100
<u>T. nordenskiöldii</u>	1,600	32,643	400
Pennales	800	18,135	4,200
<u>Amphora ovalis</u>	--	--	200
<u>Cocconeis scutellum</u>	--	--	100
<u>C. scutellum</u> var. <u>parva</u>	--	--	100
<u>Cylindrotheca closterium</u>	100	7,254	300
<u>Navicula directa</u>	--	--	100
<u>N. gelida</u>	100	3,627	100
<u>N. granii</u>	--	--	2,200
<u>N. peregrina</u>	--	--	100
<u>Nitzschia frigida</u>	100	3,627	500
<u>N. seriata</u>	500	3,627	500
Chlorophyta	100	7,254	100
<u>Carteria cordiformis</u>	--	--	100
<u>Chlamydomonas pulsatilla</u>	100	7,254	--
Chrysophyta	200	7,254	100
<u>Salpingoeca natans</u>	200	7,254	--
Unidentified	--	--	100
Pyrrophyta	--	3,627	200
<u>Goniaulax monilata</u>	--	--	100
<u>Prorocentrum ovalis</u>	--	3,627	100

Table 21. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, August 24, 1981.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	21,800	19,800	11,100
Bacillariophyta	21,700	19,700	10,100
Centrales	20,300	18,300	9,000
<u>Chaetoceros affinis</u>	7,500	3,900	2,700
<u>C. decipiens</u>	5,400	3,700	1,700
<u>C. furcellatus</u>	3,400	2,700	2,000
<u>C. septentrionalis</u>	100	300	300
<u>C. wighami</u>	1,000	1,700	200
<u>Thalassiosira decipiens</u>	2,100	5,200	1,700
<u>T. gravida</u>	100	--	--
<u>T. nordenskioldii</u>	700	800	400
Pennales	1,400	1,400	1,100
<u>Cocconeis scutellum</u>	--	100	--
<u>C. scutellum var. parva</u>	100	100	--
<u>Cylindrotheca closterium</u>	--	--	300
<u>Navicula directa</u>	--	--	100
<u>N. gelida</u>	100	100	--
<u>N. granii</u>	200	800	--
<u>N. peregrina</u>	500	200	500
<u>Nitzschia seriata</u>	500	100	200
Chlorophyta	--	100	700
<u>Chlamydomonas pulsatilla</u>	--	100	700
Chrysophyta	--	--	200
<u>Salpingoeca natans</u>	--	--	200
Pyrrophyta	100	--	100
<u>Goniaulax monilata</u>	--	--	100
<u>Prorocentrum ovalis</u>	100	--	--

Table 22. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, August 31, 1981.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	11,700	4,100	3,700
Bacillariophyta	11,700	3,800	3,500
Centrales	11,300	3,500	3,300
<u>Chaetoceros affinis</u>	1,800	800	1,000
<u>C. decipiens</u>	2,700	500	200
<u>C. furcellatus</u>	2,500	300	1,200
<u>C. septentrionalis</u>	--	100	--
<u>C. wighami</u>	600	--	--
<u>Coscinodiscus lacustris</u>	--	100	--
<u>Thalassiosira decipiens</u>	3,000	1,400	700
<u>T. gravida</u>	100	--	--
<u>T. nordenskioldii</u>	600	300	200
Pennales	400	300	200
<u>Cocconeis scutellum</u>	--	--	100
<u>Diploneis bomboides</u>	100	--	--
<u>Navicula gelida</u>	100	--	--
<u>N. granii</u>	--	200	--
<u>N. peregrina</u>	--	100	--
<u>N. protracta</u>	100	--	--
<u>Nitzschia seriata</u>	100	--	100
Chlorophyta	--	100	200
<u>Carteria cordiformis</u>	--	--	100
<u>Chlamydomonas pulsatilla</u>	--	100	100
Euglenophyta	--	200	--
<u>Euglena schmitzii</u>	--	200	--

Table 23. Quantitative composition and vertical distribution of phytoplankton in Frobisher Bay at station 1, September 7, 1981.

Seawater depth (m)	0	10	40
Total phytoplankton (cells/litre)	12,900	16,600	7,500
Bacillariophyta	12,400	15,900	6,300
Centrales	10,600	15,000	4,600
<u>Chaetoceros affinis</u>	1,400	1,700	900
<u>C. decipiens</u>	900	3,100	600
<u>C. furcellatus</u>	3,700	5,900	2,200
<u>C. septentrionalis</u>	300	500	--
<u>C. socialis</u>	--	--	100
<u>C. wighami</u>	1,500	1,000	200
<u>Thalassiosira decipiens</u>	1,300	2,300	500
<u>T. gravida</u>	600	--	--
<u>T. nordenskioldii</u>	900	500	100
Pennales	1,800	900	1,700
<u>Amphora ovalis</u>	--	200	--
<u>Cocconeis scutellum</u>	--	--	100
<u>Cylindrotheca closterium</u>	100	100	--
<u>Diploneis smithii</u>	400	--	--
<u>Navicula granii</u>	800	300	1,100
<u>N. peregrina</u>	--	--	200
<u>Nitzschia frigida</u>	100	--	--
<u>N. seriata</u>	300	300	300
<u>Pinnularia</u> sp.	100	--	--
Chlorophyta	300	200	900
<u>Carteria cordiformis</u>	200	--	--
<u>Chlamydomonas pulsatilla</u>	100	200	800
<u>Trochiscia multispinosa</u>	--	--	100
Chrysophyta	100	300	200
<u>Dinobryon</u> sp.	--	--	100
<u>Salpingoeca natans</u>	100	300	100
Euglenophyta	100	--	--
<u>Euglena schmitzii</u>	100	--	--
Pyrrophyta	--	200	100
<u>Goniaulax monilata</u>	--	--	100
<u>Prorocentrum micans</u>	--	100	--
<u>P. ovalis</u>	--	100	--

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