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Phytoplankton Monitoring in the Western Isles Region of the Bay of Fundy during 1997-98

J.L. Martin, M.M. LeGresley and P.M. Strain

Fisheries and Oceans Canada
Biological Station
531 Brandy Cove Road
St. Andrews, NB E5B 2L9

March 2001

**Canadian Technical Report of Fisheries and
Aquatic Sciences 2349**



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by

J. L. Martin, M. M. LeGresley and P. M. Strain

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This is the two hundred and forty-third Technical Report of
the Biological Station, St. Andrews, NB

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ABSTRACT

Martin, J. L., M. M. LeGresley, and P. M. Strain. Phytoplankton monitoring in the Western Isles region of the Bay of Fundy during 1997-98. Can. Tech. Rep. Fish. Aquat. Sci. 2349: iv + 85 p.

A monitoring program was initiated in May 1987 to study phytoplankton populations in the Western Isles region of the Bay of Fundy, southwest New Brunswick. This report provides another 2 yr of data to add to the results from 1987-96 published previously. Samples were collected for phytoplankton distribution and abundance as well as plant nutrients (ammonia, nitrate, phosphate and silicate) at four locations – Brandy Cove, Lime Kiln Bay, Deadmans Harbour and the Wolves Islands. Additional parameters measured included secchi depth, and depth profiles for fluorescence, temperature and salinity. Samples were collected at the surface from all locations and additional discrete depths of 10 m, 25 m, and 50 m were sampled at the Wolves.

Dominant species ($>10^3$ cells L^{-1}) during the 2-yr period were *Guinardia delicatula*, *Leptocylindrus danicus*, *Leptocylindrus minimus*, *Mesodinium rubrum*, *Pseudo-nitzschia delicatissima* group, and *Skeletonema costatum*. *M. rubrum* and the *P. delicatissima* group have been observed at concentrations $>10,000$ during all of the past 12 yr. Whereas *Alexandrium fundyense* (the organism responsible for producing paralytic shellfish toxins) concentrations exceeded 10^3 cells L^{-1} during the 4 yr 1993-96, during 1997-98, highest concentrations observed were 8.2×10^3 cells L^{-1} and 6.7×10^3 cells L^{-1} , respectively.

During 1998, another sampling site in mid Passamaquoddy Bay was added as a result of concentrations of *M. rubrum* exceeding one million cells L^{-1} during a 4-wk period in the northern Passamaquoddy Bay area, which was responsible for low numbers of salmon mortalities.

Highest and lowest temperatures (0.4–15.5°C) were measured at Brandy Cove as well as lowest salinities (23.85). Silicate values ranged from 0.44 to 14.6 μM ; phosphate levels ranged from 0.34 to 1.13 μM ; nitrate values were from 0.03 to 9.87 μM ; and ammonia ranged between 1.18 to 6.72 μM .

RÉSUMÉ

Martin, J. L., M. M. LeGresley, and P. M. Strain. Phytoplankton monitoring in the Western Isles region of the Bay of Fundy during 1997-98. Can. Tech. Rep. Fish. Aquat. Sci. 2349: iv + 85 p.

Un programme de surveillance a été lancé en mai 1987 pour étudier les populations phytoplanctoniques de la région Ouest de la Baie de Fundy, au sud-ouest du Nouveau-Brunswick. Ce rapport ajoute 2 années de données aux résultats déjà publiés des années 1987-96. Les échantillons d'eau pour l'analyse de phytoplancton et de nutriments (silicates, phosphates, nitrates et ammoniac) ont été prélevés à quatre emplacements (Brandy Cove, Lime Kiln, Deadmans Harbour ainsi qu'en proximité des îles Wolves). Le phytoplancton a été identifié et dénombré et les autres paramètres tels que la profondeur du secchi, le profil de la température, la fluorescence et de la salinité en profondeur ont été mesurés aussi. Aux quatre emplacements, les échantillons ont été prélevés à la surface et en plus nous avons aussi échantilloné trois profondeurs (10 m, 25 m et 50 m) aux Wolves.

Les espèces principales ($<10^3$ cellules L^{-1}) pendant ces deux années étaient *Guinardia delicatula*, *Leptocylindrus danicus*, *Leptocylindrus minimus*, *Mesodinium rubrum*, le complexe *Pseudo-nitzschia delicatissima*, et *Skeletonema costatum*. *M. rubrum* et le complexe *P. delicatissima* ont été observés pendant les 12 dernières années en concentrations $>10,000$. Tandis que le *Alexandrium fundyense*, l'organisme responsable de l'intoxication paralysante par les mollusques (IPM) atteignait un niveau élevé (au-delà de 10,000 cellules L^{-1}) dans chacune des quatre années 1993-1996, pendant les années 1997-98, leurs concentrations maximales étaient de 8.2×10^3 cellules L^{-1} et de 6.7×10^3 cellules L^{-1} respectivement.

Durant l'été de 1998, un autre emplacement a été ajouté au centre de la Baie de Passamaquoddy en raison des concentrations de *M. rubrum* qui ont atteint plus d'un million de cellules L^{-1} pendant 4 semaines dans le secteur nord de la Baie de Passamaquoddy et qui ont causé des faibles mortalités de saumons.

Les températures minimales et maximales (0.4-15.5°C) ont été observées à Brandy Cove ainsi que les salinités minimales (23.85). La teneur en silicates variait de 0.44 et 14.6 μM ; la teneur en phosphate de 0.34 à 1.13 μM ; les nitrates de 0.03 à 9.87 μM ; et l'ammoniac de 1.18 et 6.72 μM .

INTRODUCTION

A phytoplankton monitoring program was initiated in the Western Isles region of the Bay of Fundy in 1987. Initially, the study was partially funded by the salmonid aquaculture industry due to growing concerns worldwide that the incidents of fish mortalities, especially those held captive in net pens, were increasing (Anderson 1989; Smayda 1990). The purposes of the study were: to establish baseline data on phytoplankton populations since little detailed work had been published since the earlier studies by Gran and Braarud (1935); to identify harmful algal species that could potentially cause harm to the aquaculture industry; to provide an early warning to the industry by sorting and identifying samples soon after collection; and to determine patterns and trends in phytoplankton populations. In addition, it could provide an early warning to regulatory agencies such as the Canadian Food Inspection Agency (CFIA) for the occurrence of species that produce toxins resulting in shellfish toxicities and closures of shellfish beds to harvesting, generally during the summer.

Harmful algal blooms have been known to affect fish through either of the following: toxins, clogging of gills or asphyxiation. Farmed fish are particularly vulnerable to harmful phytoplankton blooms because they cannot avoid blooms by swimming away and heavy mortality could occur within hours. Today the salmonid mariculture industry in southwest New Brunswick consists of more than 80 active farms (Fig. 1). In addition, a number of applications for new sites in the spring of 2001 have been submitted. Another purpose of the study is to determine whether there are environmental changes as a result of the salmon industry. Therefore, this report includes records of ecological observations for the 2-yr period beginning January 1997 until December 1998.

Although the majority of phytoplankton species occur in the environment without causing adverse effects, there are a few that are known to cause harm. For example, in the Bay of Fundy, *Alexandrium fundyense* and *Pseudo-nitzschia pseudodelicatissima* are species responsible for producing toxins associated with the syndromes paralytic shellfish poisoning (PSP) and amnesic shellfish poisoning (ASP or domoic acid poisoning). In these cases, shellfish that had been feeding on harmful species accumulate toxins with no obvious effects to the shellfish themselves. The toxins are then stored in their tissues and when the shellfish are eaten by vertebrate consumers, including humans,

illness and, in some cases death, has resulted. PSP toxins and resulting shellfish toxicity have been around in the Bay of Fundy for hundreds of years (Prakash et al. 1971) and both our studies and PSP shellfish toxicity results show that *A. fundyense* occurs annually (Martin and White 1988; Martin et al. 1999).

Domoic acid was first detected in shellfish in the Bay of Fundy in 1988 and the causative species was determined to be *P. pseudodelicatissima* (Martin et al. 1990; Haya et al. 1991). During this event, the shellfish harvesting areas affected were located in Passamaquoddy Bay. It was not until 1995 that shellfish beds were closed again in the Bay of Fundy as a result of unacceptable levels of domoic acid and, in this case, the areas affected were outside Passamaquoddy Bay (Martin et al. 1998).

A. fundyense has not only been responsible for human illnesses as a result of PSP, but it has also affected fisheries. For example, in 1976 and 1979, hundreds of tonnes of Atlantic herring, *Clupea harengus harengus*, died from PSP toxins that the herring accumulated through the food chain (White 1980). In 1987, 14 humpback whales died after feeding on mackerel (*Scomber scombrus*) that had eaten zooplankton that in turn had fed on *A. fundyense* (MacKenzie 1988; Haya et al. 1990).

Results from the earlier years on the monitoring program have been published previously (Wildish et al. 1988, 1990; Martin et al. 1995, 1999). This report presents results from analyses of phytoplankton, plant nutrients, temperature and salinity during the 2 yr, 1997 and 1998.

MATERIALS AND METHODS

The number of sampling sites in the southwest New Brunswick area of the Bay of Fundy has changed since the program started in 1987. Initially, 12 sites were sampled with 10 located in the Letang area, where the majority of the aquaculture sites were located at that time, and the remaining two located in Harbour de Lute (Campobello Island), in close proximity to another aquaculture site. The following year, the number of sampling sites expanded to 18, with additional sites in Passamaquoddy Bay around Deer Island, Deadmans Harbour and the offshore site at the Wolves. In 1992, sampling was reduced, due to financial constraints, to the four stations that continue to be monitored today (Fig. 2). These include: Brandy Cove (#17 – a brackish site influenced by the Saint Croix River

estuary), Lime Kiln Bay (#3 – Letang estuary where a number of aquaculture sites are located), Deadmans Harbour (#15 – an open bay with offshore influence), and the Wolves Islands (#16 – an offshore indicator site).

Sampling was conducted during the 2 yr, 1997 and 1998, aboard the research vessel, PANDALUS III. Weekly samples were collected from May 13 to the end of September in 1997 and from May 12 to the end of October in 1998. Biweekly sampling was conducted in the month of October 1997 and monthly during all other months in 1997 and 1998. Extra samples were collected in 1998 from sites in northern and mid-Passamaquoddy Bay during the time when brick-red patches of water were observed.

Either a Seabird Model 19 or Model 25 was used to collect vertical profiles of temperature, salinity and fluorescence at each site. Salinity results are reported on the Practical Salinity Scale (1980).

Phytoplankton and nutrient samples were collected at the surface by bucket from all four stations and at depths of 10 m, 25 m, and 50 m with a Niskin bottle at station #16. During the summer months a vertical plankton haul was made with a 20- μm mesh net, 0.3 m in diameter. A subsample was preserved with formalin:acetic acid (1:1 by volume) for further identification and SEM. In addition, a live sample was taken for further identification and culture of selected organisms. Live phytoplankton samples were immediately iced for the return trip to the laboratory.

Samples for ammonia, nitrate (nitrite and nitrate), phosphate and silicate were frozen immediately and later measured using a Technicon Autoanalyzer II as described by Strain and Clement (1996).

Samples and data were recorded according to date, location and depth; as well, an independent identification number was assigned at the time of collection. Information was entered, maintained and accessed in a database. Individual net haul results and individual depth profiles from the Seabird profiler were stored separately.

Water samples (250 mL) were immediately preserved with 5 mL formalin:acetic acid. Later, 50-mL subsamples were settled in Zeiss counting chambers for 16 h. All phytoplankton greater than 5 μm were identified and enumerated (as cells L^{-1}) using a Nikon inverted microscope. Further identifi-

cation was done using either a JEOL JSM-5600 scanning electron microscope (SEM) or a Hitachi S-2400 SEM. Sample preparation for SEM was as follows: samples were rinsed with 250 mL distilled water (prefiltered 1.3 μm) onto a 3- μm (Poretics) polycarbonate filter using a 25-mm Millipore vacuum filtration apparatus. Diatoms were cleaned with the permanganate oxidation method (Hasle and Fryxell 1970) while samples with thin walls and/or unarmoured dinoflagellates were dehydrated in a series of ethanol solutions (20, 50, 70, 85, 95%) prepared with distilled water and absolute ethanol for a minimum of 10 min at each step, finishing with three rinses of 100% ethanol. For the final drying step, three changes of hexamethyldisilazane (HMDS) were used (Bray et al. 1993; Kaczmarska et al. 2000), a minimum of 10 min each, allowing the last rinse to evaporate slowly at room temperature. Filters were mounted on stubs, then coated with gold-palladium in a Hummer sputtering system.

For species identification purposes, the *P. delicatissima* group included species of both *P. pseudodelicatissima* and *P. delicatissima*; the *P. seriata* group included the species *P. multiseries*, *P. pungens* and *P. seriata*. *Alexandrium fundyense* cells included all its life cycle stages, and if different stages in its life cycle were observed, they were recorded separately as well. Its life cycle stages include: duplets or triplets (asexually dividing cells) that are observed early in the bloom, fusing (sexual division where two cells fuse together), planozygote (large cell formed from the fusing cells) and cysts or resting spores.

RESULTS

There were a total of 24 and 29 sample days in 1997 and 1998, respectively. Numbers of samples analyzed were higher during 1998 (195) than during 1997 (164) due to the persistence of the fall diatom bloom and the extension of weekly sampling.

PHYTOPLANKTON

Numbers of samples analyzed for phytoplankton density were 164 in 1997 and 195 in 1998. During the 2 yr, 150 species of phytoplankton and smaller zooplankton were identified (Appendix 1). Identification and enumeration results for phytoplankton are listed in Appendix 2. Organisms that were observed at concentrations greater than 10,000 cells L^{-1} during the 2 yr are listed in Table 1 in alphabetical order. Dominant species during the 2 yr were: *Chaetoceros compressus*, *Guinardia*

Table 1. Organisms detected at levels greater than 10,000 cells L⁻¹.

<u>1997</u>
<i>Asterionellopsis glacialis</i>
<i>Chaetoceros compressus</i>
<i>Cylindrotheca closterium</i>
<i>Ditylum brightwellii</i>
<i>Guinardia delicatula</i> *
<i>Heterocapsa triquetra</i>
<i>Leptocylindrus danicus</i>
<i>Leptocylindrus minimus</i> *
<i>Mesodinium rubrum</i>
<i>Pseudo-nitzschia delicatissima</i> group *
<i>Skeletonema costatum</i> *
<i>Thalassiosira decipiens</i>
<i>Thalassiosira nordenskioeldii</i>
<u>1998</u>
<i>Cerataulina pelagica</i>
<i>Chaetoceros compressus</i>
<i>Chaetoceros debilis</i>
<i>Chaetoceros socialis</i>
<i>Guinardia delicatula</i> *
<i>Guinardia flaccida</i> *
<i>Lauderia annulata</i>
<i>Leptocylindrus danicus</i>
<i>Leptocylindrus minimus</i>
<i>Mesodinium rubrum</i>
<i>Pseudo-nitzschia delicatissima</i> group
<i>Scrippsiella trochoidea</i>
<i>Skeletonema costatum</i> *

* levels greater than 100,000 cells L⁻¹

delicatula, *Leptocylindrus danicus*, *L. minimus*, *Mesodinium rubrum*, *P. delicatissima* group, and *Skeletonema costatum*. Species with concentrations greater than 100,000 cells L⁻¹ in 1997 were: *G. delicatula* (1.49×10^5), *L. minimus* (1.69×10^5), *P. delicatissima* group (1.17×10^5), and *S. costatum* (2.24×10^5). In 1998, there were three species observed at concentrations greater than 100,000 cells L⁻¹ and the concentrations were all from Brandy Cove: *G. delicatula* (2.12×10^5), *G. flaccida* (1.62×10^5), and *S. costatum* (1.05×10^5).

Only one dinoflagellate species was present in the greater than 10,000 cells L⁻¹ group in each of the years, 1997 (*Heterocapsa triquetra*) and 1998 (*Scrippsiella trochoidea*). Interestingly, *A. fundyense* was observed at concentrations greater than 10,000 cells L⁻¹ during the 4 yr 1993-96. During 1997 and 1998, the highest concentrations observed were 8200 and 6720 *A. fundyense* cells L⁻¹. *A. fundyense*, the organism responsible for producing paralytic

shellfish toxins, is observed annually, but intensity of the bloom varies greatly from year to year. During most years, blooms are initiated in late May to early June with highest numbers observed in mid-July. In 1997, cells were observed at Deadmans Harbour and the Wolves Islands on April 21 and at Lime Kiln and Brandy Cove on May 13. Highest concentrations (8200 cells L⁻¹) were detected on June 24 at Deadmans Harbour. Where sampling was conducted at discrete depths at the Wolves, few cells were detected at depth. Cells persisted in the waters throughout the fall and into October. During 1998, *A. fundyense* numbers began to increase in early May and continued to be observed at low concentrations through late September. Figure 3 shows concentrations of *A. fundyense* from all four locations since 1988. Since 1995, the maximum concentrations during the bloom have been decreasing.

Additional samples for phytoplankton enumeration were collected during the late summer of 1998 when red-tide patches of the ciliate *M. rubrum* were observed in the mid- and northern Passamaquoddy Bay. Some patches were 20-50 m wide and as long as 1-2 km, although they were sometimes broken up into several lobes. *M. rubrum* was the dominant organism in the area and represented up to 95% of the total algal population. Surface water temperature was higher than at the four regular sampling sites (18°C) and salinity was 31.5-32.0 psu. All nutrient levels were lower in the red-tide area than those from Brandy Cove, where concentrations of *M. rubrum* were considerably lower, suggesting that *M. rubrum* cells were utilizing nutrients. Levels measured were: nitrate + nitrite - 0.20-0.48 µM in the red-tide area and 2.95-4.47 µM at Brandy Cove; ammonia - 2.29-3.88 and 3.86-4.10 µM, respectively; phosphate, 0.66-0.77 and 0.78-1.04 µM; and silicate, 3.97-5.82 and 5.08-7.33 µM.

The *P. delicatissima* group refers to a number of different species that are difficult to differentiate without the use of an electron microscope because of their small size in width (1.5-2.0 µm). They include *P. pseudodelicatissima* and *P. delicatissima*. The *P. seriata* group includes *P. multiseries* and *P. pungens*. Figure 4 shows an SEM photo of *P. multiseries* and *P. pungens* that co-exist in Bay of Fundy waters. In this report, *P. multiseries* and *P. pungens* are grouped into the *P. seriata* complex.

Table 2 shows the number of species observed on each sample day during the 6-yr period,

Table 2. Number of species observed on each day of sampling since 1993.

Date	# species										
1/7/93	23	1/11/94	21	1/26/95	27	1/23/96	21	1/20/97	29	1/20/98	17
2/12/93	27	2/8/94	18	2/27/95	21	2/20/96	20	2/24/97	35	2/10/98	28
3/9/93	18	3/15/94	29	3/29/94	32	3/20/95	25	3/19/96	23	3/18/97	30
4/15/93	32	4/28/94	30	4/17/95	37	4/29/96	42	4/21/97	44	4/21/98	35
5/12/93	46			5/10/95	42	5/8/96	47	5/13/97	45	5/12/98	70
5/26/93	43	5/17/94	26	5/23/95	46			5/20/97	48	5/19/98	69
6/1/93	57	5/24/94	46			5/22/96	56			5/26/98	69
6/7/93	48	6/7/94	38	6/6/95	54	6/6/96	52	6/3/97	50	6/2/98	59
6/15/93	54	6/14/94	47	6/13/95	50	6/10/96	57	6/10/97	61	6/9/98	65
		6/21/94	43	6/21/95	52	6/17/96	54	6/17/97	59	6/17/98	72
6/24/93	48					6/25/96	64	6/24/97	58	6/23/98	50
6/29/93	51	6/28/94	55	6/27/95	56					6/29/98	46
7/6/93	59			7/5/95	49	7/9/96	44	7/9/97	44	7/7/98	51
7/13/93	61	7/11/94	62	7/12/95	45	7/15/96	37	7/14/97	41	7/14/98	61
7/20/93	59	7/19/94	62	7/19/95	48	7/23/96	35	7/21/97	41	7/21/98	66
7/26/93	59	7/26/94	63	7/24/95	38	7/30/96	39	7/29/97	42	7/28/98	53
8/3/93	60	8/4/94	53	8/2/95	32	8/6/96	43	8/5/97	48	8/4/98	54
8/10/93	62	8/9/94	50	8/8/95	39	8/12/96	44	8/10/97	55	8/11/98	64
8/16/93	57	8/16/94	47	8/17/95	47	8/20/96	45	8/19/97	61	8/18/98	51
8/23/93	49	8/23/94	50	8/22/95	58	8/27/96	58	8/26/97	51	8/25/98	53
8/30/93	57	8/30/94	66	8/29/95	52					9/1/98	62
9/7/93	43	9/6/94	53	9/5/95	55	9/9/96	46	9/3/97	66	9/8/98	67
9/13/93	34	9/13/94	52	9/12/95	53	9/17/96	51	9/15/97	65	9/15/98	61
9/20/93	31	9/20/94	58	9/20/95	65	9/24/96	51			9/22/98	54
9/27/93	40	9/27/94	54	9/26/95	54			10/1/97	68	9/29/98	50
10/12/93	27	10/4/94	43	10/10/95	57	10/8/96	48	10/14/97	61	10/13/98	59
10/25/93	39	10/17/94	45	10/24/95	41	10/21/96	50			10/26/98	50
11/12/93	33	11/17/94	25	11/22/95	34			11/12/97	49	11/10/98	52
11/23/93	24										
12/7/93	32	12/13/94	24	12/19/95	29	12/17/96	37	12/9/97	51	12/8/98	43

1993-98. Highest numbers of organisms observed in any one sample day during each year were: 62 (1993), 66 (1994), 65 (1995), 64 (1996), 68 (1997), and 72 (1998). The 2 yr, 1997 and 1998, are interesting to note as numbers increased during those years. This also contributed to the degree of difficulty in analyzing samples and increased analysis time per sample.

SALINITY

Salinity results are in Appendix 3. Lowest values during the 2 yr were measured at Station #17 (23.85) on May 20, 1997. Highest salinity values were measured at #16, the Wolves with 32.81 at bottom on September 1, 1998.

TEMPERATURE

Water temperature ranged from 0.4 (March 19) to 15.5°C (August 10) in 1997 at Station #17 (Appendix 3). For the three other sample sites, the range was from 1.0–14.1°C (Station #15). Figure 5 shows temperature results from Brandy Cove and Deadmans Harbour from 1988 through 1998.

NUTRIENT ANALYSES

Nutrient results are located in Appendix 3. Silicate values ranged from 0.44 (Station #15, June 23, 1997) to 14.6 µM (Station #17, March 26, 1998). Phosphate ranged from 0.34 (Station #16 – 10 m, August 18, 1998) to 1.13 µM (Station #3, November

12, 1997). Nitrate values were between 0.03 (Station #16 – 10 m, August 18, 1998) and 9.87 μM (Station #16 – 50 m, December 8, 1998). Nitrite ranged from 0.03 (Station #16 – 10 m, August 18, 1998) to 0.71 μM (Station #17, October 14, 1997). Ammonia values ranged from 1.86-7.63 μM in 1997 with both extremes observed at the Wolves (Station #16 - 25 m, October 14 and at the surface, September 3, respectively). During 1998, the ammonia levels ranged from 1.18-6.72 μM , with the low value again measured on November 10 at the Wolves at 25 m and the high value detected at the surface on May 12 at Lime Kiln Bay, #3. Silicate, phosphate and nitrate values for Lime Kiln and Deadmans are plotted on Fig. 6-8.

DISCUSSION

The majority of phytoplankton and smaller zooplankton occur in the Bay of Fundy without causing adverse effects. Prior to 1988, the species of major concern was *A. fundyense*, which is responsible for unsafe levels of toxins in shellfish. It was a well established fact that shellfish harvesting areas would be closed to harvesting at some time during the year – generally during the summer months. Shellfish are monitored for toxins at regular intervals (through a program that was initiated in 1944 and is now one of the longest continuous datasets of its kind in the world) by the Canadian Food Inspection Agency. Records indicate that shellfish in the Bay of Fundy become toxic every year. This is not surprising as the presence of very few cells in a plankton net haul or as few as 20 cells L^{-1} can result in PSP toxins at a detectable level in shellfish from an adjacent area. Unfortunately, in the early stages of setting up the monitoring program, the wild blue mussel (*Mytilus edulis*) industry was closed to harvesting in 1944 and has never reopened. Data from this monitoring program, as well as toxin uptake and depuration studies, indicate that during a good part of the year it would be possible to harvest mussels that would be safe for consumption and below the regulatory limit for harvesting. Certain regions such as Passamaquoddy Bay would be potential sites for mussel culture as the numbers of *A. fundyense* tend to be lower than in the areas more exposed to offshore waters and higher concentrations of *A. fundyense* cells.

Fish kills were experienced in the late 1970s as a result of PSP toxins that had gone through the food chain and ultimately killed hundreds of tonnes of herring held captive in herring weirs. Also, in the mid-1980s, PSP toxins were detected in mackerel and implicated in whale mortalities. However, results

from the monitoring program indicate that the 1990s have been years with low concentrations of *A. fundyense*. Results from the monitoring program indicate that numbers since 1987 have been considerably lower than the high concentrations observed in the late 1970s and in 1980 when concentrations as high as 1 million cells L^{-1} were observed. A number of parameters such as environmental data, phytoplankton community structure, and trend analyses are being examined to further understand this pattern.

Red tides caused by the organism *M. rubrum* were observed in Passamaquoddy Bay during the 4 wk of August 20 through September 17, 1998. During the red-water events, brick-red patches of cells were observed drifting through some salmon farms. *M. rubrum* concentrations observed in water samples collected from waters with discolouration exceeded 1 million cells L^{-1} . As a result, an additional monitoring site was added in mid-Passamaquoddy Bay. This red tide resulted in the salmon aquaculture industry being impacted by algal blooms for the first time in northern Passamaquoddy Bay when low level mortalities were observed. Although red tides of *M. rubrum* had been observed in this area in previous years, the number of aquaculture operations in the area was minimal; however, numbers of sites increased in the fall of 1997 as a result of sites relocating from the Lime Kiln area.

Although *M. rubrum* does not produce a toxin, it is possible for stress and mortalities among aquatic organisms to occur through secondary effects such as asphyxiation as a result of oxygen depletion. The red tide of 1998 caused low level salmon mortalities during late stages of the bloom or during bloom decay. Salmon exhibited symptoms of stress associated with low oxygen resulting from a combination of the red tide, decreased currents and elevated temperatures. Oceanographic processes controlling phytoplankton dynamics in the area indicate that upper Passamaquoddy Bay waters are suitable for high primary production and the generation of red tides as a result of the area being shallow, warm, having low flushing rates and stratification in August (Trites and Garrett 1983; Fred Page, Biological Station, 531 Brandy Cove Road, St. Andrews, NB E5B 2L9, pers. commun.). This phenomenon of water discolouration as a result of high concentrations of *M. rubrum* has been observed in both the presence and absence of aquaculture – for example, red-water sightings prior to 1998 were observed during 1975, '77, '79, '89, and '93 (White et al. 1977; Jennifer Martin, Biological Station, 531

Brandy Cove Road, St. Andrews, NB E5B 2L9, pers. commun.). Although results from the Brandy Cove monitoring site indicate that *M. rubrum* occurs annually in the region, it was found that it rarely forms dense aggregates in the Saint Croix River; therefore, the mid-Passamaquoddy Bay site would be better suited to studying northern Passamaquoddy Bay blooms. As a result, this site was added to the regular sampling program.

Species that have been observed in the Bay of Fundy that have been known to cause problems elsewhere in Canada or the world include: *Dinophysis* spp. (Fernández et al. 1998), *Prorocentrum* spp. (Lawrence 1998) (diarrhetic shellfish toxins); *C. convolutus*, *C. concavicornis* (Horner et al. 1990, 1997), *Gyrodinium aureolum* (Dahl and Tangen 1990, 1993; Romdhane et al. 1998) and *L. minimus* (Clément and Lembeye 1993; Albright 1993) (salmon mortalities). Although these species are known to occur each year in the Fundy region, there have not been any documented incidents of harmful effects to date.

The *P. delicatissima* group of cells, which includes *P. pseudodelicatissima* and *P. delicatissima*, has been observed at concentrations greater than 10,000 cells L⁻¹ during each year of the sampling. Further culture and SEM work needs to continue on these strains of *Pseudo-nitzschia* to determine which particular species occurs at a particular time or, if they co-exist, at what proportions they exist in nature.

P. pseudodelicatissima was only observed at densities great enough to produce domoic acid during 1988 and 1995. Highest concentrations observed in the 2-yr period of this study were 1.7 x 10⁵ cells L⁻¹ at a depth of 10 m at the Wolves on June 17, 1997. The next highest value observed was 7.68 x 10⁴ cells L⁻¹ at the surface at Deadmans Harbour on June 3, 1997. Analyses of large quantities of cells collected in plankton tows from the earlier May/June blooms did not produce detectable levels of domoic acid. However, those from the later August/September blooms (concentrations exceeding 1 million cells L⁻¹ in 1988 and 1995) were associated with domoic acid production (when shellfish exceeded the regulatory limit for domoic acid).

Unfortunately we are unable to predict phytoplankton densities from year to year. We are, however, able to provide an early warning to industry and regulatory agencies of the progress of a particular bloom. During the 1998 *M. rubrum* red tide, we were able to do more cooperative work with the salmon aquaculture industry to study the bloom. It is

important to understand that every species is unique and information particular to one species cannot be applied to another – especially when trying to determine mitigation measures. Monitoring indicates wide interannual variation in density of populations and the necessity to monitor, at the very least weekly, in order to provide an early warning. In addition, as industries expand and new industries are introduced, environmental monitoring is essential.

In the future, should fish pens be located in areas prone to red tides, we recommend monitoring during the period when red tides are common. For this particular region, this is late summer. For areas with little historical data, if water discoloration is observed, monitoring should be initiated. Identification of the causative organism is essential as every species is unique and behavioral patterns can differ according to species and geographic location. As the upper Passamaquoddy Bay is susceptible to red tides, it is recommended that waters be monitored, at minimum, on a weekly basis and authorized personnel notified of water discoloration for research and advice on mitigation techniques. From the results of these observations, phytoplankton is an essential component to be measured. Additional knowledge of the physical oceanography of the area would contribute towards better understanding events such as bloom initiation, transport and decay.

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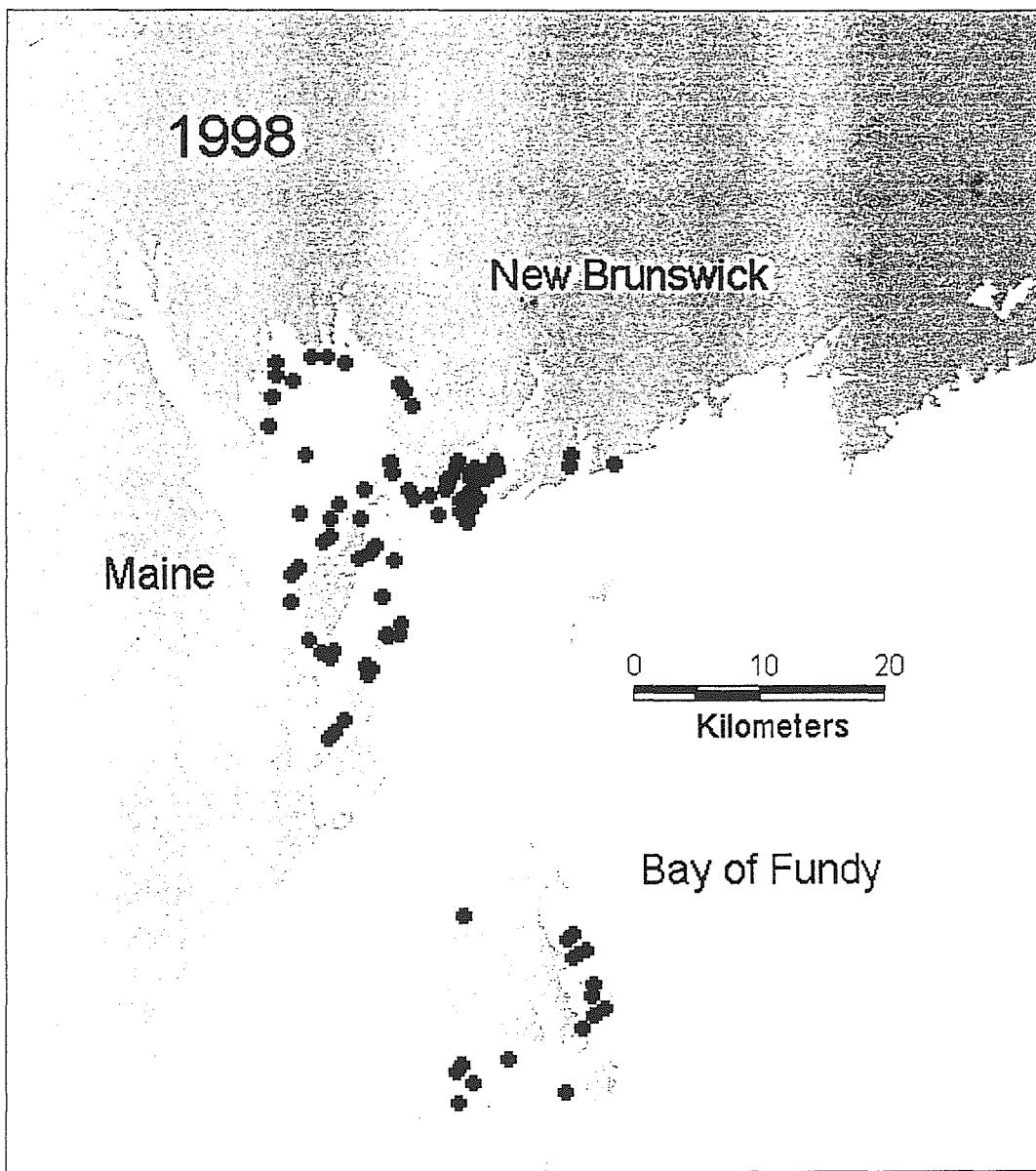


Fig. 1. Locations of salmonid aquaculture sites in 1998.

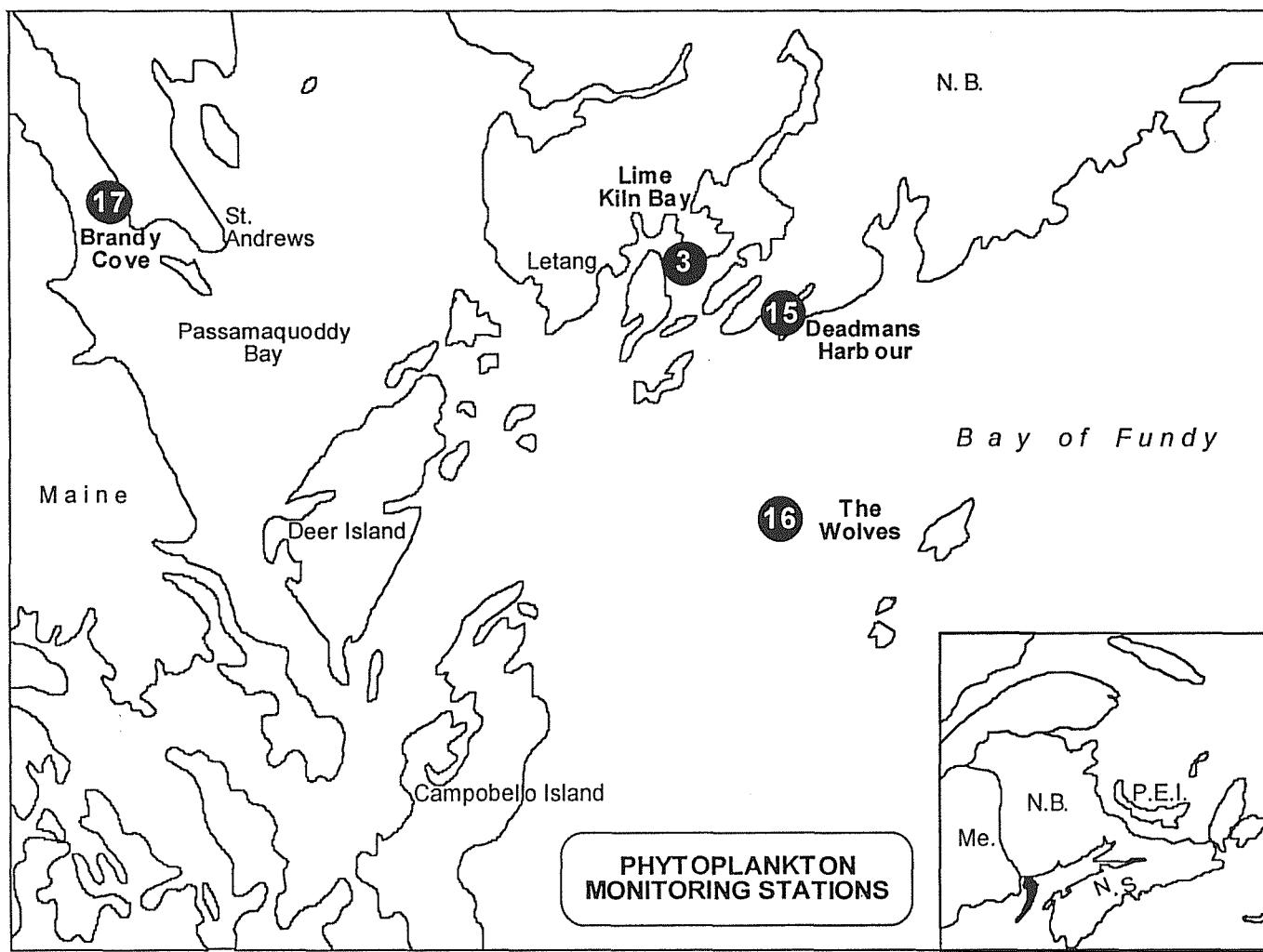


Fig. 2. Sampling stations - Brandy Cove (#17), Lime Kiln (#3), Deadmans Harbour (#15), and near the Wolves Islands (#16).

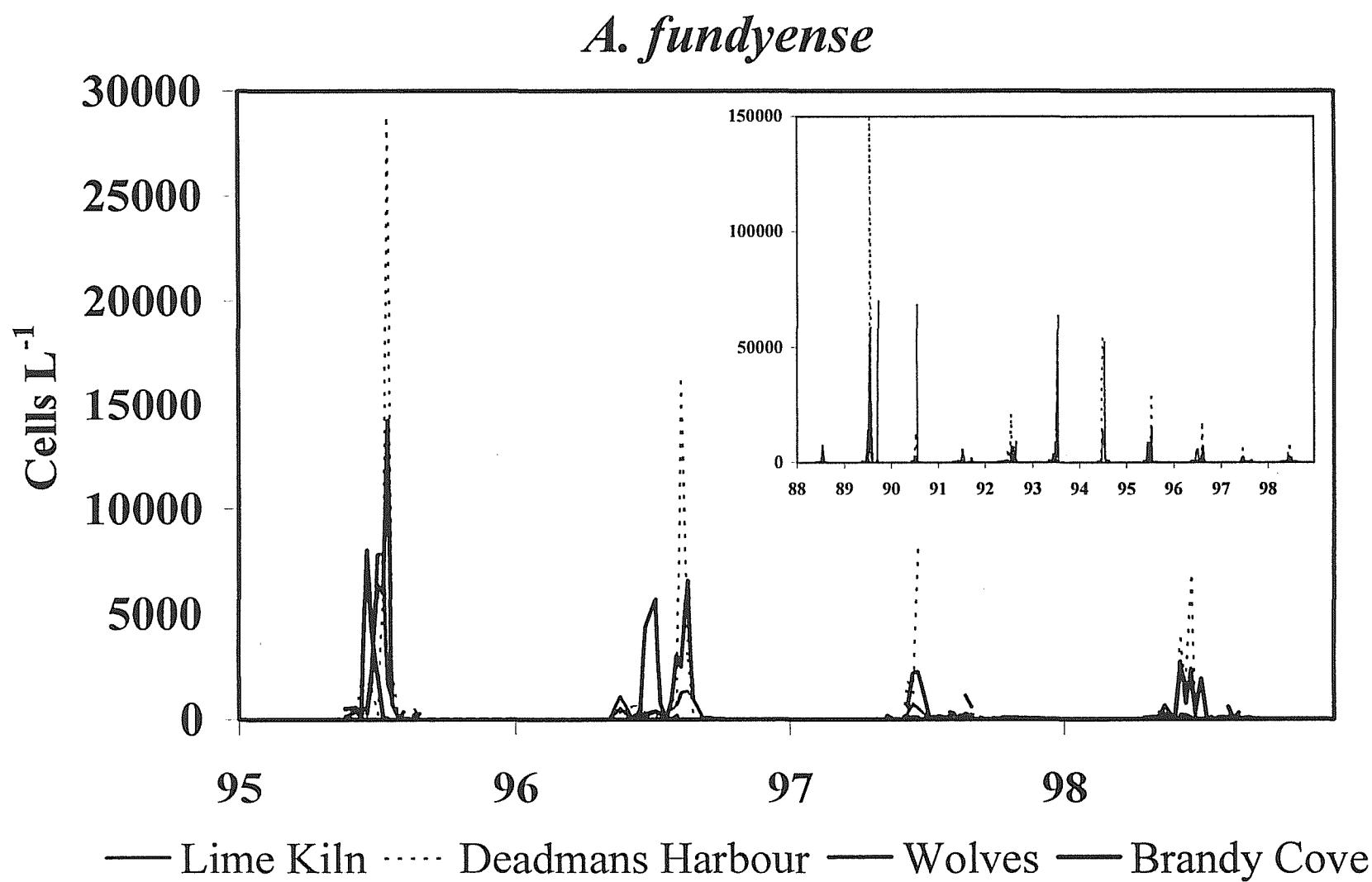


Fig. 3. *Alexandrium fundyense* concentrations at Lime Kiln Bay, Deadmans Harbour, the Wolves and Brandy Cove, 1995-98.

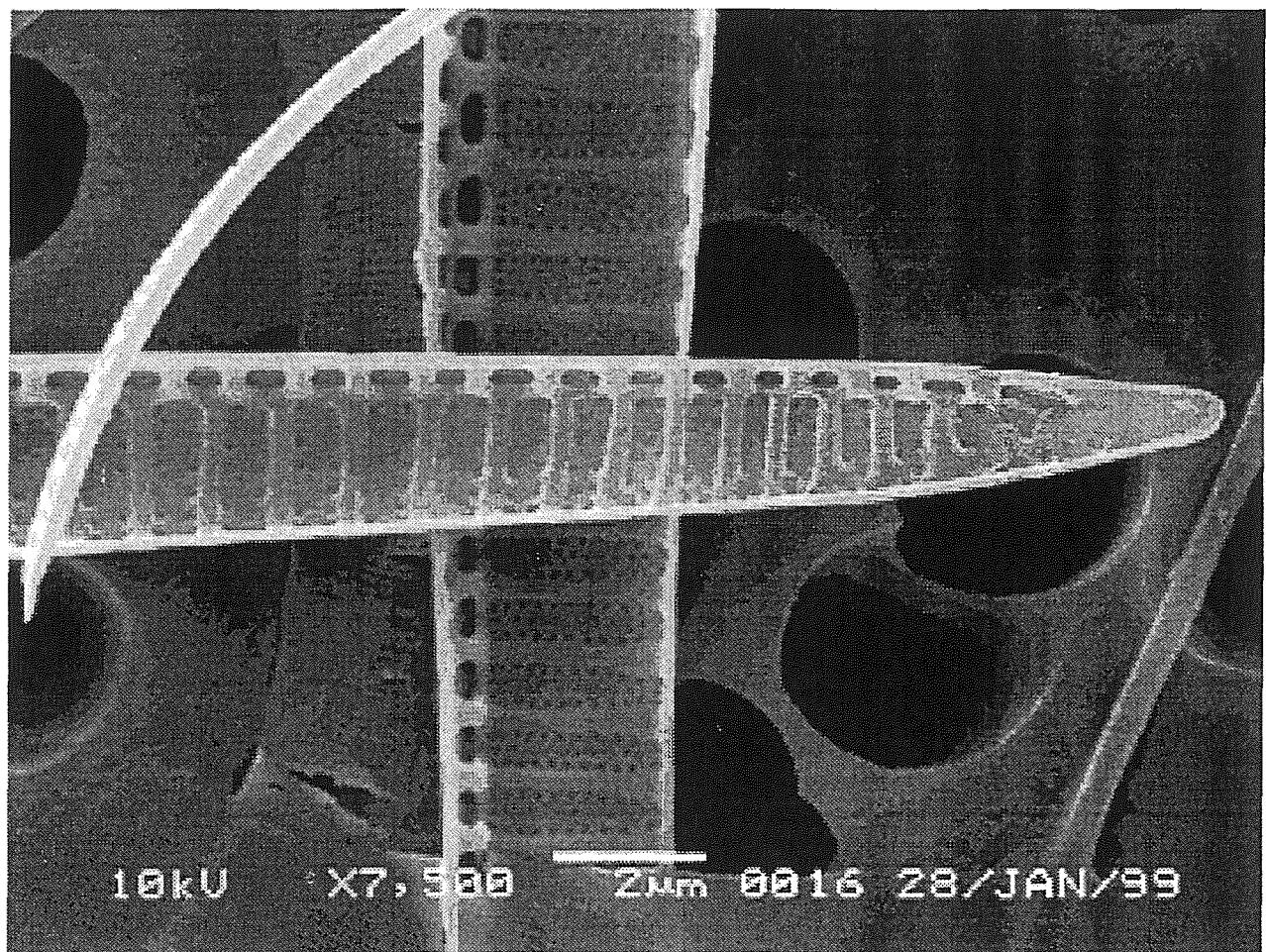


Fig. 4. SEM photo of *P. multiseries* and *P. pungens* that co-exist in Bay of Fundy waters.

Temperature

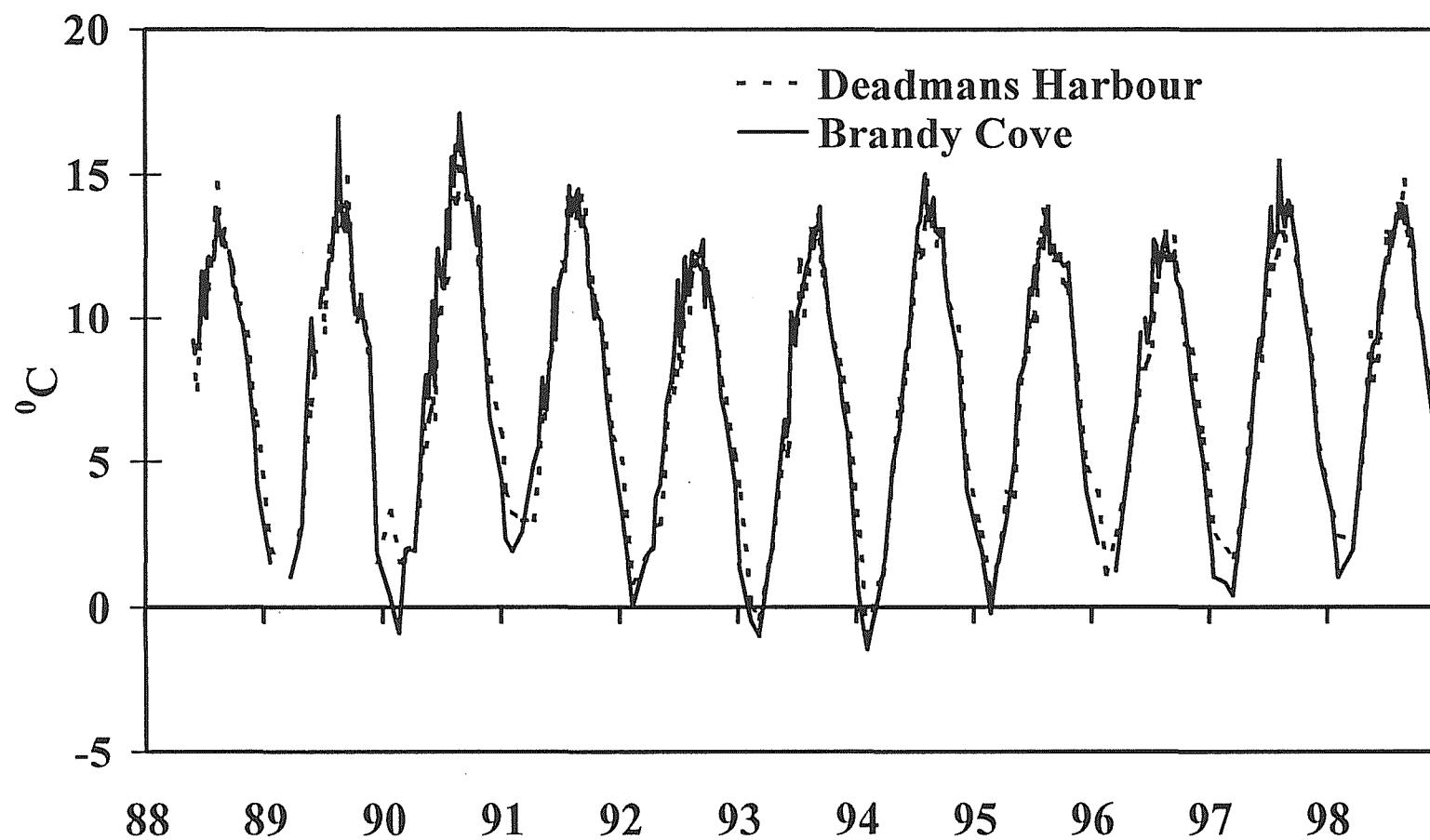


Fig. 5. Surface temperatures at Deadmans Harbour and Brandy Cove for 1988-98.

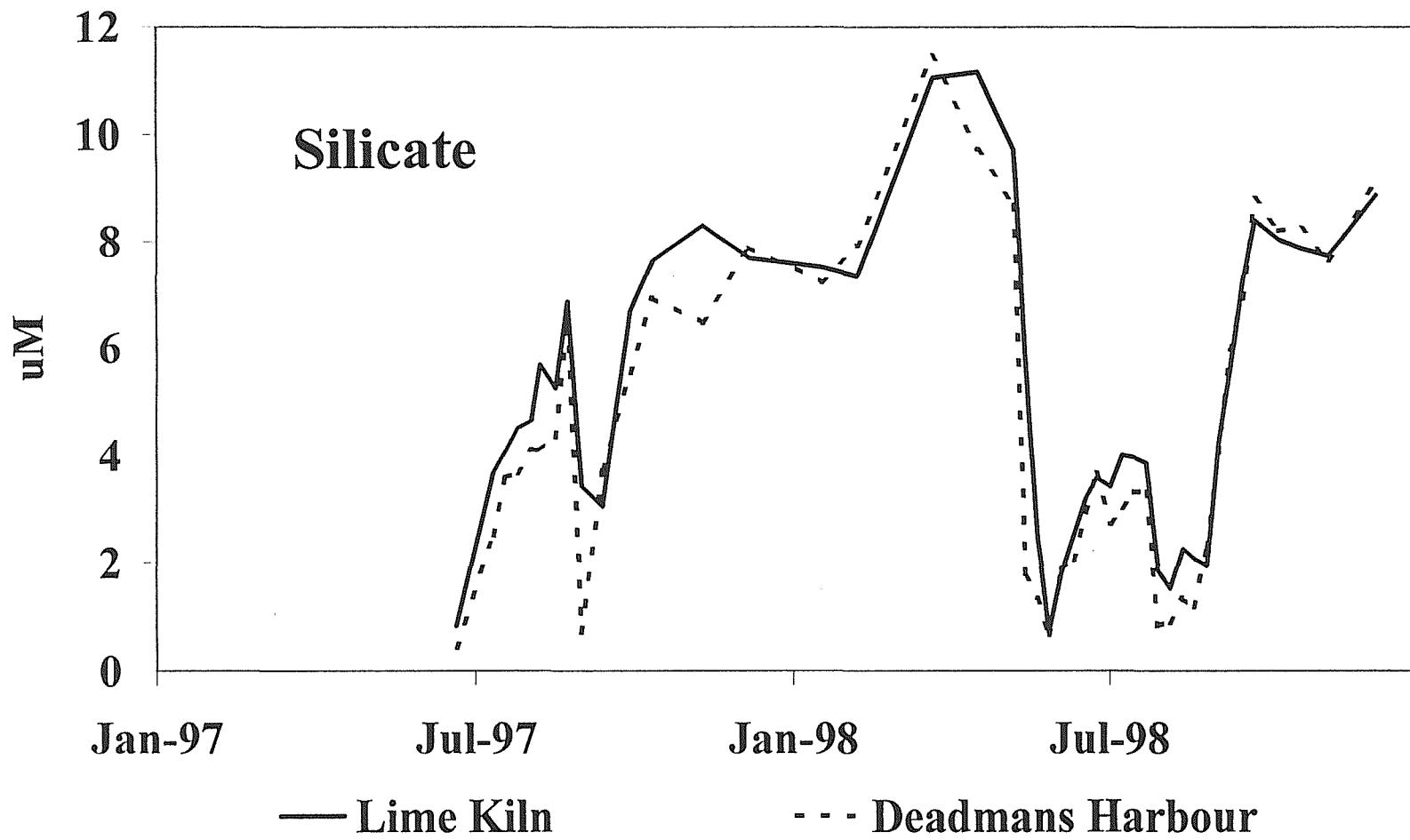


Fig. 6. Silicate values at Lime Kiln Bay and Deadmans Harbour 1997-98.

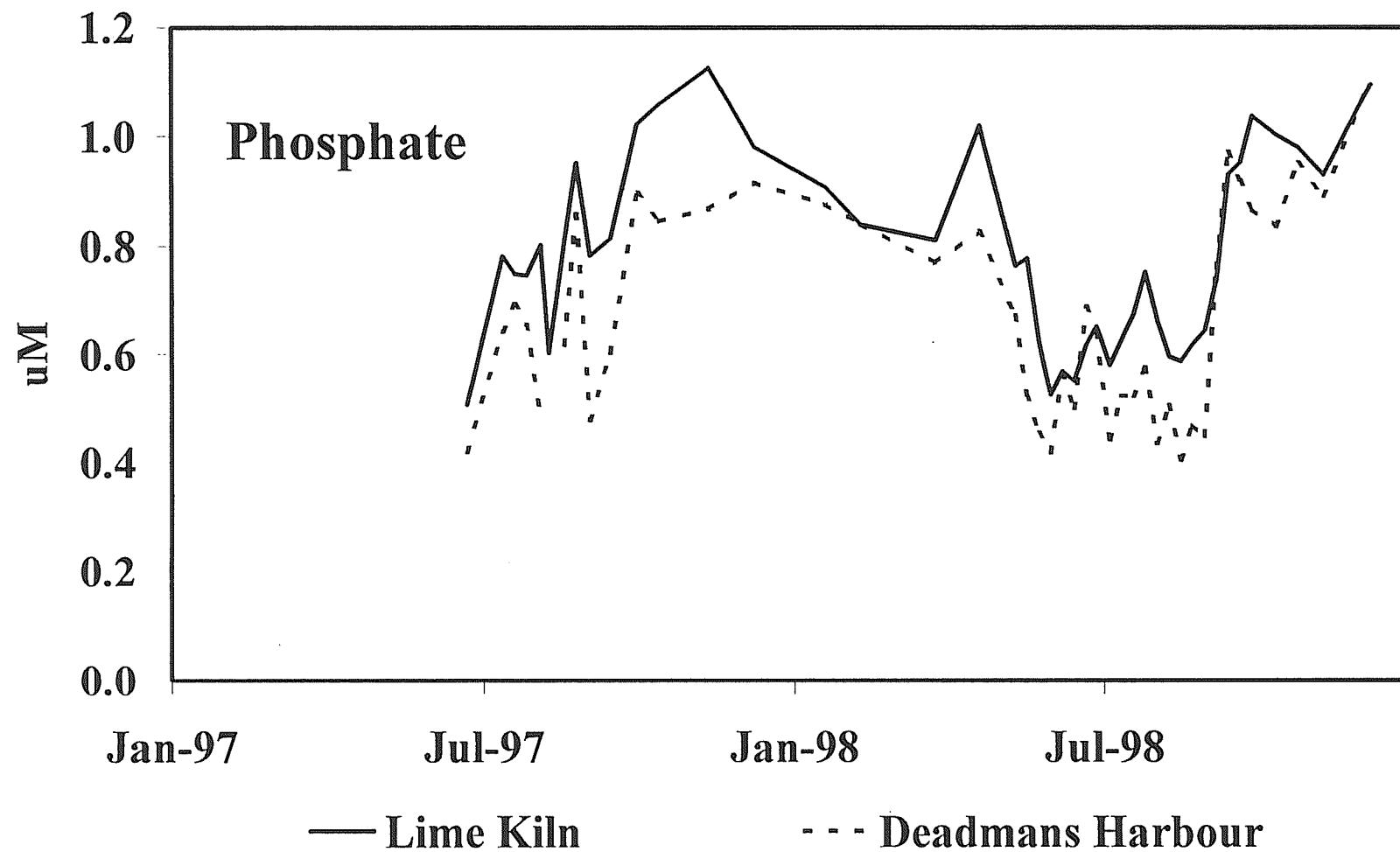


Fig. 7. Phosphate values at Lime Kiln Bay and Deadmans Harbour 1997-98.

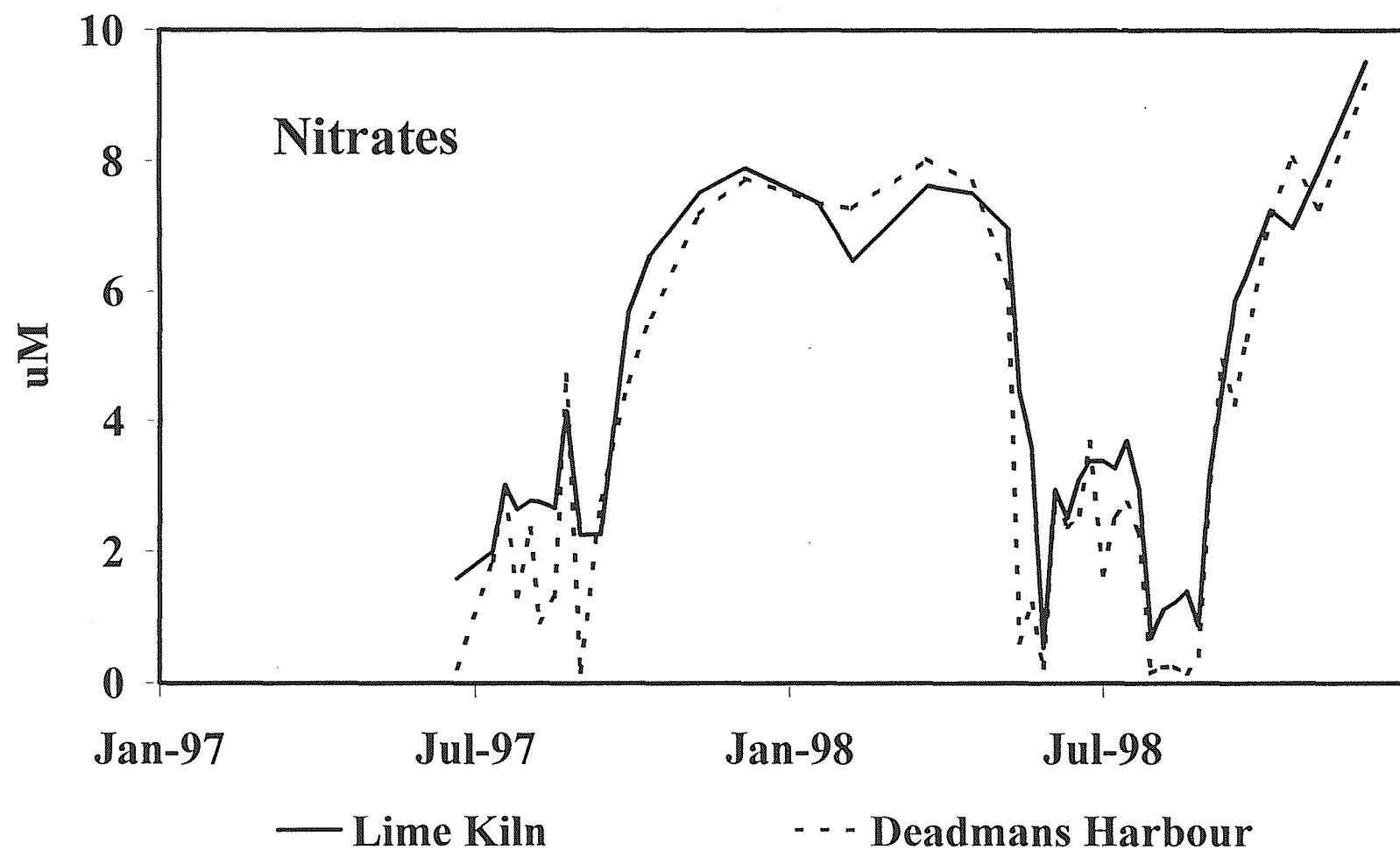


Fig. 8. Nitrate values at Lime Kiln Bay and Deadmans Harbour 1997-98.

Species list for 1997 & 1998

Dinoflagellates

Alexandrium fundyense
Alexandrium fundyense (cyst)
Alexandrium fundyense (duplet)
Alexandrium fundyense (fusing)
Alexandrium fundyense (quadruplet)
Alexandrium fundyense (triplet)
Alexandrium ostenfeldii
Amylax triacantha
Armoured dinoflagellate
Ceratium arcticum
Ceratium fusus
Ceratium horridum
Ceratium kofoidii
Ceratium lineatum
Ceratium longipes
Ceratium minutum
Ceratium spp.
Ceratium tripos
Dinophysis acuminata
Dinophysis acuta
Dinophysis norvegica
Dinophysis pulchella
Dinophysis spp.
Gonyaulax digitale
Gonyaulax spinifera
Gyrodinium spp.
Heterocapsa triquetra
Minuscula bipes
Phalacroma rotundatum
Prorocentrum micans
Prorocentrum minimum
Prorocentrum spp.
Protoperidinium brevipes
Protoperidinium conicum
Protoperidinium denticulatum
Protoperidinium depressum
Protoperidinium divergens
Protoperidinium excentricum
Protoperidinium leonis
Protoperidinium ovatum
Protoperidinium spp.
Scrippsiella trochoidea
Unarmoured dinoflagellate

Diatoms

Achnanthes spp.
Actinoptychus senarius
Asterionella formosa
Asterionella spp.
Asterionellopsis glacialis
Asterionellopsis kariana
Bacillaria paxillifer
Bacterosira bathyomphala
Cerataulina pelagica
Chaetoceros affinis
Chaetoceros altanticus
Chaetoceros borealis
Chaetoceros brevis
Chaetoceros compressus
Chaetoceros concavicornis
Chaetoceros constrictus
Chaetoceros convolutus
Chaetoceros convolutus var. *trisetosa*
Chaetoceros danicus
Chaetoceros debilis
Chaetoceros decipiens
Chaetoceros diadema
Chaetoceros didymus
Chaetoceros furcellatus
Chaetoceros ingolfianus
Chaetoceros laciniatus
Chaetoceros lorenzianus
Chaetoceros perpusillus
Chaetoceros similis
Chaetoceros simplex
Chaetoceros socialis
Chaetoceros spp.
Chaetoceros spp. (phaeoceros)
Chaetoceros subtilis
Chaetoceros tenuissimus
Chaetoceros teres
Corethron criophilum
Coscinodiscus spp.
Cyclotella spp.
Cylindrotheca closterium
Dactyliosolen fragilissimus
Detonula pumila
Ditylum brightwellii
Eucampia groenlandica

Diatoms (continued)

Eucampia spp.
Eucampia zodiacus
Fragilaria spp.
Grammatophora marina
Guinardia delicatula
Guinardia flaccida
Guinardia striata
Gyrosigma fasciola
Gyrosigma littorale
Gyrosigma tenuissimum
Helicotheca tamesis
Lauderia annulata
Leptocylindrus danicus
Leptocylindrus mediterraneus
Leptocylindrus minimus
Licmophora abbreviata
Licmophora flabellata
Lithodesmium undulatum
Melosira ambigua
Melosira monolithiformis
Melosira spp.
Navicula spp.
Odontella aurita
Odontella obtusa
Odontella regia
Paralia marina
Pennate diatom
Pleurosigma / Gyrosigma
Pleurosigma angulatum
Pleurosigma angulatum var. *strigosa*
Porosira glacialis
Proboscia alata
Pseudo-nitzschia delicatissima group
Pseudo-nitzschia seriata group
Pseudo-nitzschia spp.

Rhabdonema spp.
Rhizosolenia hebetata
Rhizosolenia imbricata
Rhizosolenia pungens
Rhizosolenia setigera
Rhizosolenia spp.
Skeletonema costatum
Stephanopyxis turris
Striatella unipunctata
Thalassionema nitzschiooides
Thalassiosira angulata
Thalassiosira auguste-lineata
Thalassiosira baltica
Thalassiosira decipiens
Thalassiosira gravida
Thalassiosira nordenskioeldii
Thalassiosira oestrupii
Thalassiosira rotula
Thalassiosira spp.
Triceratium alternans

Others

Brachionus spp.
Copepoda
Dictyocha speculum
Dinobryon spp.
Ebria tripartita
Eutreptia / Eutreptiella
Favella spp.
Helicostomella spp.
Mesodinium rubrum
Notholca spp.
Parafavella spp.
Ptychocylis spp.
Salpingella spp.
Tintinnids

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
20-Jan-97							
Armoured dinoflagellate				20			
<i>Ceratium lineatum</i>					20		
<i>Ceratium spp.</i>				20			
<i>Ceratium tripos</i>							20
<i>Prorocentrum micans</i>	20						
<i>Actinopychus senarius</i>				80			
<i>Asterionella formosa</i>							20
<i>Asterionellopsis glacialis</i>	40						
<i>Chaetoceros spp.</i>	40						
<i>Coscinodiscus spp.</i>						20	
<i>Cylindrotheca closterium</i>	200	80		280	480	280	100
<i>Ditylum brightwellii</i>		20			20	20	20
<i>Grammatophora marina</i>	20						
<i>Guinardia delicatula</i>	40				40		20
<i>Leptocylindrus minimus</i>	20			40			20
<i>Licmophora flabellata</i>	240	20					
<i>Lithodesmium undulatum</i>		20					
<i>Navicula spp.</i>	40	20		20	20	20	
<i>Odontella obtusa</i>	20						
<i>Pseudo-nitzschia delicatissima</i> group	200	120		180	80	40	
<i>Pseudo-nitzschia seriata</i> group				20			20
<i>Rhabdonema spp.</i>							20
<i>Skeletonema costatum</i>	40			20		20	
<i>Thalassiosira spp.</i>					40		
Copepoda		20					
<i>Dictyocha speculum</i>		20					20
<i>Helicostomella spp.</i>		20					
<i>Mesodinium rubrum</i>	20	40		100			100
Tintinnids		60		100			20
24-Feb-97							
Armoured dinoflagellate					20		
<i>Actinopychus senarius</i>	40						
<i>Asterionellopsis glacialis</i>				60	20		
<i>Asterionellopsis kariana</i>						20	
<i>Chaetoceros atlanticus</i>	20						
<i>Chaetoceros spp.</i>			40	20			
<i>Chaetoceros subtilis</i>					20		
<i>Coscinodiscus spp.</i>		20		40	60		
<i>Cylindrotheca closterium</i>	60	20	80	380	280	40	
<i>Ditylum brightwellii</i>	40		20				
<i>Grammatophora marina</i>	120				20		
<i>Guinardia delicatula</i>							
<i>Gyrosigma fasciola</i>	20						
<i>Helicotheca tamesis</i>					20		
<i>Leptocylindrus minimus</i>	20			40			
<i>Licmophora abbreviata</i>	80				60	20	
<i>Lithodesmium undulatum</i>							
<i>Melosira ambigua</i>							20
<i>Melosira moniliformis</i>	200						
<i>Melosira spp.</i>						20	
<i>Navicula spp.</i>	100	80	20	20	100	60	20
<i>Odontella aurita</i>	140						
<i>Paralia marina</i>						20	
<i>Pleurosigma / Gyrosigma</i>			20	40			
<i>Pleurosigma angulatum</i>		40					
<i>Pseudo-nitzschia delicatissima</i> group	160	260	240	460	460	100	20

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
24-Feb-97 (continued)							
<i>Rhabdonema spp.</i>	20						
<i>Rhizosolenia setigera</i>	20						
<i>Skeletonema costatum</i>	20		60	100	120	40	
<i>Thalassionema nitzschiooides</i>		20	20	20	40		
<i>Thalassiosira spp.</i>						20	
Copepoda							20
<i>Dictyocha speculum</i>	20		20				
<i>Mesodinium rubrum</i>			40				
Tintinnids				20			60
18-Mar-97							
Armoured dinoflagellate						20	20
<i>Asterionella formosa</i>							40
<i>Asterionellopsis glacialis</i>						20	
<i>Chaetoceros spp.</i>	20		60	40			
<i>Corethron criophilum</i>			40				20
<i>Coscinodiscus spp.</i>		20	80	40	60	120	
<i>Cylindrotheca closterium</i>		20	20			60	
<i>Ditylum brightwellii</i>	20						
<i>Grammatophora marina</i>							20
<i>Guinardia delicatula</i>			20				
<i>Lauderia annulata</i>						20	
<i>Leptocylindrus minimus</i>	20					20	
<i>Lithodesmium undulatum</i>				20			
<i>Melosira ambigua</i>				20			
<i>Melosira spp.</i>				20			
<i>Navicula spp.</i>		60				80	40
<i>Odontella aurita</i>				20			
<i>Pleurosigma / Gyrosigma</i>		20					
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>			20				
<i>Porosira glacialis</i>	20						
<i>Pseudo-nitzschia delicatissima</i> group	260	300	460	260	80	260	200
<i>Pseudo-nitzschia seriata</i> group		20					
<i>Skeletonema costatum</i>		40	80		100	40	140
<i>Thalassionema nitzschiooides</i>				20			
<i>Thalassiosira gravida</i>						40	
<i>Thalassiosira spp.</i>		20		20		40	40
Copepoda					20		
<i>Dictyocha speculum</i>	20		20		20	20	
<i>Dinobryon spp.</i>							20
<i>Mesodinium rubrum</i>				20			80
21-Apr-97							
<i>Alexandrium fundyense</i>		40	20				
Armoured dinoflagellate	20		20	20			20
<i>Ceratium lineatum</i>		20					
<i>Ceratium tripos</i>						20	
<i>Achnanthes spp.</i>	20						
<i>Asterionellopsis glacialis</i>		40			80		
<i>Asterionellopsis kariana</i>					20	20	
<i>Chaetoceros constrictus</i>				20			
<i>Chaetoceros debilis</i>	20		20	60	60		260
<i>Chaetoceros ingolfianus</i>			80				20
<i>Chaetoceros simplex</i>					60		
<i>Chaetoceros spp.</i>	260	80	420	420	160	60	940
<i>Chaetoceros subtilis</i>					20		
<i>Coscinodiscus spp.</i>	20			20		20	
<i>Cylindrotheca closterium</i>	40	60	140	60	100	200	20

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
21-Apr-97 (continued)							
<i>Dactyliosolen fragilissimus</i>	20		100			20	
<i>Detonula pumila</i>				100	20	20	
<i>Ditylum brightwellii</i>					20	20	
<i>Grammatophora marina</i>				20			
<i>Guinardia delicatula</i>		40					20
<i>Gyrosigma fasciola</i>						20	20
<i>Leptocylindrus minimus</i>	20	40	20	40			40
<i>Licmophora abbreviata</i>	40		20				20
<i>Melosira monoliformis</i>	40	40					
<i>Melosira spp.</i>						20	
<i>Navicula spp.</i>	40	20	60	80	40	80	60
<i>Odontella aurita</i>					40	20	
<i>Odontella regia</i>							20
<i>Porosira glacialis</i>			20				
<i>Pseudo-nitzschia delicatissima</i> group	460	1900	700	860	900	660	300
<i>Pseudo-nitzschia seriata</i> group			80				
<i>Rhabdonema spp.</i>	20			20			
<i>Rhizosolenia setigera</i>						40	
<i>Skeletonema costatum</i>	120	60	120	100	200	140	20
<i>Thalassionema nitzschioides</i>							20
<i>Thalassiosira auguste-lineata</i>	20	20	60				20
<i>Thalassiosira decipiens</i>	80		40				20
<i>Thalassiosira gravida</i>	40	60	20	20	20	40	60
<i>Thalassiosira nordenskioeldii</i>	420	40	260	420	300		800
<i>Thalassiosira spp.</i>	460		320	560	60	20	1420
<i>Dictyocha speculum</i>		20		20			
<i>Mesodinium rubrum</i>	120	20	40	20		20	460
<i>Ptychocylis spp.</i>				40			
Tintinnids	40	20		40			100
13-May-97							
<i>Alexandrium fundyense</i>	40		160				40
<i>Alexandrium fundyense</i> (duplet)			40				
Armoured dinoflagellate	80	40	40	20		20	40
<i>Protoperidinium spp.</i>	40						120
<i>Scrippsiella trochoidea</i>	40						
<i>Achnanthes spp.</i>	40						
<i>Asterionellopsis glacialis</i>						20	
<i>Cerataulina pelagica</i>					20		
<i>Chaetoceros affinis</i>			120				
<i>Chaetoceros compressus</i>	40			40		20	80
<i>Chaetoceros debilis</i>	880	360	1080	1300	240	300	1200
<i>Chaetoceros diadema</i>			40	60			
<i>Chaetoceros furcellatus</i>	40		880	920	380	340	80
<i>Chaetoceros ingolfianus</i>	440	320	760	500	40	60	1000
<i>Chaetoceros laciniatus</i>	40			20			40
<i>Chaetoceros perpusillus</i>			200	80			80
<i>Chaetoceros simplex</i>	80		40				40
<i>Chaetoceros spp.</i>	1000	600	1200	1100	400	320	1840
<i>Coscinodiscus spp.</i>				20			
<i>Dactyliosolen fragilissimus</i>							
<i>Ditylum brightwellii</i>	40	40	80		20	40	40
<i>Guinardia delicatula</i>			40				
<i>Gyrosigma fasciola</i>	40						
<i>Lauderia annulata</i>				20			
<i>Leptocylindrus minimus</i>	120	200		160		20	80
<i>Melosira spp.</i>						20	

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
13-May-97 (continued)							
<i>Navicula</i> spp.				20	100	40	40
<i>Odontella aurita</i>			40		20		
<i>Pleurosigma / Gyrosigma</i>							40
<i>Porosira glacialis</i>	40	40		20		20	80
<i>Pseudo-nitzschia delicatissima</i> group	2480	3240	1600	1260	700	520	1120
<i>Pseudo-nitzschia seriata</i> group	40						
<i>Rhizosolenia setigera</i>	40						
<i>Skeletonema costatum</i>	360	640	160	420	240	220	160
<i>Thalassionema nitzschiooides</i>	40	40			20	20	
<i>Thalassiosira auguste-lineata</i>			120	60		40	
<i>Thalassiosira baltica</i>					20		40
<i>Thalassiosira decipiens</i>	1600	1240	2080	2580	680	680	2240
<i>Thalassiosira gradata</i>	120	200	80	160	40	80	160
<i>Thalassiosira nordenskioeldii</i>	7760	5920	8760	9700	3720	2500	9960
<i>Thalassiosira</i> spp.	120		520	20	180	80	80
<i>Dictyocha speculum</i>	40			20	20		
<i>Dinobryon</i> spp.							80
<i>Mesodinium rubrum</i>	240	360	760		20		200
Tintinnids	40	80	80	20	40		
20-May-97							
<i>Alexandrium fundyense</i>				20			
Armoured dinoflagellate	40	100	20		100		
<i>Ceratium longipes</i>	40	20	20				
<i>Ceratium tripos</i>				40			
<i>Dinophysis norvegica</i>					100		
<i>Protoperidinium</i> spp.	160	20					
<i>Scrippsiella trochoidea</i>							40
Unarmoured dinoflagellate		20					
<i>Asterionella</i> spp.			20				
<i>Asterionellopsis glacialis</i>				80		20	80
<i>Asterionellopsis kariana</i>						20	
<i>Cerataulina pelagica</i>							40
<i>Chaetoceros compressus</i>		40		40	100		
<i>Chaetoceros debilis</i>	440	100	20	1400	800	60	120
<i>Chaetoceros decipiens</i>			40				
<i>Chaetoceros furcellatus</i>		20		240	900	60	80
<i>Chaetoceros ingolfianus</i>	120	20			100		200
<i>Chaetoceros laciniatus</i>			20				
<i>Chaetoceros simplex</i>	40						120
<i>Chaetoceros</i> spp.	640	260	440	1840	2300	160	1000
<i>Chaetoceros subtilis</i>		20	20				
<i>Coscinodiscus</i> spp.	80	20				20	
<i>Cylindrotheca closterium</i>	160		20	200	200	140	80
<i>Dactyliosolen fragilissimus</i>				80			
<i>Ditylum brightwellii</i>	40	20	40		300	60	
<i>Eucampia zodiacus</i>				80			
<i>Guinardia delicatula</i>						20	
<i>Leptocylindrus minimus</i>	120	40	40	160	100		40
<i>Licmophora abbreviata</i>	40				100		
<i>Melosira ambigua</i>		20					
<i>Navicula</i> spp.	40					120	
<i>Odontella aurita</i>			20			20	40
<i>Porosira glacialis</i>		40		40			40
<i>Pseudo-nitzschia delicatissima</i> group	5520	3240	2640	7400	8500	460	160
<i>Pseudo-nitzschia seriata</i> group			20				
<i>Rhabdonema</i> spp.			20				

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
20-May-97 (continued)							
<i>Skeletonema costatum</i>	1480	1140	1160	1560	1600	360	40
<i>Thalassionema nitzschioides</i>						40	
<i>Thalassiosira auguste-lineata</i>	40		20	80			
<i>Thalassiosira baltica</i>							40
<i>Thalassiosira decipiens</i>	1760	540	460	5600	7600	500	3600
<i>Thalassiosira gradata</i>	80	20	40	480		20	80
<i>Thalassiosira nordenskioeldii</i>	4840	2220	2540	25200	27100	540	7000
<i>Thalassiosira spp.</i>	120	360	240	240	400	160	
Copepoda	40		20				
<i>Dictyocha speculum</i>			120	20			
<i>Mesodinium rubrum</i>	120	20	20	40			80
Tintinnids	200	40	20		100	20	
03-Jun-97							
<i>Alexandrium fundyense</i>	40	40		40			
Armoured dinoflagellate	40	120	160				
<i>Ceratium horridum</i>	40		40				
<i>Ceratium longipes</i>	40	120					
<i>Dinophysis acuminata</i>				80			
<i>Dinophysis acuta</i>				80			
<i>Dinophysis spp.</i>		40					
<i>Heterocapsa triquetra</i>	40						
<i>Protoperidinium conicum</i>							20
<i>Protoperidinium ovatum</i>							20
<i>Protoperidinium spp.</i>	120		240	120			
<i>Asterionellopsis glacialis</i>	40	40		120		60	
<i>Asterionellopsis kariana</i>		80	40			20	
<i>Chaetoceros compressus</i>	40	40	40				80
<i>Chaetoceros debilis</i>	480	160	320	1320	320	180	420
<i>Chaetoceros decipiens</i>	80			40	120		40
<i>Chaetoceros furcellatus</i>				40	200	40	320
<i>Chaetoceros ingolfianus</i>	200		40				580
<i>Chaetoceros laciniatus</i>		80	120	40			
<i>Chaetoceros spp.</i>	240	360	400	720	280	40	2540
<i>Chaetoceros subtilis</i>	40						20
<i>Chaetoceros teres</i>							60
<i>Corethron criophilum</i>		40					
<i>Coscinodiscus spp.</i>			40			20	
<i>Dactyliosolen fragilissimus</i>	80		80				
<i>Ditylum brightwellii</i>	280	320	200	240	240	60	
<i>Eucampia zodiacus</i>	240		80	80			60
<i>Guinardia delicatula</i>	40		80				
<i>Guinardia flaccida</i>				40			
<i>Gyrosigma fasciola</i>						20	
<i>Leptocylindrus danicus</i>	80		160	80			100
<i>Leptocylindrus minimus</i>	280	240	360	480	80		620
<i>Melosira spp.</i>			120				20
<i>Navicula spp.</i>					40	20	20
<i>Paralia marina</i>	40						
<i>Porosira glacialis</i>	80	40	80		40	20	
<i>Pseudo-nitzschia delicatissima</i> group	33400	76820	68470	68470	3800	720	880
<i>Pseudo-nitzschia seriata</i> group							20
<i>Skeletonema costatum</i>	1840	5200	1720	1960	2040	660	
<i>Thalassionema nitzschioides</i>	80				40		
<i>Thalassiosira auguste-lineata</i>	160		80	240		20	20
<i>Thalassiosira baltica</i>	40		40			20	20
<i>Thalassiosira decipiens</i>	4840	3080	5120	10560	4800	1520	1000

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
03-Jun-97 (continued)							
<i>Thalassiosira gravida</i>	280	200	600	520	240	60	20
<i>Thalassiosira nordenskioeldii</i>	14040	8120	11680	16080	8360	840	180
<i>Thalassiosira spp.</i>	80	280	480				40
Copepoda				40			
<i>Dictyocha speculum</i>	80	40	160	40			
<i>Mesodinium rubrum</i>	40	560	720	160			280
Tintinnids	80	400	200	320			240
10-Jun-97							
<i>Alexandrium fundyense</i>	280	800	560	40	20		80
<i>Alexandrium fundyense</i> (duplet)		40	120				40
<i>Alexandrium fundyense</i> (triplet)		40					
Armoured dinoflagellate	400	240	240	40			
<i>Ceratium horridum</i>			200				
<i>Ceratium lineatum</i>	40						
<i>Ceratium longipes</i>		120			20		
<i>Dinophysis acuta</i>				40	20		
<i>Dinophysis spp.</i>			40				
<i>Heterocapsa triquetra</i>	600	720	240	40			
<i>Minuscula bipes</i>	40						
<i>Protoperidinium denticulatum</i>			80		20		
<i>Protoperidinium divergens</i>							
<i>Protoperidinium spp.</i>	40	160	40	40	60	20	
<i>Scrippsiella trochoidea</i>	120	40		40			
<i>Asterionellopsis glacialis</i>	280	80	360	200	100	60	
<i>Asterionellopsis kariana</i>			40				
<i>Chaetoceros compressus</i>	80	120	240	120	140		40
<i>Chaetoceros debilis</i>	960	400	600	640	860	280	800
<i>Chaetoceros decipiens</i>		240	200	120	80		40
<i>Chaetoceros diadema</i>					140	20	
<i>Chaetoceros furcellatus</i>	40		40		20	40	
<i>Chaetoceros ingolfianus</i>	80		40		60	40	
<i>Chaetoceros laciniatus</i>	200	280	360	120	80		40
<i>Chaetoceros simplex</i>							240
<i>Chaetoceros spp.</i>	400	280	1040	640	540	180	160
<i>Chaetoceros subtilis</i>					20		
<i>Chaetoceros teres</i>							80
<i>Coscinodiscus spp.</i>				40	20		
<i>Cylindrotheca closterium</i>	160	120	120	560	300	340	560
<i>Dactyliosolen fragilissimus</i>		40	200	40			
<i>Ditylum brightwellii</i>	80	160	120	80	160	20	80
<i>Eucampia zodiacus</i>	80			40			
<i>Guinardia delicatula</i>	280					20	
<i>Leptocylindrus danicus</i>			40				120
<i>Leptocylindrus minimus</i>	400	80	280	520	320	100	2280
<i>Licmophora abbreviata</i>				40			
<i>Melosira ambigua</i>					40		
<i>Navicula spp.</i>	40	80		120	40		
<i>Pleurosigma / Gyrosigma</i>					20		
<i>Pleurosigma angulatum</i>		80	40				120
<i>Porosira glacialis</i>			80		20		
<i>Pseudo-nitzschia delicatissima</i> group	30060	30060	58450	11400	60120	9200	4800
<i>Pseudo-nitzschia seriata</i> group		160			20		
<i>Rhizosolenia hebetata</i>				40			
<i>Rhizosolenia setigera</i>		40					
<i>Skeletonema costatum</i>	1160	1080	1760	4160	3920	2200	160
<i>Thalassionema nitzschiooides</i>		80			100	60	

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
10-Jun-97 (continued)							
<i>Thalassiosira auguste-lineata</i>	280		40		60	80	40
<i>Thalassiosira baltica</i>				80			
<i>Thalassiosira decipiens</i>	3080	3000	5320	3800	6320	2840	2080
<i>Thalassiosira gravida</i>	120	80		160	40	20	80
<i>Thalassiosira nordenskioeldii</i>	2280	600	920	360	220	180	40
<i>Thalassiosira spp.</i>	200		40	40		100	
<i>Brachionus spp.</i>	40	40					
Copepoda	40	120		40	20		
<i>Dictyocha speculum</i>	80		120		40		
<i>Favella spp.</i>		80					
<i>Mesodinium rubrum</i>	640	8360	2200	360	160		1840
<i>Parafavella spp.</i>					40		
Tintinnids		120	160	280	60	80	320
17-Jun-97							
<i>Alexandrium fundyense</i>	680	560	2200				80
<i>Alexandrium fundyense</i> (duplet)	80		80				
Armoured dinoflagellate	40			40			80
<i>Ceratium horridum</i>	80		40				
<i>Ceratium spp.</i>		40			40		
<i>Dinophysis acuminata</i>							
<i>Dinophysis acuta</i>		40					40
<i>Gymnodinium spp.</i>		40	80				
<i>Heterocapsa triquetra</i>	280	200	560				
<i>Protoperidinium ovatum</i>	40	40					
<i>Protoperidinium spp.</i>	240	200	280				120
<i>Scrippsiella trochoidea</i>	40	200	160				
<i>Asterionellopsis glacialis</i>	480	600	480	1520	300	80	
<i>Cerataulina pelagica</i>			40				40
<i>Chaetoceros compressus</i>	760	1720	1680	2640	360	180	40
<i>Chaetoceros constrictus</i>			80				
<i>Chaetoceros debilis</i>	3640	4320	4040	8840	600	100	1560
<i>Chaetoceros decipiens</i>	280	400	600	400	160	60	200
<i>Chaetoceros diadema</i>	40			160	80	40	
<i>Chaetoceros furcellatus</i>				40			40
<i>Chaetoceros ingolfianus</i>	80	120	240	80	80	20	
<i>Chaetoceros laciniatus</i>	640	520	960	600	40	20	
<i>Chaetoceros lorenzianus</i>				80			
<i>Chaetoceros simplex</i>					20		80
<i>Chaetoceros spp.</i>	840	3560	2160	1000	200	180	480
<i>Chaetoceros teres</i>					20		80
<i>Coscinodiscus spp.</i>			40				40
<i>Cylindrotheca closterium</i>	520	440	1480	3680	720	220	1200
<i>Dactyliosolen fragilissimus</i>		200	240	40			40
<i>Ditylum brightwellii</i>	200	120	160	160	80	80	
<i>Eucampia zodiacus</i>	200	120	80	120			80
<i>Fragilaria spp.</i>	80	40			20		
<i>Guinardia delicatula</i>	120	120	160	360			120
<i>Leptocylindrus danicus</i>	120	240	400	360	60	20	440
<i>Leptocylindrus minimus</i>	520	520	800	720	580	60	9800
<i>Licmophora abbreviata</i>	240	120	280				120
<i>Melosira spp.</i>						20	
<i>Navicula spp.</i>	40			40	20		40
<i>Pleurosigma angulatum</i>				40			
<i>Porosira glacialis</i>		40		80	20		40
<i>Pseudo-nitzschia delicatissima</i> group	7080	5640	2280	116900	2960	660	9160
<i>Pseudo-nitzschia seriata</i> group	80	40	200	160	100		120

ORGANISM 17-Jun-97 (continued)	3	15	16-0m	16-10m	16-25m	16-50m	17
<i>Rhabdonema spp.</i>		80	40				
<i>Rhizosolenia hebetata</i>			40		20		
<i>Skeletonema costatum</i>	520	440	120	840	520	300	
<i>Stephanopyxis turris</i>		40					
<i>Thalassionema nitzschiooides</i>			160		60	20	40
<i>Thalassiosira auguste-lineata</i>	120	40	80	80	100		
<i>Thalassiosira decipiens</i>	2920	2720	2040	10000	2380	400	720
<i>Thalassiosira gravida</i>		200		40			
<i>Thalassiosira nordenskioeldii</i>	640	80	360	560	140	20	
<i>Thalassiosira spp.</i>	280		160		40	80	80
<i>Brachionus spp.</i>			40				
Copepoda		40					80
<i>Dictyocha speculum</i>			240			20	
<i>Mesodinium rubrum</i>	15840	6320	5800	40			1520
<i>Parafavella spp.</i>			80	40			
<i>Ptychocylis spp.</i>	40						
Tintinnids	640	520	680	120	40		520
24-Jun-97							
<i>Alexandrium fundyense</i>	480	8200	2280	120			80
<i>Alexandrium fundyense</i> (duplet)	80	400	80				
Armoured dinoflagellate	160		160	120		40	
<i>Ceratium fusus</i>							80
<i>Ceratium horridum</i>	160		160	80			
<i>Ceratium lineatum</i>				40			
<i>Ceratium longipes</i>		80					
<i>Dinophysis acuminata</i>	80			40			
<i>Dinophysis acuta</i>	80			80			
<i>Dinophysis spp.</i>			40				
<i>Heterocapsa triquetra</i>	80	5320	480	40			
<i>Protoperidinium denticulatum</i>			40				
<i>Protoperidinium spp.</i>		200	120	200			80
<i>Scrippsiella trochoidea</i>		1280	360				
<i>Asterionellopsis glacialis</i>	880	240	840	600	380	520	
<i>Chaetoceros compressus</i>	6080	6320	4120	11280	1560	1120	160
<i>Chaetoceros constrictus</i>		80			40		
<i>Chaetoceros debilis</i>	3360	2280	1480	3240	680	320	160
<i>Chaetoceros decipiens</i>	560	720	480	720	40	160	40
<i>Chaetoceros diadema</i>				40			
<i>Chaetoceros ingolfianus</i>	240	40	160	240	40	40	
<i>Chaetoceros laciniosus</i>	240	360	480	360	40		
<i>Chaetoceros lorenzianus</i>							40
<i>Chaetoceros spp.</i>	1520	2960	2000	1600	1400	1640	200
<i>Chaetoceros teres</i>	160			80	40	40	40
<i>Coscinodiscus spp.</i>		40	80	40			40
<i>Cylindrotheca closterium</i>	480	1120	800	2160	720	800	200
<i>Dactyliosolen fragilissimus</i>			240	80	20		120
<i>Detonula pumila</i>		80					
<i>Ditylum brightwellii</i>	80	80	200	160	60		
<i>Eucampia spp.</i>	80						
<i>Eucampia zodiacus</i>				40			
<i>Guinardia delicatula</i>	320	120	40	120	40		120
<i>Guinardia flaccida</i>							40
<i>Leptocylindrus danicus</i>	560	280	480	1000	80	120	1120
<i>Leptocylindrus minimus</i>	3840	320	680	1200	480	600	168670
<i>Navicula spp.</i>	240	40			60	80	80
<i>Pleurosigma angulatum</i>							80

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
24-Jun-97 (continued)							
<i>Porosira glacialis</i>						40	40
<i>Proboscia alata</i>			40				
<i>Pseudo-nitzschia delicatissima</i> group	1200	280	440	2480	660	720	
<i>Pseudo-nitzschia seriata</i> group	560	40	120	600	80		40
<i>Rhizosolenia hebetata</i>			40				
<i>Skeletonema costatum</i>	240	40	160	80	200	400	
<i>Stephanopyxis turris</i>					20		
<i>Thalassionema nitzschiooides</i>					140	40	40
<i>Thalassiosira auguste-lineata</i>	80	80	240	80	60	40	
<i>Thalassiosira decipiens</i>	240	440	720	520	120		
<i>Thalassiosira gravida</i>			40				
<i>Thalassiosira nordenskioeldii</i>	80	280	80	160	40	80	40
<i>Thalassiosira spp.</i>				480	260	400	
Copepoda		80		80			
<i>Dictyocha speculum</i>		160		400	120	20	
<i>Eutreptia / Eutreptiella</i>		200					
<i>Helicostomella spp.</i>				40			40
<i>Mesodinium rubrum</i>	400			320			200
<i>Parafavella spp.</i>				160			
Tintinnids	160	120	200	480	80	80	160
09-Jul-97							
<i>Alexandrium fundyense</i>	20		40	80			
<i>Amylax triacantha</i>							40
Armoured dinoflagellate	80	20	40	40	20		
<i>Ceratium horridum</i>		120	180	20			
<i>Ceratium lineatum</i>	40		20				20
<i>Ceratiun longipes</i>	20			80			
<i>Ceratiun tripos</i>			40				
<i>Dinophysis acuminata</i>	140	40	20	40			20
<i>Dinophysis acuta</i>	20		100	20			20
<i>Dinophysis spp.</i>	20	20	60		20		20
<i>Gonyaulax spinifera</i>		20					
<i>Heterocapsa triquetra</i>	20		20	40			
<i>Protoperdinium conicum</i>	20						
<i>Protoperdinium spp.</i>	80		60	60	40		80
<i>Scrippsiella trochoidea</i>							20
<i>Asterionellopsis glacialis</i>	20	40		80	40	300	
<i>Cerataulina pelagica</i>	40						1400
<i>Chaetoceros compressus</i>							20
<i>Chaetoceros constrictus</i>					20		
<i>Chaetoceros lorenzianus</i>	20						
<i>Chaetoceros simplex</i>							100
<i>Chaetoceros spp.</i>							60
<i>Coscinodiscus spp.</i>					20		
<i>Cylindrotheca closterium</i>	100	60	80	500	140	380	75150
<i>Dactyliosolen fragilissimus</i>	60						440
<i>Ditylum brightwellii</i>				40	20		
<i>Eucampia zodiacus</i>							60
<i>Guinardia delicatula</i>	740	20		40		20	41750
<i>Leptocylindrus minimus</i>			20	40	40	40	160
<i>Licmophora abbreviata</i>					20		
<i>Navicula spp.</i>				20		80	20
<i>Pleurosigma angulatum</i>	40						20
<i>Pseudo-nitzschia delicatissima</i> group	80		40	20	20	60	25050
<i>Pseudo-nitzschia seriata</i> group					20	20	100
<i>Rhizosolenia hebetata</i>							40

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
09-Jul-97 (continued)							
<i>Skeletonema costatum</i>	20					220	1920
<i>Thalassiosira decipiens</i>							20
<i>Thalassiosira spp.</i>							20
Copepoda	20	80	20	20	20	20	20
<i>Dictyocha speculum</i>	100	80		20	60		80
<i>Eutreptia / Eutreptiella</i>	120						
<i>Helicostomella spp.</i>	60						80
<i>Mesodinium rubrum</i>	2120	1140	4100	1400	220		1780
Tintinnids	280	140	440	700	320		280
14-Jul-97							
<i>Alexandrium fundyense</i>		20	100				
Armoured dinoflagellate	120	180	140	120	20	20	
<i>Ceratium horridum</i>		60	100				
<i>Ceratium lineatum</i>		20					40
<i>Ceratium longipes</i>	20		60	20	20		
<i>Ceratium spp.</i>							40
<i>Dinophysis acuminata</i>	40	40		120	20		120
<i>Dinophysis acuta</i>	40	20	20	80			40
<i>Dinophysis norvegica</i>		20					
<i>Dinophysis pulchella</i>		40					
<i>Dinophysis spp.</i>	140	40		20			40
<i>Heterocapsa triquetra</i>	160	520	540				
<i>Protoperidinium spp.</i>	40	20	120	40	60		120
<i>Scrippsiella trochoidea</i>							80
<i>Asterionellopsis glacialis</i>	20		20		100	60	
<i>Cerataulina pelagica</i>	40		20				2080
<i>Chaetoceros simplex</i>							480
<i>Chaetoceros spp.</i>		20					120
<i>Corethron criophilum</i>							40
<i>Cylindrotheca closterium</i>	280	380	720	1040	380	260	3960
<i>Dactyliosolen fragilissimus</i>							400
<i>Ditylum brightwellii</i>	20			20			
<i>Guinardia delicatula</i>	680	40	160	60		20	53440
<i>Leptocylindrus minimus</i>							120
<i>Licmophora abbreviata</i>		60					
<i>Navicula spp.</i>	20		20		60	40	
<i>Paralia marina</i>					20		
<i>Pleurosigma angulatum</i>	20		20		20		120
<i>Pseudo-nitzschia delicatissima</i> group	60	100	400	60		40	5120
<i>Rhizosolenia imbricata</i>							40
<i>Skeletonema costatum</i>		20	80	60	100	60	2120
<i>Thalassionema nitzschiooides</i>						20	
<i>Thalassiosira spp.</i>							40
<i>Brachionus spp.</i>							40
Copepoda	20	20	20	20			
<i>Dictyocha speculum</i>	80	260	520	100			200
<i>Eutreptia / Eutreptiella</i>	20	80	80				
<i>Helicostomella spp.</i>		20					120
<i>Mesodinium rubrum</i>	3320	2260	3120	800			1520
<i>Notholca spp.</i>				20			
Tintinnids	340	540	1360	2160	20	60	5440

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
21-Jul-97							
<i>Alexandrium fundyense</i>		80	60	80			120
Armoured dinoflagellate	100	220	20	100	20		160
<i>Ceratium arcticum</i>				40			
<i>Ceratium horridum</i>	20						
<i>Ceratium lineatum</i>	40		20	20			
<i>Ceratium longipes</i>	160	120	60	160	120		20
<i>Ceratium minutum</i>				20			
<i>Dinophysis acuminata</i>	40		40	260	20		180
<i>Dinophysis acuta</i>	20	20		40			
<i>Dinophysis norvegica</i>	20			40			
<i>Dinophysis spp.</i>	20			20	80		40
<i>Heterocapsa triquetra</i>	40	60		20			
<i>Protoperidinium ovatum</i>							40
<i>Protoperidinium spp.</i>	120			60			60
<i>Scrippsiella trochoidea</i>	20	60					
<i>Asterionellopsis glacialis</i>	20					20	
<i>Cerataulina pelagica</i>		20	40	60	20		520
<i>Chaetoceros furcellatus</i>				20			
<i>Chaetoceros simplex</i>	20		60	20	100	20	940
<i>Chaetoceros spp.</i>	20						100
<i>Cylindrotheca closterium</i>	540	60	80	160	480	200	940
<i>Dactyliosolen fragilissimus</i>			20	20			580
<i>Ditylum brightwellii</i>	20			20			
<i>Guinardia delicatula</i>	4920	460	8720	11720	10920	880	148630
<i>Guinardia flaccida</i>				20			60
<i>Gyrosigma fasciola</i>							
<i>Leptocylindrus minimus</i>	40	60	20		20		660
<i>Licmophora abbreviata</i>	60	20					
<i>Navicula spp.</i>	80	60			20		40
<i>Paralia marina</i>						20	
<i>Pleurosigma angulatum</i>	40	40		20			240
<i>Pseudo-nitzschia delicatissima</i> group	80	40	40	120	220	100	1620
<i>Rhizosolenia setigera</i>	20						
<i>Skeletonema costatum</i>	60	20		20		40	140
<i>Thalassiosira decipiens</i>	40						
Copepoda	20			40	20		40
<i>Dictyocha speculum</i>	160	160	160	220	100		240
<i>Eutreptia / Eutreptiella</i>	540	4260	160				
<i>Helicostomella spp.</i>							40
<i>Mesodinium rubrum</i>	1480	300	320	1320	120		1280
Tintinnids	880	240	160	1480	1020	220	840
29-Jul-97							
<i>Alexandrium fundyense</i>	20	100					60
Armoured dinoflagellate	40	780					160
<i>Ceratium horridum</i>		60					
<i>Ceratium lineatum</i>	40	160					20
<i>Ceratium longipes</i>	200	160					80
<i>Ceratium spp.</i>	20	20					
<i>Ceratium tripos</i>		60					
<i>Dinophysis acuminata</i>	120	240					60
<i>Dinophysis acuta</i>	20	120					
<i>Dinophysis norvegica</i>	20						60
<i>Dinophysis pulchella</i>		80					
<i>Dinophysis spp.</i>		60					20
<i>Heterocapsa triquetra</i>	260	1660					20
<i>Protoperidinium ovatum</i>							40

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
29-Jul-97 (continued)							
<i>Protoperidinium spp.</i>	80	100					20
Unarmoured dinoflagellate	20						140
<i>Achnanthes spp.</i>		20					
<i>Asterionellopsis glacialis</i>	20	20					
<i>Cerataulina pelagica</i>	20						
<i>Chaetoceros debilis</i>	20						
<i>Chaetoceros simplex</i>	120	40					60
<i>Chaetoceros spp.</i>	40	20					20
<i>Corethron criophilum</i>	20	20					
<i>Cylindrotheca closterium</i>	860	980					60
<i>Dactyliosolen fragilissimus</i>							20
<i>Ditylum brightwellii</i>	40						
<i>Guinardia delicatula</i>	6600	8000					
<i>Lauderia annulata</i>							20
<i>Leptocylindrus danicus</i>	20						
<i>Leptocylindrus minimus</i>	40	200					
<i>Licmophora abbreviata</i>	40	40					40
<i>Navicula spp.</i>							20
<i>Pleurosigma angulatum</i>							80
<i>Pseudo-nitzschia delicatissima</i> group	500	800					
<i>Rhizosolenia setigera</i>	20						
<i>Skeletonema costatum</i>	140	420					
Copepoda	60	120					80
<i>Dictyocha speculum</i>	440	960					1180
<i>Eutreptia / Eutreptiella</i>	120	40					800
<i>Helicostomella spp.</i>							80
<i>Mesodinium rubrum</i>	3660	23760					12260
Tintinnids	1000	800					740
05-Aug-97							
<i>Alexandrium fundyense</i>	160	140	300				80
<i>Amylax triacantha</i>							20
Armoured dinoflagellate	160	300	840	60	20	20	60
<i>Ceratium fusus</i>				20			
<i>Ceratium lineatum</i>	20	40	120				
<i>Ceratium longipes</i>	100	300	300	140	240		200
<i>Ceratium spp.</i>	20		20				
<i>Ceratium tripos</i>		20	40	40	20		
<i>Dinophysitis acuminata</i>	200	160	260	20	20		
<i>Dinophysitis acuta</i>	20		60				
<i>Dinophysitis norvegica</i>	40	20	100	40	20		80
<i>Dinophysitis spp.</i>		20					
<i>Gonyaulax digitale</i>		20	40				
<i>Heterocapsa triquetra</i>	2500	4040	17240	160			
<i>Protoperidinium divergens</i>							20
<i>Protoperidinium spp.</i>	20	60	100	40			20
<i>Scrippsiella trochoidea</i>	140	160	60				80
Unarmoured dinoflagellate	180	340	540	40			40
<i>Actinoptychus senarius</i>	20			40			
<i>Asterionellopsis glacialis</i>	40			60	80	220	
<i>Cerataulina pelagica</i>	380						20
<i>Chaetoceros compressus</i>			20	20			
<i>Chaetoceros simplex</i>	100	60					60
<i>Chaetoceros spp.</i>	80	40	20	20		20	80
<i>Chaetoceros subtilis</i>			20	20			
<i>Corethron criophilum</i>	40	20			20	20	
<i>Cylindrotheca closterium</i>	860	260	100	160	380	60	260

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
05-Aug-97 (continued)							
<i>Dactyliosolen fragilissimus</i>			80			20	20
<i>Ditylum brightwellii</i>			40	20	20	40	
<i>Guinardia delicatula</i>	2780	2040	980	960	2500	240	
<i>Leptocylindrus danicus</i>	20						
<i>Leptocylindrus minimus</i>	40	40					
<i>Licmophora abbreviata</i>	20	20	20				60
<i>Navicula spp.</i>	40					40	40
<i>Pleurosigma / Gyrosigma</i>							20
<i>Pleurosigma angulatum</i>	180	20				20	300
<i>Pseudo-nitzschia delicatissima</i> group	440	260	120	100	300	280	
<i>Rhizosolenia hebetata</i>		80					
<i>Rhizosolenia setigera</i>		20		80			
<i>Skeletonema costatum</i>	220	140	300	480	160	200	
<i>Thalassiosira oestrupii</i>						60	
<i>Thalassiosira spp.</i>			40	60	20		
Copepoda	40	20	20	20	60	20	40
<i>Dictyocha speculum</i>	620	980	1800	460	200		1340
<i>Eutreptia / Eutreptiella</i>	120	220	380				600
<i>Helicostomella spp.</i>							80
<i>Mesodinium rubrum</i>	3620	3560	2200	240	140		1520
Tintinnids	1220	640	4260	320	100	20	460
10-Aug-97							
<i>Alexandrium fundyense</i>	120	200	260				
Armoured dinoflagellate	420	5000	2080	120	20		20
<i>Ceratium fusus</i>	40		20				
<i>Ceratium horridum</i>		40		20			
<i>Ceratium lineatum</i>	140	120	120				80
<i>Ceratium longipes</i>	200	280	260	260	20		40
<i>Ceratium spp.</i>	80	80	40	100			40
<i>Ceratium tripos</i>	60	40	60	20	20		
<i>Dinophysis acuminata</i>	120	600	40	40	20		
<i>Dinophysis acuta</i>		120	40				
<i>Dinophysis norvegica</i>	80	80	20				
<i>Dinophysis pulchella</i>					20		20
<i>Dinophysis spp.</i>	20	80	20				
<i>Gonyaulax digitale</i>		40	40				
<i>Gonyaulax spinifera</i>	160	160	120				
<i>Heterocapsa triquetra</i>	540	13840	1880	20			
<i>Protoperidinium brevipes</i>							20
<i>Protoperidinium depressum</i>	20			20			
<i>Protoperidinium leonis</i>			20				
<i>Protoperidinium spp.</i>	20	80					
<i>Scrippsiella trochoidea</i>	260	520	260				20
Unarmoured dinoflagellate	100	280	140	40			
<i>Asterionellopsis glacialis</i>					20	60	
<i>Cerataulina pelagica</i>	400	40	20				
<i>Chaetoceros compressus</i>	20						
<i>Chaetoceros constrictus</i>	160			20			580
<i>Chaetoceros debilis</i>	20						
<i>Chaetoceros ingolfianus</i>	60						
<i>Chaetoceros simplex</i>	40		20				80
<i>Chaetoceros socialis</i>	60						
<i>Chaetoceros spp.</i>	540			20		40	140
<i>Corethron criophilum</i>	20			20			
<i>Coscinodiscus spp.</i>	20						
<i>Cylindrotheca closterium</i>	280		100	40	120	260	240

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
10-Aug-97 (continued)							
<i>Dactyliosolen fragilissimus</i>							60
<i>Ditylum brightwellii</i>			40				
<i>Guinardia delicatula</i>	7160	35070	13200	8880	1660	2260	80
<i>Guinardia flaccida</i>							120
<i>Leptocylindrus minimus</i>	60						
<i>Melosira ambigua</i>		160					
<i>Pleurosigma angulatum</i>	20					20	
<i>Pseudo-nitzschia delicatissima</i> group	20	40		60	140	60	
<i>Rhabdonema spp.</i>							20
<i>Rhizosolenia imbricata</i>			20				
<i>Rhizosolenia setigera</i>		40					
<i>Skeletonema costatum</i>	40		40	20	20	220	220
<i>Thalassiosira oestrupii</i>				20			
<i>Thalassiosira spp.</i>	60						
Copepoda	40			20	20		
<i>Dictyocha speculum</i>	500	480	840	400	120		1980
<i>Eutreptia / Eutreptiella</i>		40					60
<i>Helicostomella spp.</i>		40					100
<i>Mesodinium rubrum</i>	1480	400	620	260			200
<i>Notholca spp.</i>							20
Tintinnids	400	440	340	600	220	60	300
19-Aug-97							
<i>Alexandrium fundyense</i>	60	160		100			160
<i>Amylax triacantha</i>							40
Armoured dinoflagellate	80	2440	4120	300	80		120
<i>Ceratium arcticum</i>				20			
<i>Ceratium fusus</i>	60	80		40	20		
<i>Ceratium horridum</i>		40					
<i>Ceratium lineatum</i>	100	440	80	40	60		200
<i>Ceratium longipes</i>	260	280	440	140	40		160
<i>Ceratium spp.</i>		40	40		20		
<i>Ceratium tripos</i>	100	80	40	60			80
<i>Dinophysis acuminata</i>	40	120	80				40
<i>Dinophysis acuta</i>				40			
<i>Dinophysis norvegica</i>	40	40		20			40
<i>Dinophysis spp.</i>	80	40					
<i>Gonyaulax digitale</i>			200				
<i>Heterocapsa triquetra</i>	120	6040	8600	20			
<i>Phalacroma rotundatum</i>		40					
<i>Prorocentrum micans</i>			40				
<i>Protoperidinium depressum</i>	20						
<i>Protoperidinium ovatum</i>		40					
<i>Protoperidinium spp.</i>	40	320	80				120
<i>Scrippsiella trochoidea</i>	260	1880	320	40			920
Unarmoured dinoflagellate	80	360	400	180	140		
<i>Actinoptychus senarius</i>						60	
<i>Asterionellopsis glacialis</i>				40	60	140	
<i>Cerataulina pelagica</i>	340	40	240	20	20		280
<i>Chaetoceros constrictus</i>	80	40		40	20	20	80
<i>Chaetoceros debilis</i>		200					
<i>Chaetoceros simplex</i>	20		40		60		1080
<i>Chaetoceros socialis</i>		40					
<i>Chaetoceros spp.</i>	260	80	120	20	40	20	240
<i>Chaetoceros subtilis</i>	40		40		20		
<i>Corethron criophilum</i>		80	120	20	80	80	120
<i>Coscinodiscus spp.</i>				20			

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
19-Aug-97 (continued)							
<i>Cylindrotheca closterium</i>	220	360	160	780	200	140	5440
<i>Dactyliosolen fragilissimus</i>	40				20	20	
<i>Ditylum brightwellii</i>	640	800	840	600	320	140	40
<i>Guinardia delicatula</i>	1020	1320	3600	1000	500	360	600
<i>Guinardia flaccida</i>			240	60	20		320
<i>Leptocylindrus mediterraneus</i>			40			20	
<i>Leptocylindrus minimus</i>	280	360	560	320	20	100	40
<i>Navicula spp.</i>			40		20		
<i>Pleurosigma / Gyrosigma</i>	20						
<i>Pleurosigma angulatum</i>	60			60			200
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>			40				
<i>Pseudo-nitzschia delicatissima</i> group	80	120	640	300	20	320	
<i>Pseudo-nitzschia seriata</i> group	40	360				80	160
<i>Rhizosolenia hebetata</i>							80
<i>Rhizosolenia imbricata</i>							40
<i>Rhizosolenia setigera</i>	60		80	60	20	20	
<i>Rhizosolenia spp.</i>							40
<i>Skeletonema costatum</i>	120	80	400	220	380	160	7360
<i>Thalassionema nitzschiooides</i>						40	
<i>Thalassiosira spp.</i>	40		80	140			
Copepoda	80			60			
<i>Dictyocha speculum</i>	320	3120	6520	540	640	80	440
<i>Eutreptia / Eutreptiella</i>	20	80					
<i>Helicostomella spp.</i>			120				160
<i>Mesodinium rubrum</i>	200	3960	1440	200	20		920
<i>Notholca spp.</i>		40					
Tintinnids	200	80	240	120	160	60	600
26-Aug-97							
<i>Alexandrium fundyense</i>	280	80	1080	520		20	160
<i>Alexandrium fundyense</i> (duplet)			40				
Armoured dinoflagellate	3480	340	9560	2560		20	5760
<i>Ceratium fusus</i>	40	40		20	20		
<i>Ceratium horridum</i>	40		40	40			
<i>Ceratium lineatum</i>	120	40	120	20	20		880
<i>Ceratium longipes</i>		20		60			40
<i>Ceratium spp.</i>	40						
<i>Ceratium tripos</i>		40			20		
<i>Dinophysis acuminata</i>	160		80	20			
<i>Dinophysis acuta</i>				20			
<i>Dinophysis norvegica</i>	40						
<i>Dinophysis spp.</i>		20	160				
<i>Gonyaulax digitale</i>	40		40	20			
<i>Gonyaulax spinifera</i>	160	20	280				
<i>Heterocapsa triquetra</i>	520	20	10440	160			40
<i>Phalacroma rotundatum</i>			80				
<i>Protoperidinium spp.</i>	160						
<i>Scrippsiella trochoidea</i>	640	60	960	80			280
Unarmoured dinoflagellate	120		360	80		20	200
<i>Asterionellopsis glacialis</i>		80		60	140	100	
<i>Cerataulina pelagica</i>	1360	60					
<i>Chaetoceros constrictus</i>		80					
<i>Chaetoceros debilis</i>	320					40	40
<i>Chaetoceros simplex</i>	160	60		20	20		600
<i>Chaetoceros socialis</i>	240	120					40
<i>Chaetoceros spp.</i>	320						
<i>Chaetoceros subtilis</i>		20		20		20	

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
26-Aug-97 (continued)							
<i>Corethron criophilum</i>	80	20	40	60	40	20	40
<i>Coscinodiscus spp.</i>			40				40
<i>Cylindrotheca closterium</i>	1040	340	600	620	920	320	680
<i>Dactyliosolen fragilissimus</i>	80						40
<i>Ditylum brightwellii</i>	200	20	40	20	80	80	
<i>Guinardia delicatula</i>	240	80	80	60	60	60	480
<i>Guinardia flaccida</i>	320						400
<i>Leptocylindrus minimus</i>	160	80		120	140	40	
<i>Navicula spp.</i>					40		
<i>Paralia marina</i>					20		
<i>Pleurosigma angulatum</i>	40						
<i>Pseudo-nitzschia delicatissima</i> group	160	380	840	1180	1440	2180	
<i>Pseudo-nitzschia seriata</i> group					40		
<i>Rhizosolenia imbricata</i>							80
<i>Skeletonema costatum</i>	240	60		140	120	120	4200
<i>Thalassionema nitzschioides</i>					40		
<i>Thalassiosira spp.</i>		40		80	60		
Copepoda	40	100		20			40
<i>Dictyocha speculum</i>	880	220	1240	740	80	40	1720
<i>Eutreptia / Eutreptiella</i>	80		120				40
<i>Helicostomella spp.</i>	40	40					
<i>Mesodinium rubrum</i>	1480	280	360	120			3640
Tintinnids	200	120	200	20	20	40	240
03-Sep-97							
<i>Alexandrium fundyense</i>	160	240	560	80			
Armoured dinoflagellate	960	3020	2480	1040			180
<i>Ceratium fusus</i>	80		120	80	40		
<i>Ceratium horridum</i>		160					
<i>Ceratium lineatum</i>	80	120	80	440	80		680
<i>Ceratium longipes</i>		280	160	240	120	20	20
<i>Ceratium spp.</i>		120		40			
<i>Ceratium tripos</i>	40		80	40			
<i>Dinophysis acuminata</i>	80	480	160	80			20
<i>Dinophysis acuta</i>			40				
<i>Dinophysis norvegica</i>		120		40			
<i>Dinophysis spp.</i>	40		240	40			20
<i>Gonyaulax digitale</i>			40				
<i>Gonyaulax spinifera</i>		40					
<i>Heterocapsa triquetra</i>		1080	360		40		
<i>Phalacroma rotundatum</i>	80						
<i>Prorocentrum micans</i>	160	40	40				
<i>Protoperidinium divergens</i>						20	
<i>Protoperidinium leonis</i>	40						
<i>Protoperidinium ovatum</i>	40	40					
<i>Protoperidinium spp.</i>	160	440	160				60
<i>Scrippsiella trochoidea</i>	280	2880	1040		80		60
Unarmoured dinoflagellate		1900	80				
<i>Actinoptychus senarius</i>						80	
<i>Asterionellopsis glacialis</i>	18370	33400	68470	46760	18000	1960	
<i>Cerataulina pelagica</i>	600	120	240	40			340
<i>Chaetoceros compressus</i>	240	400	440	360	240	20	
<i>Chaetoceros debilis</i>	2080	240	160		40		
<i>Chaetoceros decipiens</i>	200		160	200		40	
<i>Chaetoceros lorenzianus</i>							
<i>Chaetoceros simplex</i>						40	200
<i>Chaetoceros socialis</i>	120						

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
03-Sep-97 (continued)							
<i>Chaetoceros spp.</i>	440	360	360	480	80	40	60
<i>Chaetoceros subtilis</i>	120						
<i>Chaetoceros teres</i>	40	80					
<i>Corethron criophilum</i>			40	40	40		100
<i>Cylindrotheca closterium</i>	40	200	400	240	80	240	120
<i>Dactyliosolen fragilissimus</i>	200	240	160	320	200		60
<i>Ditylum brightwellii</i>	9360	18370	10200	5840	3360	200	20
<i>Grammatophora marina</i>						20	
<i>Guinardia delicatula</i>	440	40	240	400	200	100	2280
<i>Guinardia flaccida</i>			40		120	100	1480
<i>Guinardia striata</i>	320		280		80		
<i>Leptocylindrus danicus</i>						20	
<i>Leptocylindrus minimus</i>	1000	600	840	1480	1160	160	40
<i>Licmophora abbreviata</i>	40						
<i>Navicula spp.</i>							20
<i>Paralia marina</i>	40						
<i>Pleurosigma angulatum</i>	160						60
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>				40	40		
<i>Pseudo-nitzschia delicatissima</i> group	23380	18370	18370	4280	1800	1240	60
<i>Pseudo-nitzschia seriata</i> group	80	200	840	400	400	40	160
<i>Rhizosolenia imbricata</i>							100
<i>Rhizosolenia setigera</i>							20
<i>Skeletonema costatum</i>	73480	223780	90180	45090	12800	1960	720
<i>Thalassionema nitzschiooides</i>			80				
<i>Thalassiosira auguste-lineata</i>	40	80	40	40	40		
<i>Thalassiosira decipiens</i>	40		80				
<i>Thalassiosira oestrupii</i>				80	240		
<i>Thalassiosira spp.</i>	240	320	400	400	160	40	20
Copepoda	40	40	40		40	20	20
<i>Dictyocha speculum</i>	40	80	160	280	480	40	220
<i>Favella spp.</i>	40	40					
<i>Helicostomella spp.</i>		40					20
<i>Mesodinium rubrum</i>	520	1800	2440		40	20	1380
Tintinnids	440	160	760	600	360	20	200
15-Sep-97							
<i>Alexandrium fundyense</i>		120					
Armoured dinoflagellate	840	1880	580	180	40		40
<i>Ceratium fusus</i>	80	40		60	20		20
<i>Ceratium lineatum</i>	1120	1480	580	240	200	20	2120
<i>Ceratium longipes</i>	40	240	100	80	40		20
<i>Ceratium minutum</i>							60
<i>Ceratium tripos</i>		160			20		40
<i>Dinophysis acuminata</i>	80	520	140	60		20	
<i>Dinophysis acuta</i>			20				
<i>Dinophysis norvegica</i>	160	40	20		20		
<i>Dinophysis spp.</i>	160						
<i>Gonyaulax digitale</i>	80						
<i>Heterocapsa triquetra</i>	160	1840	460				20
<i>Phalacroma rotundatum</i>	40	80	20				
<i>Prorocentrum micans</i>			40	40			60
<i>Protoperidinium depressum</i>			40				
<i>Protoperidinium excentricum</i>	40						
<i>Protoperidinium spp.</i>	80	160	60		20		20
<i>Scrippsiella trochoidea</i>	360	480	440				20
Unarmoured dinoflagellate	80	560	100		20		
<i>Actinoptychus senarius</i>				20	300		

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
15-Sep-97 (continued)							
<i>Asterionellopsis glacialis</i>	5320	3320	5420	7480	3760	600	20
<i>Asterionellopsis kariana</i>					20		
<i>Cerataulina pelagica</i>	40	200	40	20	100	20	1600
<i>Chaetoceros compressus</i>	800	600	400	380	680		
<i>Chaetoceros constrictus</i>	200	40	80		20		
<i>Chaetoceros debilis</i>	2000	600	620	160	300	20	160
<i>Chaetoceros decipiens</i>	80	80	80	120	40	20	
<i>Chaetoceros ingolfianus</i>		40	40				
<i>Chaetoceros laciniosus</i>	80		20		20		
<i>Chaetoceros lorenzianus</i>							20
<i>Chaetoceros simplex</i>			20		20		140
<i>Chaetoceros socialis</i>	40			20			
<i>Chaetoceros spp.</i>	1600	880	580	520	460	60	
<i>Chaetoceros teres</i>	40	40		20			
<i>Corethron criophilum</i>				40	20		40
<i>Cyclotella spp.</i>	40						
<i>Cylindrotheca closterium</i>	160	80	320	340	500	100	100
<i>Dactyliosolen fragilissimus</i>				20	20		
<i>Ditylum brightwellii</i>	12760	5560	3300	3120	2640	520	320
<i>Eucampia zodiacus</i>							20
<i>Guinardia delicatula</i>	200	160	200	200	240	120	1480
<i>Guinardia flaccida</i>	80	280	80	520	260		440
<i>Guinardia striata</i>	640	320	100	1020	200		20
<i>Gyrosigma fasciola</i>							20
<i>Leptocylindrus danicus</i>	80			40			40
<i>Leptocylindrus minimus</i>	80	80	120	200	40	20	180
<i>Pleurosigma / Gyrosigma</i>							20
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>			40		20	20	
<i>Pseudo-nitzschia delicatissima</i> group	240	240	560	500	320	120	60
<i>Pseudo-nitzschia seriata</i> group	120	360	200		40	40	80
<i>Pseudo-nitzschia spp.</i>				40			
<i>Rhizosolenia imbricata</i>							80
<i>Skeletonema costatum</i>	1600	3080	2060	980	600	760	100
<i>Thalassionema nitzschiooides</i>			40	20	20		
<i>Thalassiosira auguste-lineata</i>	40	40					
<i>Thalassiosira baltica</i>			20				
<i>Thalassiosira oestrupii</i>	80	40		40	40		
<i>Thalassiosira spp.</i>		240	140	100			
Copepoda	40	120	20	40			20
<i>Dictyocha speculum</i>	40	40	60	240	40	20	180
<i>Eutreptia / Eutreptiella</i>	40						
<i>Helicostomella spp.</i>	40	40					
<i>Mesodinium rubrum</i>	2200	1520	2680	80	20	20	4960
Tintinnids	240	320	120	140	80	20	320
01-Oct-97							
<i>Alexandrium fundyense</i>	40	40				20	
<i>Amylax triacantha</i>				40			
Armoured dinoflagellate	40	560	320	120	20		100
<i>Ceratium fusus</i>	40	40			20		20
<i>Ceratium kofoidii</i>				40			
<i>Ceratium lineatum</i>	1200	2840	1780	2280	20		640
<i>Ceratium longipes</i>			20				40
<i>Ceratium minutum</i>		80					40
<i>Ceratium spp.</i>	80		20	40		20	60
<i>Ceratium tripos</i>	40		20	80			
<i>Dinophysis acuminata</i>			20				20

ORGANISM 01-Oct-97 (continued)	3	15	16-0m	16-10m	16-25m	16-50m	17
<i>Dinophysis norvegica</i>		80	20				
<i>Dinophysis spp.</i>			40				
<i>Gonyaulax digitale</i>	40						
<i>Prorocentrum micans</i>		80	40				
<i>Protoperidinium spp.</i>		160	20	80		20	
<i>Scrippsiella trochoidea</i>		40		40			
<i>Actinoptychus senarius</i>	40	200	340	320	220		20
<i>Asterionellopsis glacialis</i>	2680	2120	3520	10560	11840	4460	20
<i>Asterionellopsis kariana</i>				20			
<i>Bacillaria paxillifer</i>				40			
<i>Cerataulina pelagica</i>				40	20		60
<i>Chaetoceros affinis</i>						20	
<i>Chaetoceros compressus</i>			60	80	60	40	
<i>Chaetoceros constrictus</i>			100	40	40	40	
<i>Chaetoceros debilis</i>	1160	3040	940	1160	1440	200	
<i>Chaetoceros decipiens</i>	40	40	60		40		
<i>Chaetoceros laciniosus</i>		120	80	200	20		
<i>Chaetoceros lorenzianus</i>	40			120			
<i>Chaetoceros simplex</i>	240	240	40			20	300
<i>Chaetoceros socialis</i>	40						
<i>Chaetoceros spp.</i>	160	1120	460	560	540	160	160
<i>Chaetoceros teres</i>	40	40					
<i>Corethron criophilum</i>	40		20	40			
<i>Cylindrotheca closterium</i>	440	1000	360	440	380	340	380
<i>Dactyliosolen fragilissimus</i>		40		40		20	
<i>Ditylum brightwellii</i>	1400	2000	1160	1960	1320	360	580
<i>Fragilaria spp.</i>						20	
<i>Guinardia delicatula</i>	240	1000	540	600	220	80	360
<i>Guinardia flaccida</i>	120	200			140		
<i>Guinardia striata</i>	200	2760	520	320	360	20	40
<i>Gyrosigma tenuissimum</i>		80					20
<i>Leptocylindrus danicus</i>		120		80	60		20
<i>Leptocylindrus minimus</i>	120	240	60	40	40		80
<i>Licmophora abbreviata</i>			40				40
<i>Navicula spp.</i>	40	40					
<i>Pleurosigma / Gyrosigma</i>	40						40
<i>Pleurosigma angulatum</i>	40						20
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>		40	60	40	40	100	
<i>Pseudo-nitzschia delicatissima</i> group	360	960	440	680	440	280	40
<i>Pseudo-nitzschia seriata</i> group	160	160	120	240			
<i>Pseudo-nitzschia spp.</i>				120			
<i>Rhizosolenia hebetata</i>							
<i>Rhizosolenia imbricata</i>					20		40
<i>Rhizosolenia spp.</i>				40			
<i>Skeletonema costatum</i>	80	160	100	360	240	260	100
<i>Thalassionema nitzschiooides</i>	40	120		40	100		
<i>Thalassiosira auguste-lineata</i>			20				
<i>Thalassiosira baltica</i>				40			
<i>Thalassiosira decipiens</i>				40			
<i>Thalassiosira oestrupii</i>				40			
<i>Thalassiosira spp.</i>	120		60		120	20	
<i>Triceratium alternans</i>	80					20	
<i>Copepoda</i>			20	120			40
<i>Dictyocha speculum</i>	200	400	280	120	20		80
<i>Mesodinium rubrum</i>	1080	7120	3880	120			420
<i>Notholca spp.</i>					20		
Tintinnids	240	560	460		40		220

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
14-Oct-97							
<i>Alexandrium fundyense</i>	20		60				
Armoured dinoflagellate	20	80	160	40			
<i>Ceratium fusus</i>		20			20	20	40
<i>Ceratium kofoidii</i>				220			
<i>Ceratium lineatum</i>	520	760	1260	720			980
<i>Ceratium longipes</i>			40	40			
<i>Ceratium minutum</i>	40	40	300				20
<i>Ceratium spp.</i>		40		20			
<i>Ceratium tripos</i>		20	60	60	20		
<i>Dinophysis acuminata</i>			20	20			
<i>Dinophysis acuta</i>				20			
<i>Dinophysis spp.</i>			20				
<i>Gonyaulax digitale</i>				20			
<i>Heterocapsa triquetra</i>	20	20	20				
<i>Phalacroma rotundatum</i>		20					
<i>Prorocentrum micans</i>	40	20	100				
<i>Protoperdinium conicum</i>				20			
<i>Protoperdinium spp.</i>	20		40		20		
<i>Scrippsiella trochoidea</i>			100	20			
<i>Actinoptychus senarius</i>	640	220	80	80	660	180	160
<i>Asterionellopsis glacialis</i>	160	80		80	100		
<i>Cerataulina pelagica</i>			60			60	180
<i>Chaetoceros compressus</i>						20	
<i>Chaetoceros constrictus</i>		20	20	40		20	
<i>Chaetoceros debilis</i>	960	280	400	500	300		20
<i>Chaetoceros decipiens</i>							20
<i>Chaetoceros laciniosus</i>	40	40	20	80	20		
<i>Chaetoceros perpusillus</i>				20			
<i>Chaetoceros simplex</i>	380	60					800
<i>Chaetoceros socialis</i>	20			20			
<i>Chaetoceros spp.</i>	260	20	120	200	120	20	80
<i>Chaetoceros subtilis</i>						20	
<i>Corethron criophilum</i>	20				40		20
<i>Coscinodiscus spp.</i>					20		
<i>Cylindrotheca closterium</i>	540	300	280	160	500	100	280
<i>Dactyliosolen fragilissimus</i>			40				40
<i>Ditylum brightwellii</i>	220	80	180	180	340	240	800
<i>Eucampia zodiacus</i>	240						460
<i>Fragilaria spp.</i>			20				
<i>Guinardia delicatula</i>	740	100	340	200	140	60	1640
<i>Guinardia flaccida</i>	300	160			140		520
<i>Guinardia striata</i>	540	80	380	440	300	80	360
<i>Gyrosigma fasciola</i>							60
<i>Leptocylindrus danicus</i>							20
<i>Leptocylindrus minimus</i>	180	60	60	40	20		180
<i>Licmophora abbreviata</i>							20
<i>Navicula spp.</i>	20				20	20	20
<i>Pleurosigma / Gyrosigma</i>	20						60
<i>Pleurosigma angulatum</i>	20						40
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>	60			20	60	20	
<i>Pseudo-nitzschia delicatissima</i> group	620	660	320	420	560	180	40
<i>Pseudo-nitzschia seriata</i> group			20	20	60	20	100
<i>Rhizosolenia setigera</i>							20
<i>Skeletonema costatum</i>		80			60		80
<i>Thalassiosira spp.</i>	140		20	80	80	40	20
Copepoda	60	20			20		40

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
14-Oct-97 (continued)							
<i>Dictyocha speculum</i>	360	160	280	100	20	20	1460
<i>Eutreptia / Eutreptiella</i>	20						40
<i>Helicostomella spp.</i>	60						
<i>Mesodinium rubrum</i>	1640	720	5680	320			4220
Tintinnids	320	80	620	240			900
12-Nov-97							
Armoured dinoflagellate		20	20	60	20		
<i>Ceratium fusus</i>	40					20	
<i>Ceratium kofoidii</i>			140	60			
<i>Ceratium lineatum</i>	40	40	80	40	40		200
<i>Ceratium minutum</i>				20			
<i>Ceratium spp.</i>		20			20		80
<i>Ceratium tripos</i>	40	20		40	20		
<i>Dinophysis spp.</i>		20					
<i>Prorocentrum micans</i>			20				
<i>Protoperidinium spp.</i>			100				
<i>Actinoptychus senarius</i>	180	120	200	340	320	360	560
<i>Asterionellopsis glacialis</i>				20			
<i>Bacillaria paxillifer</i>				20			
<i>Cerataulina pelagica</i>	40	20					640
<i>Chaetoceros convolutus</i>			20				
<i>Chaetoceros debilis</i>	60	20	60	160	20		1080
<i>Chaetoceros lorenzianus</i>			20	20			40
<i>Chaetoceros simplex</i>							40
<i>Chaetoceros socialis</i>	20						
<i>Chaetoceros spp.</i>			20	160	20	20	
<i>Coscinodiscus spp.</i>				20			
<i>Cylindrotheca closterium</i>	140	220	180	20	180	80	120
<i>Ditylum brightwellii</i>	220	20	80	80	40	40	1720
<i>Guinardia delicatula</i>			20	20	20	80	
<i>Guinardia flaccida</i>			20				
<i>Guinardia striata</i>	40	60			20		
<i>Gyrosigma fasciola</i>					20		
<i>Lauderia annulata</i>			20	40			360
<i>Leptocylindrus danicus</i>	1360		220	360	60	40	11840
<i>Leptocylindrus minimus</i>	840	20	440	400	100	120	8440
<i>Licmophora abbreviata</i>							40
<i>Navicula spp.</i>		40	20			100	
<i>Odontella regia</i>	20			80		40	
<i>Pleurosigma / Gyrosigma</i>							40
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>	20						200
<i>Pseudo-nitzschia delicatissima</i> group	120	40	60	100	20	40	200
<i>Pseudo-nitzschia seriata</i> group	20	20					40
<i>Rhizosolenia hebetata</i>					60		
<i>Rhizosolenia setigera</i>							40
<i>Skeletonema costatum</i>	80	40	20				160
<i>Thalassionema nitzschiooides</i>	40			20			400
<i>Thalassiosira auguste-lineata</i>	20						
<i>Thalassiosira spp.</i>	20	20	40	80	20		80
<i>Triceratium alternans</i>					20		
Copepoda	20	20		20			40
<i>Dictyocha speculum</i>			20	20	40		200
<i>Helicostomella spp.</i>	20						
<i>Mesodinium rubrum</i>	140	100	80	80			160
Tintinnids	80	20	120	120			600

ORGANISM 09-Dec-97	3	15	16-0m	16-10m	16-25m	16-50m	17
<i>Alexandrium fundyense</i>			20				
Armoured dinoflagellate		40					
<i>Ceratium fusus</i>		20					
<i>Ceratium lineatum</i>	40	20	20		20	20	
<i>Ceratium spp.</i>	20		20				20
<i>Prorocentrum micans</i>		20					
<i>Actinoptychus senarius</i>		20	80	140	280	60	60
<i>Asterionellopsis glacialis</i>	20		60			40	
<i>Cerataulina pelagica</i>							20
<i>Chaetoceros debilis</i>	80	20	80	20			40
<i>Chaetoceros decipiens</i>					20		
<i>Chaetoceros lorenzianus</i>			20				
<i>Chaetoceros socialis</i>	120						
<i>Chaetoceros spp.</i>		20					
<i>Corethron criophilum</i>	20	20				40	
<i>Coscinodiscus spp.</i>	40				20	20	
<i>Cylindrotheca closterium</i>	460	380	360	340	180	360	460
<i>Detonula pumila</i>					20		
<i>Ditylum brightwellii</i>	840	420	360	520	360	400	580
<i>Eucampia zodiacus</i>		20					
<i>Guinardia delicatula</i>					20		
<i>Guinardia striata</i>				20			
<i>Gyrosigma fasciola</i>					20		
<i>Lauderia annulata</i>	20	20	20	20	60	20	
<i>Leptocylindrus danicus</i>	4360	580	900	600	980	1600	1820
<i>Leptocylindrus minimus</i>	60	80	80	40			
<i>Licmophora abbreviata</i>			20				
<i>Navicula spp.</i>			20	60		60	
<i>Odontella regia</i>				40			
<i>Pleurosigma / Gyrosigma</i>	20						
<i>Pleurosigma angulatum</i>						20	
<i>Pseudo-nitzschia delicatissima</i> group	180	380	160	80	160	180	80
<i>Pseudo-nitzschia seriata</i> group			40				
<i>Pseudo-nitzschia spp.</i>					20		
<i>Rhizosolenia hebetata</i>				40			
<i>Rhizosolenia imbricata</i>				20			
<i>Rhizosolenia pungens</i>	20	20					
<i>Rhizosolenia spp.</i>				20			
<i>Skeletonema costatum</i>	180	20	100	160	20	40	40
<i>Thalassionema nitzschiooides</i>		40	40	60	20	40	100
<i>Thalassiosira auguste-lineata</i>		20		20			
<i>Thalassiosira baltica</i>		20					20
<i>Thalassiosira decipiens</i>			20				
<i>Thalassiosira gravida</i>	80						
<i>Thalassiosira nordenskioeldii</i>	20						
<i>Thalassiosira rotula</i>			20				
<i>Thalassiosira spp.</i>	40			20		20	
Copepoda	20					20	
<i>Dictyocha speculum</i>	20	20			20		
<i>Mesodinium rubrum</i>		60	40				60
Tintinnids		40	100	20	40	20	200

ORGANISM		3	15	16-0m	16-10m	16-25m	16-50m	17
20-Jan-98								
Armoured dinoflagellate			20					
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>			40					
<i>Chaetoceros debilis</i>							40	
<i>Chaetoceros decipiens</i>			20					
<i>Cylindrotheca closterium</i>	60		160				320	
<i>Ditylum brightwellii</i>							20	
<i>Guinardia delicatula</i>							20	
<i>Licmophora abbreviata</i>		240						
<i>Navicula</i> spp.		20	20				160	
Pennate diatom		220						
<i>Pseudo-nitzschia delicatissima</i> group	100	100					100	
<i>Rhizosolenia setigera</i>		20					20	
<i>Skeletonema costatum</i>	60	40					20	
<i>Thalassiosira nordenskioeldii</i>		20						
<i>Dictyocha speculum</i>		20					40	
<i>Mesodinium rubrum</i>	180	220						
Tintinnids	20	20					140	
10-Feb-98								
Armoured dinoflagellate		20	60	20				
<i>Ceratium fusus</i>				20				
<i>Ceratium lineatum</i>			20				20	
Unarmoured dinoflagellate				20				
<i>Actinoptichus senarius</i>				20		60		
<i>Asterionellopsis glacialis</i>				20		20		
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>			20					
<i>Chaetoceros danicus</i>			20					
<i>Coscinodiscus</i> spp.	60							
<i>Cylindrotheca closterium</i>	20	20	160	80	220	200	20	
<i>Ditylum brightwellii</i>				20	20			
<i>Guinardia delicatula</i>						20		
<i>Leptocylindrus minimus</i>			20					
<i>Licmophora abbreviata</i>	20							
<i>Navicula</i> spp.	20		20	80	20	60	20	
<i>Paralia marina</i>					20			
<i>Pleurosigma / Gyrosigma</i>						20		
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>			20					
<i>Pseudo-nitzschia delicatissima</i> group	80	180	140	160		140		
<i>Skeletonema costatum</i>	20	80	20	100	120	20	20	
<i>Thalassiosira decipiens</i>		20						
<i>Thalassiosira</i> spp.	20			20		20		
Copepoda	20					20		
<i>Dictyocha speculum</i>		20	80	20	40	100		
<i>Eutreptia / Eutreptiella</i>				60	20			
<i>Mesodinium rubrum</i>	200	100	100		80		140	
<i>Parafavella</i> spp.						20		
Tintinnids	40	20	20	60	60	40		

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
26-Mar-98							
Armoured dinoflagellate			20	40			
<i>Ceratium lineatum</i>	20		20	220			
<i>Ceratium longipes</i>	20	20	20	20	60		
<i>Dinophysis spp.</i>		20		20			
<i>Asterionellopsis glacialis</i>				20			
<i>Chaetoceros altanticus</i>	40					20	20
<i>Chaetoceros spp.</i>					20	20	
<i>Chaetoceros subtilis</i>	40				20		
<i>Corethron criophilum</i>					20		
<i>Coscinodiscus spp.</i>		20		20			
<i>Cylindrotheca closterium</i>				80	80	40	20
<i>Dactyliosolen fragilissimus</i>				20			
<i>Ditylum brightwellii</i>	20						
<i>Fragilaria spp.</i>				20			
<i>Leptocylindrus minimus</i>	20				20		40
<i>Licmophora abbreviata</i>				20			
<i>Navicula spp.</i>		20		60		40	20
<i>Odontella obtusa</i>			20				
Pennate diatom			20	40	60	120	
<i>Pleurosigma / Gyrosigma</i>					20		
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>					20		
<i>Pseudo-nitzschia delicatissima</i> group			100	80	20	40	20
<i>Rhizosolenia setigera</i>							20
<i>Rhizosolenia spp.</i>				40			
<i>Skeletonema costatum</i>	60	20	200	260	220	480	20
<i>Thalassionema nitzschiooides</i>					40		
<i>Thalassiosira angulata</i>					20		
<i>Thalassiosira auguste-lineata</i>					20		
<i>Thalassiosira gravida</i>					20		
<i>Thalassiosira spp.</i>	40		40	40	40	20	
Copepoda							
<i>Dictyocha speculum</i>	20				20		
<i>Mesodinium rubrum</i>	20						20
<i>Ptychocylis spp.</i>					20		
Tintinnids		20	60				20
21-Apr-98							
<i>Alexandrium fundyense</i>							40
Armoured dinoflagellate	40	100		40	60		20
<i>Dinophysis spp.</i>				20			
<i>Protoperdinium spp.</i>			20	20			
<i>Asterionellopsis glacialis</i>					20		
<i>Chaetoceros compressus</i>					20		
<i>Chaetoceros constrictus</i>							20
<i>Chaetoceros debilis</i>				60		80	20
<i>Chaetoceros diadema</i>					20		
<i>Chaetoceros didymus</i>			20				
<i>Chaetoceros laciniatus</i>						20	
<i>Chaetoceros spp.</i>	60		20	80	60	120	60
<i>Chaetoceros subtilis</i>	20						
<i>Cylindrotheca closterium</i>	60			20	200	100	20
<i>Dactyliosolen fragilissimus</i>				20			
<i>Ditylum brightwellii</i>		20				20	
<i>Leptocylindrus danicus</i>							
<i>Leptocylindrus minimus</i>		40	80				
<i>Licmophora abbreviata</i>	40	20					20

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
21-Apr-98 (continued)							
<i>Melosira spp.</i>							20
<i>Navicula spp.</i>	60				20		
<i>Pleurosigma / Gyrosigma</i>			20				
<i>Porosira glacialis</i>	20	60	60	20		20	20
<i>Pseudo-nitzschia delicatissima</i> group	60	40		60	40		20
<i>Rhizosolenia hebetata</i>			20			20	20
<i>Skeletonema costatum</i>	120	60	120	440	460	560	180
<i>Thalassionema nitzschiooides</i>					20	40	
<i>Thalassiosira decipiens</i>	20						
<i>Thalassiosira nordenskioeldii</i>					20		
<i>Thalassiosira spp.</i>	40	20				60	20
Copepoda		40				20	
<i>Dictyocha speculum</i>	20	40			20		
<i>Mesodinium rubrum</i>	80	20	100	40			460
<i>Ptychocylis spp.</i>							20
Tintinnids	40			200			360
12-May-98							
<i>Alexandrium fundyense</i>	300	240	60	60	40		100
<i>Alexandrium fundyense</i> (duplet)	40	20			20		
<i>Alexandrium ostenfeldii</i>		40					
<i>Amylax triacantha</i>			20				
Armoured dinoflagellate	60	180	140	280	80		
<i>Ceratium kofoidii</i>	40						
<i>Ceratium lineatum</i>	40					20	
<i>Ceratium longipes</i>	20	80	40	40			
<i>Ceratium spp.</i>	20			20			
<i>Heterocapsa triquetra</i>	40	80		120			
<i>Protoperidinium denticulatum</i>	40						
<i>Protoperidinium ovatum</i>		20	40				60
<i>Protoperidinium spp.</i>	240	20					
Unarmoured dinoflagellate				40	20		
<i>Asterionellopsis glacialis</i>	20	20		120	40		
<i>Bacterosira bathyomphala</i>	160						
<i>Chaetoceros altanticus</i>		20	20		20		
<i>Chaetoceros compressus</i>	120	80	140	220	20		
<i>Chaetoceros constrictus</i>	60	60	60	60	20		
<i>Chaetoceros convolutus</i>		20					
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>		140	120	60	40		40
<i>Chaetoceros debilis</i>	220	420	400	1060	140		40
<i>Chaetoceros decipiens</i>		20	120		40		40
<i>Chaetoceros didymus</i>			20	40	60		20
<i>Chaetoceros ingolfianus</i>	20		20	100	20		
<i>Chaetoceros laciniatus</i>	40	60	120	60	20		20
<i>Chaetoceros perpusillus</i>							100
<i>Chaetoceros similis</i>							80
<i>Chaetoceros simplex</i>	20						140
<i>Chaetoceros spp.</i>	220	240	240	900	220		40
<i>Chaetoceros subtilis</i>	120	40	20				20
<i>Chaetoceros tenuissimus</i>			20				140
<i>Chaetoceros teres</i>			20				
<i>Corethron criophilum</i>		20					
<i>Coscinodiscus spp.</i>			20	40	40		20
<i>Cylindrotheca closterium</i>	40	60	60	140	220	100	300
<i>Dactyliosolen fragilissimus</i>	120	160	120	140	20		
<i>Ditylum brightwellii</i>				60	60		

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
12-May-98 (continued)							
<i>Eucampia groenlandica</i>	20						60
<i>Eucampia zodiacus</i>			20				
<i>Guinardia delicatula</i>		60					
<i>Guinardia flaccida</i>	20						
<i>Lauderia annulata</i>					20		
<i>Leptocylindrus minimus</i>	400	640	580	480	320	100	640
<i>Navicula spp.</i>	20		20		20	40	20
<i>Pleurosigma angulatum</i>						40	20
<i>Porosira glacialis</i>	260	160	120	20	120		
<i>Pseudo-nitzschia delicatissima</i> group	440	780	680	320	600	20	760
<i>Rhabdonema spp.</i>		20					
<i>Rhizosolenia hebetata</i>	20	100	60				
<i>Rhizosolenia imbricata</i>	60		20				
<i>Rhizosolenia setigera</i>			20				
<i>Rhizosolenia spp.</i>				40			
<i>Skeletonema costatum</i>	140	320	460	440	400	140	2940
<i>Thalassionema nitzschiooides</i>			40				20
<i>Thalassiosira auguste-lineata</i>	40	60	60		80		40
<i>Thalassiosira baltica</i>		20	20				
<i>Thalassiosira decipiens</i>	200	600	780				80
<i>Thalassiosira gravida</i>		80					60
<i>Thalassiosira nordenskioeldii</i>	200	700	460	600	380		180
<i>Thalassiosira oestrupii</i>						20	
<i>Thalassiosira spp.</i>	240			700	420		20
<i>Brachionus spp.</i>	20						
Copepoda			40				
<i>Dictyocha speculum</i>		60	20	80	20		
<i>Dinobryon spp.</i>		20					
Eutreptia / Eutreptiella				100		20	
<i>Mesodinium rubrum</i>	1360	680	3800	740	60		1020
<i>Ptychocylis spp.</i>		20					
Tintinnids	580	420	620	840			560
19-May-98							
<i>Alexandrium fundyense</i>	240	360	600				160
<i>Alexandrium fundyense</i> (duplet)		40	80				
<i>Alexandrium ostenfeldii</i>	40	240	80				
Armoured dinoflagellate	40	680		160	40		160
<i>Ceratium lineatum</i>			40				
<i>Ceratium longipes</i>		160	160				
<i>Dinophysis acuta</i>		40					
<i>Dinophysis norvegica</i>				80			
<i>Heterocapsa triquetra</i>			400				80
<i>Protoperidinium depressum</i>		40	40				
<i>Protoperidinium spp.</i>	80	80	520				
<i>Scrippsiella trochoidea</i>			120				40
Unarmoured dinoflagellate		40		80			
<i>Asterionellopsis glacialis</i>	80	40	80		120	20	
<i>Asterionellopsis kariana</i>				80			
<i>Bacterosira bathyomphala</i>			40				
<i>Chaetoceros altanticus</i>	40				40		
<i>Chaetoceros borealis</i>				80			
<i>Chaetoceros brevis</i>		40					
<i>Chaetoceros compressus</i>	1840	4320	6680	6560	2040	380	40
<i>Chaetoceros constrictus</i>	720	240	880		40		80
<i>Chaetoceros convolutus</i>		40					

ORGANISM 19-May-98 (continued)	3	15	16-0m	16-10m	16-25m	16-50m	17
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>	280	120	240	240	120		240
<i>Chaetoceros debilis</i>	2800	3240	3800	7680	2120	520	200
<i>Chaetoceros decipiens</i>	40		120	240	120	20	40
<i>Chaetoceros furcellatus</i>				40			
<i>Chaetoceros ingolfianus</i>	1040	1120	1320	1360	320	20	160
<i>Chaetoceros laciniatosus</i>	480	480	680	240			120
<i>Chaetoceros perpusillus</i>							1240
<i>Chaetoceros similis</i>					40		880
<i>Chaetoceros simplex</i>					80		7000
<i>Chaetoceros socialis</i>			80				
<i>Chaetoceros spp.</i>	1600	4040	4480	4560	2680	620	600
<i>Chaetoceros subtilis</i>			40				
<i>Chaetoceros teres</i>							40
<i>Coscinodiscus spp.</i>		40		80	40	20	
<i>Cylindrotheca closterium</i>	320	280	400	160	520	160	920
<i>Dactyliosolen fragilissimus</i>	320	240	480	240	320		40
<i>Ditylum brightwellii</i>				80	40	20	
<i>Eucampia groenlandica</i>		80		480	120		
<i>Eucampia spp.</i>						20	
<i>Eucampia zodiacus</i>	160		280	160		20	320
<i>Guinardia flaccida</i>				80			
<i>Leptocylindrus danicus</i>	80	80	160	80	200		120
<i>Leptocylindrus minimus</i>	1320	440	1720	1840	880	80	5720
<i>Navicula spp.</i>	40	40					40
<i>Paralia marina</i>						40	
<i>Porosira glacialis</i>	760		920				160
<i>Proboscia alata</i>	40						
<i>Pseudo-nitzschia delicatissima</i> group	1760	1880	5080	4160	680	200	12280
<i>Pseudo-nitzschia seriata</i> group		120	80	80			
<i>Rhizosolenia hebetata</i>		120		80	240		
<i>Rhizosolenia setigera</i>						20	
<i>Rhizosolenia spp.</i>				240		20	
<i>Skeletonema costatum</i>	520	640	1080	1040	800	320	10600
<i>Thalassionema nitzschioides</i>							40
<i>Thalassiosira auguste-lineata</i>	160	120	240	400	160	20	
<i>Thalassiosira baltica</i>							160
<i>Thalassiosira decipiens</i>	1360	1400	2040	1440			2880
<i>Thalassiosira gravida</i>		40	40				120
<i>Thalassiosira nordenskioeldii</i>	1280	1760	3560	2160	760	100	1080
<i>Thalassiosira spp.</i>	80	160	120	3600	2640	480	
Copepoda		40					
<i>Dictyocha speculum</i>	40	40	40	80			80
Eutreptia / Eutreptiella			360				
<i>Favella spp.</i>	40						
<i>Mesodinium rubrum</i>	1560	240	2040				3120
<i>Ptychocylis spp.</i>	40						
Tintinnids	920	40	680		120		440

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
26-May-98							
<i>Alexandrium fundyense</i>			240	40			120
<i>Alexandrium ostenfeldii</i>		100					
Armoured dinoflagellate	160	200	200	320			80
<i>Ceratium horridum</i>	40						
<i>Ceratium lineatum</i>			80	40			
<i>Dinophysis acuminata</i>		40	40				
<i>Dinophysis norvegica</i>		40					
<i>Heterocapsa triquetra</i>				40			
<i>Protoperidinium spp.</i>				40			
Unarmoured dinoflagellate				40			
<i>Achnanthes spp.</i>		100					
<i>Asterionellopsis glacialis</i>		300	240	40		120	
<i>Asterionellopsis kariana</i>				40			
<i>Cerataulina pelagica</i>		100					
<i>Chaetoceros compressus</i>	2280	10800	2520	2400	960	520	320
<i>Chaetoceros constrictus</i>	80	300	200		80		
<i>Chaetoceros convolutus</i>				40			
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>	40		200	40			120
<i>Chaetoceros debilis</i>	2520	4500	1840	1920	1640	360	480
<i>Chaetoceros decipiens</i>	80			40		80	
<i>Chaetoceros furcellatus</i>	40	100	40	80		40	
<i>Chaetoceros ingolfianus</i>	80	100	160	360			40
<i>Chaetoceros laciniatosus</i>	160	400	200	80		40	40
<i>Chaetoceros similis</i>	160		160	120			280
<i>Chaetoceros simplex</i>		300	200	200	80		1120
<i>Chaetoceros spp.</i>	1720	9000	1600	2200	1080	1400	1400
<i>Chaetoceros tenuissimus</i>	40						40
<i>Corethron criophilum</i>			40				
<i>Coscinodiscus spp.</i>				40	120		
<i>Cylindrotheca closterium</i>	240	300	120	120	280	40	960
<i>Dactyliosolen fragilissimus</i>	160	700	320	240	40		
<i>Ditylum brightwellii</i>					120		
<i>Eucampia groenlandica</i>		400	40	600			320
<i>Eucampia zodiacus</i>	80		160		160		
<i>Guinardia delicatula</i>		100					
<i>Guinardia flaccida</i>						40	
<i>Lauderia annulata</i>	40						
<i>Leptocylindrus danicus</i>			80	120			120
<i>Leptocylindrus minimus</i>	3400	1500	2600	3400	1120		5680
<i>Licmophora abbreviata</i>					40		
<i>Melosira moniliformis</i>		100	600				280
<i>Navicula spp.</i>	200				40	80	40
<i>Odontella aurita</i>			40				
<i>Odontella obtusa</i>			80				
<i>Paralia marina</i>				40			
<i>Pleurosigma / Gyrosigma</i>	40					40	
<i>Pleurosigma angulatum</i>				40	40	120	280
<i>Porosira glacialis</i>	320		320				
<i>Pseudo-nitzschia delicatissima</i> group	6320	10900	4480	6760	2960	200	7920
<i>Pseudo-nitzschia seriata</i> group		100		40		40	40
<i>Rhabdonema spp.</i>			40				40
<i>Rhizosolenia hebetata</i>	40			80	80		
<i>Rhizosolenia setigera</i>					40		
<i>Rhizosolenia spp.</i>					40		
<i>Skeletonema costatum</i>	440	700	400	240	240	640	680

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
26-May-98 (continued)							
<i>Stephanopyxis turris</i>		100			40		
<i>Thalassiosira auguste-lineata</i>	160	100	280	240	200		
<i>Thalassiosira baltica</i>			120		40		
<i>Thalassiosira decipiens</i>	2320		1720	2200			
<i>Thalassiosira gravida</i>	480	500	760	40	280		160
<i>Thalassiosira nordenskioeldii</i>	960		720	1680	400		440
<i>Thalassiosira spp.</i>	1280	7800	880	4760	2720	760	6480
<i>Brachionus spp.</i>	40		80				
<i>Dictyocha speculum</i>			40	80			
<i>Eutreptia / Eutreptiella</i>				40			80
<i>Helicostomella spp.</i>	40		80	40			40
<i>Mesodinium rubrum</i>		300	640	320			1480
<i>Parafavella spp.</i>				40			
Tintinnids	40	100	120	200	40	80	560
02-Jun-98							
<i>Alexandrium fundyense</i>	400	160	80	160			
<i>Alexandrium fundyense</i> (duplet)	40						
<i>Alexandrium ostenfeldii</i>				240			
Armoured dinoflagellate	120	80	120	400			
<i>Ceratium longipes</i>		80					
<i>Ceratium spp.</i>	80						
<i>Gyrodinium spp.</i>					40		
<i>Heterocapsa triquetra</i>	40		40				
<i>Protoperidinium spp.</i>	120	40	200				80
<i>Scrippsiella trochoidea</i>		80					
<i>Asterionellopsis glacialis</i>	200	320		80		40	40
<i>Cerataulina pelagica</i>		40					
<i>Chaetoceros altanticus</i>			80				
<i>Chaetoceros compressus</i>	1360	1360	80	80	160	100	160
<i>Chaetoceros constrictus</i>	40	120	40		120	80	80
<i>Chaetoceros convolutus</i>				80		20	
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>					40	20	80
<i>Chaetoceros debilis</i>	2520	2400	1160	3200	1880	660	320
<i>Chaetoceros decipiens</i>		160	80	160	40		120
<i>Chaetoceros diadema</i>				80			
<i>Chaetoceros furcellatus</i>					40		
<i>Chaetoceros ingolfianus</i>	120	200	120	80		20	120
<i>Chaetoceros laciniatus</i>	240	440	480	160	80	20	80
<i>Chaetoceros similis</i>					80		
<i>Chaetoceros spp.</i>	2240	2640	2240	1840	760	600	560
<i>Cylindrotheca closterium</i>	160	400	120	400	600	180	240
<i>Dactyliosolen fragilissimus</i>	320	160	80	320	40	40	
<i>Ditylum brightwellii</i>	120	40			40	20	80
<i>Eucampia groenlandica</i>				800	320		
<i>Eucampia zodiacus</i>	480	1240	720	640	160	100	560
<i>Guinardia delicatula</i>	80			80			
<i>Guinardia flaccida</i>					40		
<i>Lauderia annulata</i>				80			
<i>Leptocylindrus danicus</i>	40	280	120	400		40	80
<i>Leptocylindrus minimus</i>	480	1240	280	80	1040	420	400
<i>Melosira monolithiformis</i>			40				
<i>Navicula spp.</i>	40				80	80	
<i>Pleurosigma angulatum</i>	40				40	80	40
<i>Porosira glacialis</i>	280	80	40		240	60	120
<i>Proboscia alata</i>		40					
<i>Pseudo-nitzschia delicatissima</i> group	1800	24200	6760	6640	3720	720	2520
<i>Pseudo-nitzschia seriata</i> group	40		80		80		

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
02-Jun-98 (continued)							
<i>Rhabdonema spp.</i>			40				40
<i>Rhizosolenia hebetata</i>	40				40		
<i>Rhizosolenia spp.</i>		40					
<i>Skeletonema costatum</i>	200	280		80	200 40	360	720
<i>Thalassionema nitzschiooides</i>							
<i>Thalassiosira auguste-lineata</i>	80	40	80	320	200	40	80
<i>Thalassiosira baltica</i>			40				40
<i>Thalassiosira decipiens</i>	400	40	760	80			
<i>Thalassiosira gravida</i>	280	40	40	320		120	640
<i>Thalassiosira nordenskioeldii</i>	200		880	240	1480		
<i>Thalassiosira spp.</i>	2640	800		4000	1120	2240	3880
Copepoda		40	40				
<i>Dictyocha speculum</i>	40		120				
<i>Helicostomella spp.</i>	40			80			
<i>Mesodinium rubrum</i>	800	80					240
<i>Parafavella spp.</i>							80
Tintinnids	40	40	40	320	40	20	
09-Jun-98							
<i>Alexandrium fundyense</i>	2800	3840	2600	40			180
<i>Alexandrium fundyense</i> (duplet)	40	160					20
<i>Alexandrium ostenfeldii</i>		80					
<i>Amylax triacantha</i>	80						
Armoured dinoflagellate	520	1040		160	120	60	100
Armoured dinoflagellate	960						
<i>Ceratium horridum</i>			40				
<i>Ceratium lineatum</i>		160					
<i>Ceratium longipes</i>		40					
<i>Ceratium tripos</i>	40	80					
<i>Dinophysis acuminata</i>	80						
<i>Dinophysis acuta</i>		40	40				
<i>Dinophysis norvegica</i>	40		40				
<i>Dinophysis spp.</i>		80					
<i>Gyrodinium spp.</i>	120	80	40				
<i>Heterocapsa triquetra</i>	560	1080	720				20
<i>Minuscula bipes</i>	40		160				
<i>Protoperidinium depressum</i>		40					
<i>Protoperidinium spp.</i>	200	200	200	120			20
<i>Scrippsiella trochoidea</i>	440	360	360				20
Unarmoured dinoflagellate	480						360
<i>Actinptychus senarius</i>						20	
<i>Asterionellopsis glacialis</i>						60	
<i>Cerataulina pelagica</i>							40
<i>Chaetoceros borealis</i>					40		
<i>Chaetoceros constrictus</i>							40
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>	40	240					
<i>Chaetoceros debilis</i>	400				80	200	480
<i>Chaetoceros decipiens</i>							100
<i>Chaetoceros furcellatus</i>		80					
<i>Chaetoceros laciniosus</i>							120
<i>Chaetoceros spp.</i>	240	40				140	280
<i>Coscinodiscus spp.</i>				120	40	60	
<i>Cylindrotheca closterium</i>	160	120	80	40	280	200	40
<i>Dactyliosolen fragilissimus</i>				40	40		60
<i>Ditylum brightwellii</i>	40					20	
<i>Eucampia groenlandica</i>					200	20	
<i>Eucampia zodiacus</i>	120					20	80
<i>Guinardia delicatula</i>							20

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
09-Jun-98 (continued)							
<i>Guinardia flaccida</i>					40		
<i>Leptocylindrus danicus</i>					40	20	200
<i>Leptocylindrus minimus</i>	1520	2200	80	80	80	60	
<i>Navicula spp.</i>						20	20
<i>Pleurosigma angulatum</i>	80			40			220
<i>Porosira glacialis</i>	200						
<i>Pseudo-nitzschia delicatissima group</i>	120	80			480	160	80
<i>Pseudo-nitzschia seriata group</i>			40		40		60
<i>Rhizosolenia hebetata</i>		80			120	20	
<i>Rhizosolenia imbricata</i>							20
<i>Rhizosolenia spp.</i>						20	
<i>Skeletonema costatum</i>	40					60	20
<i>Thalassiosira auguste-lineata</i>	40	80				20	40
<i>Thalassiosira baltica</i>							20
<i>Thalassiosira gravida</i>							40
<i>Thalassiosira nordenskioeldii</i>						140	20
<i>Thalassiosira spp.</i>					160	460	60
<i>Brachionus spp.</i>	40	40		40			20
Copepoda	80			40			
<i>Dictyocha speculum</i>	200	200	80	80	40		20
Eutreptia / Eutreptiella					120		
<i>Helicostomella spp.</i>	120	280	360			20	120
<i>Mesodinium rubrum</i>	1800	1320	2960	600			1440
<i>Parafavella spp.</i>	40	80		120			
<i>Ptychocylis spp.</i>	80			80	40		
Tintinnids	640	600	320	120	40	40	240
17-Jun-98							
<i>Alexandrium fundyense</i>	700	1680	1480	220	60		240
<i>Alexandrium fundyense</i> (duplet)		40	40	40			20
<i>Alexandrium fundyense</i> (fusing)			40				
<i>Alexandrium fundyense</i> (quadruplet)		40					
<i>Alexandrium ostenfeldii</i>				80			
Armoured dinoflagellate	600	960	640	540	220	140	400
<i>Ceratium fusus</i>				20			
<i>Ceratium horridum</i>	20	40	160	120	120		20
<i>Ceratium kofoedii</i>			40				
<i>Ceratium lineatum</i>	60		80	60	60		
<i>Ceratium longipes</i>		40	240	300	240	20	
<i>Ceratium spp.</i>						40	
<i>Ceratium tripos</i>	20			20		20	
<i>Dinophysis acuminata</i>	180	160	80	140	80		20
<i>Dinophysis acuta</i>	60	40	400	60	20		
<i>Dinophysis norvegica</i>	20			100	100		20
<i>Dinophysis pulchella</i>				20			
<i>Dinophysis spp.</i>		40		40			
<i>Gonyaulax spinifera</i>				20			
<i>Gyrodinium spp.</i>	340	560	320				
<i>Heterocapsa triquetra</i>	240	2160	280	180	40		100
<i>Minuscula bipes</i>			40	20	40		
<i>Prorocentrum minimum</i>		40					
<i>Protoperdininium depressum</i>	20		40	20			
<i>Protoperdininium divergens</i>	20						
<i>Protoperdininium spp.</i>	360	880	520	60			20
<i>Scrippsiella trochoidea</i>	60	400	200				
Unarmoured dinoflagellate	100	80		380	280		

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
17-Jun-98 (continued)							
<i>Asterionellopsis glacialis</i>				20	40	80	
<i>Cerataulina pelagica</i>				40	60		260
<i>Chaetoceros altanticus</i>			40		20		
<i>Chaetoceros compressus</i>	20						
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>		40	160	40	240		
<i>Chaetoceros debilis</i>							280
<i>Chaetoceros decipiens</i>							100
<i>Chaetoceros furcellatus</i>						20	
<i>Chaetoceros laciniatus</i>							20
<i>Chaetoceros spp.</i>			40	20	20	40	20
<i>Chaetoceros tenuissimus</i>			40				
<i>Corethron criophilum</i>				20			
<i>Coscinodiscus spp.</i>	20			80	60		40
<i>Cylindrotheca closterium</i>	120		360	120	400	360	540
<i>Dactyliosolen fragilissimus</i>					20		180
<i>Ditylum brightwellii</i>			40		20		
<i>Eucampia groenlandica</i>					20		
<i>Eucampia zodiacus</i>					20		
<i>Guinardia delicatula</i>							60
<i>Leptocylindrus minimus</i>	40	80	440	420	720	640	
<i>Licmophora abbreviata</i>	20						
<i>Navicula spp.</i>		40	40	60	40		80
<i>Paralia marina</i>				20		20	
<i>Pleurosigma angulatum</i>	140					20	200
<i>Porosira glacialis</i>			40				
<i>Proboscia alata</i>						20	
<i>Pseudo-nitzschia delicatissima</i> group	20	80	120	20	20	60	60
<i>Pseudo-nitzschia seriata</i> group	20						180
<i>Rhizosolenia gracillima</i>						20	
<i>Rhizosolenia hebetata</i>		80	80	60	280	60	
<i>Rhizosolenia imbricata</i>			40				
<i>Rhizosolenia spp.</i>				40	20	20	80
<i>Skeletonema costatum</i>	20				40	40	
<i>Thalassiosira auguste-lineata</i>	100	160		400	160	120	
<i>Thalassiosira gravida</i>				40			
<i>Thalassiosira spp.</i>				80		180	20
<i>Brachionus spp.</i>	40	40	120		20		20
Copepoda	120	40		40	20		60
<i>Dictyocha speculum</i>	100	520	160	40	280	40	80
<i>Eutreptia / Eutreptiella</i>	280	1360		580	340	100	100
<i>Helicostomella spp.</i>	160	120	40		20		340
<i>Mesodinium rubrum</i>	5860	1400	26280	2160	120		4260
<i>Parafavella spp.</i>	60	40		80			
<i>Ptychocylis spp.</i>	20			40	20		
Tintinnids	2020	480	1960	680	340	100	1440
23-Jun-98							
<i>Alexandrium fundyense</i>	2420	6720	1800				40
<i>Alexandrium fundyense</i> (duplet)	100	160	80				
<i>Alexandrium fundyense</i> (triplet)			40				
Armoured dinoflagellate	660	3120	1760	40	60	20	60
<i>Ceratium horridum</i>	140	560	720	100			
<i>Ceratium kofoidii</i>	40						
<i>Ceratium lineatum</i>	120	360	80		20		20
<i>Ceratium longipes</i>	60	40	80	20	20		20
<i>Dinophysis acuminata</i>	220	520	160				
<i>Dinophysis acuta</i>	20	40					

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
23-Jun-98 (continued)							
<i>Dinophysis norvegica</i>	240	360	360		40		
<i>Dinophysis spp.</i>	20	40	280				
<i>Gonyaulax spinifera</i>		40					
<i>Gyrodinium spp.</i>	840	2080	1400	160	60	20	80
<i>Heterocapsa triquetra</i>	580	3880	2000	20			60
<i>Protoperidinium ovatum</i>		80	120		20		
<i>Protoperidinium spp.</i>		480	160		40		
<i>Scrippsiella trochoidea</i>	260	400	160		20		
Unarmoured dinoflagellate	1160	3560	2760	80	20		20
<i>Achnanthes spp.</i>	20						
<i>Asterionellopsis glacialis</i>						20	
<i>Cerataulina pelagica</i>							220
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>				20			
<i>Chaetoceros debilis</i>							20
<i>Chaetoceros simplex</i>				20			
<i>Chaetoceros spp.</i>	20				20		
<i>Coscinodiscus spp.</i>	20	40		20	60		
<i>Cylindrotheca closterium</i>	20			100	140	60	200
<i>Guinardia delicatula</i>							20
<i>Guinardia flaccida</i>					60		
<i>Gyrosigma fasciola</i>							20
<i>Leptocylindrus minimus</i>					40		
<i>Licmophora abbreviata</i>	100	40					
<i>Melosira spp.</i>					20		
<i>Navicula spp.</i>	40				60	20	40
<i>Pleurosigma / Gyrosigma</i>						20	
<i>Pleurosigma angulatum</i>	80						320
<i>Porosira glacialis</i>						20	
<i>Pseudo-nitzschia delicatissima</i> group					40		
<i>Rhizosolenia setigera</i>						20	
<i>Skeletonema costatum</i>	20				20	20	420
<i>Thalassiosira gravida</i>					40		
<i>Brachionus spp.</i>	20						
Copepoda	100	40		40			80
<i>Dictyocha speculum</i>	100	40	80	40	80		20
Eutreptia / Eutreptiella	40	320	160				
<i>Helicostomella spp.</i>	40	120					60
<i>Mesodinium rubrum</i>	2580	6160	2880	280	220	220	1100
<i>Parafavella spp.</i>	20	360	160	20		20	20
Tintinnids	2720	9360	2000	280	120	80	1140
29-Jun-98							
<i>Alexandrium fundyense</i>	140	920	380	400			
<i>Alexandrium fundyense</i> (duplet)				20			
Armoured dinoflagellate	80	280	320	60	100		40
<i>Ceratium fusus</i>					20		20
<i>Ceratium horridum</i>	60	220	20	100	60		20
<i>Ceratium lineatum</i>	20	100	20	100			20
<i>Ceratium longipes</i>	20	120	40	20	120	40	
<i>Ceratium tripos</i>			20				
<i>Dinophysis acuminata</i>	80	160	80	20			20
<i>Dinophysis acuta</i>		40		120	20		
<i>Dinophysis norvegica</i>	200	260	60	20			40
<i>Dinophysis spp.</i>	40	80		20			
<i>Gonyaulax spinifera</i>							
<i>Gyrodinium spp.</i>	240	540	120				

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
29-Jun-98 (continued)							
<i>Heterocapsa triquetra</i>		560	240	240			40
<i>Phalacroma rotundatum</i>					20		
<i>Prorocentrum minimum</i>				60			
<i>Protoperidinium ovatum</i>	40	20	60				
<i>Protoperidinium spp.</i>		180	80	140	40		
<i>Scrippsiella trochoidea</i>	20	60	20	20			
Unarmoured dinoflagellate	180	1080	340	420			
<i>Asterionellopsis glacialis</i>			80		80		
<i>Cerataulina pelagica</i>						40	
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>			40	40	40		
<i>Chaetoceros similis</i>						20	
<i>Coscinodiscus spp.</i>		20	40		20	60	60
<i>Cylindrotheca closterium</i>			40	240	380	120	40
<i>Dactyliosolen fragilissimus</i>							20
<i>Ditylum brightwellii</i>						20	
<i>Eucampia groenlandica</i>					20		60
<i>Guinardia delicatula</i>							
<i>Leptocylindrus minimus</i>			20				
<i>Navicula spp.</i>	40	20	20	40	80	60	20
<i>Pleurosigma angulatum</i>	80	20	20				220
<i>Porosira glacialis</i>			20				
<i>Pseudo-nitzschia delicatissima</i> group			40	20	40		
<i>Rhizosolenia spp.</i>				100	20		20
<i>Skeletonema costatum</i>				40	40		240
Copepoda	40	60		40	20		20
<i>Dictyocha speculum</i>	20	60	40	180			
Eutreptia / Eutreptiella				100	100		
<i>Helicostomella spp.</i>	20						
<i>Mesodinium rubrum</i>	940	160	960	1020	440		380
<i>Parafavella spp.</i>		20					
<i>Ptychocylis spp.</i>					20	20	
Tintinnids	960	1440	320	200	340	100	40
07-Jul-98							
<i>Alexandrium fundyense</i>		1320	1960				
Armoured dinoflagellate	140	5080	2480	80		20	20
<i>Ceratium arcticum</i>			40				
<i>Ceratium horridum</i>	20	40					
<i>Ceratium kofoidii</i>	80		40				
<i>Ceratium lineatum</i>	220	80	440				
<i>Ceratium longipes</i>	120	400	480				20
<i>Ceratium spp.</i>	60						
<i>Ceratium tripos</i>		40					
<i>Dinophysis acuminata</i>	100	40	80	40	20		
<i>Dinophysis acuta</i>	40	80	360				
<i>Dinophysis norvegica</i>	280	80	40		20		20
<i>Dinophysis spp.</i>	100	40	280				
<i>Gonyaulax spinifera</i>		120	40				
<i>Gyrodinium spp.</i>		440	1880				
<i>Heterocapsa triquetra</i>	100	3800	2720				
<i>Protoperidinium spp.</i>		40	200				
<i>Scrippsiella trochoidea</i>			80	320			
Unarmoured dinoflagellate	160	1720	1160	20	20		
<i>Asterionellopsis glacialis</i>				20	20	20	
<i>Cerataulina pelagica</i>					20		80
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>				40	40		
<i>Chaetoceros debilis</i>							180

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
07-Jul-98 (continued)							
<i>Chaetoceros decipiens</i>					20		60
<i>Chaetoceros similis</i>						20	
<i>Chaetoceros spp.</i>						80	
<i>Chaetoceros tenuissimus</i>						20	
<i>Coscinodiscus spp.</i>						40	20
<i>Cylindrotheca closterium</i>	60	440	760	2720	660	380	120
<i>Dactyliosolen fragilissimus</i>							40
<i>Ditylum brightwellii</i>					80	40	
<i>Guinardia delicatula</i>							440
<i>Leptocylindrus minimus</i>					20		
<i>Licmophora abbreviata</i>		40					
<i>Navicula spp.</i>	60			40		20	
<i>Paralia marina</i>				60	20		
<i>Pleurosigma angulatum</i>	80	40					80
<i>Proboscia alata</i>							
<i>Pseudo-nitzschia delicatissima</i> group	60		120	260	20	40	40
<i>Pseudo-nitzschia seriata</i> group			80				
<i>Rhizosolenia spp.</i>				20			
<i>Skeletonema costatum</i>				40		20	7440
<i>Thalassiosira auguste-lineata</i>			40				
<i>Thalassiosira spp.</i>					20		20
Copepoda	20						40
<i>Dictyocha speculum</i>	80	640	1040				40
Eutreptia / Eutreptiella	160	160		20	40		
<i>Helicostomella spp.</i>			40				
<i>Mesodinium rubrum</i>	1000	2400	2560	60	40	20	1660
<i>Parafavella spp.</i>		40					
Tintinnids	480	2800	3480	340	20		1400
14-Jul-98							
<i>Alexandrium fundyense</i>			40				
<i>Alexandrium fundyense</i> (duplet)			20				
Armoured dinoflagellate	220	80	360	120	40		20
<i>Ceratium arcticum</i>							20
<i>Ceratium fusus</i>					20		
<i>Ceratium horridum</i>		100		40			
<i>Ceratium kofoidii</i>	20		40				20
<i>Ceratium lineatum</i>	140	40	240	120		20	180
<i>Ceratium longipes</i>	200	120	160	160	280	20	120
<i>Ceratium tripos</i>		40	60	40			
<i>Dinophysis acuminata</i>	80	40	60	100	40		60
<i>Dinophysis acuta</i>		40	20	20			
<i>Dinophysis norvegica</i>	200	100	140	60	120		120
<i>Dinophysis spp.</i>			20	100	40		
<i>Gonyaulax spinifera</i>	40		20				
<i>Gyrodinium spp.</i>							
<i>Heterocapsa triquetra</i>			80				
<i>Prorocentrum spp.</i>					20		
<i>Protoperidinium spp.</i>	20		20		40		
<i>Scrippsiella trochoidea</i>	40	20	20				
Unarmoured dinoflagellate	60	20	20		40		20
<i>Actinoptychus senarius</i>				60			
<i>Asterionellopsis glacialis</i>			20				
<i>Cerataulina pelagica</i>						20	480
<i>Chaetoceros altanticus</i>			20				
<i>Chaetoceros borealis</i>	100			20	20		
<i>Chaetoceros compressus</i>						20	20

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
14-Jul-98 (continued)							
<i>Chaetoceros constrictus</i>							160
<i>Chaetoceros convolutus</i>							20
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>	80		40	20	100	20	60
<i>Chaetoceros debilis</i>	20						100
<i>Chaetoceros decipiens</i>		20			160		100
<i>Chaetoceros laciniatus</i>							20
<i>Chaetoceros simplex</i>							120
<i>Chaetoceros spp.</i>			20			40	300
<i>Chaetoceros spp.</i> (phaeoceros)					20		
<i>Corethron criophilum</i>					20		
<i>Coscinodiscus spp.</i>	20			60			80
<i>Cylindrotheca closterium</i>	740	40	340	540	720	860	180
<i>Dactyliosolen fragilissimus</i>							20
<i>Ditylum brightwellii</i>				20			
<i>Guinardia delicatula</i>	100						540
<i>Guinardia flaccida</i>	120						460
<i>Leptocylindrus minimus</i>				20	40		140
<i>Navicula spp.</i>	40		40		40	40	20
<i>Paralia marina</i>							40
<i>Pleurosigma angulatum</i>	300	20	20			40	600
<i>Pseudo-nitzschia delicatissima</i> group	160	60	100	300	80	20	140
<i>Rhizosolenia spp.</i>			20				20
<i>Skeletonema costatum</i>	40	20	120	100	40	20	105210
<i>Thalassiosira auguste-lineata</i>		20					
<i>Thalassiosira spp.</i>				60			140
<i>Brachionus spp.</i>							20
Copepoda	40	20		20	20		60
<i>Dictyocha speculum</i>	40	60	60	240	120		200
<i>Ebria tripartita</i>							40
<i>Eutreptia</i> / <i>Eutreptiella</i>	1500	40	60	20	60		120
<i>Helicostomella spp.</i>		20					40
<i>Mesodinium rubrum</i>	1080		2380	620	180		4400
<i>Ptychocylis spp.</i>						20	
Tintinnids	360	80	840	740	60	80	420
21-Jul-98							
<i>Alexandrium fundyense</i>		120	80			40	
<i>Alexandrium fundyense</i> (cyst)						40	
Armoured dinoflagellate	260	1880	160	140	60		
<i>Ceratium fusus</i>			20		20		
<i>Ceratium horridum</i>	20	40	40	20			
<i>Ceratium kofoidii</i>	20	240	60	80			
<i>Ceratium lineatum</i>	160	480	320	160	20		
<i>Ceratium longipes</i>	200	520	120	260	180	100	80
<i>Ceratium minutum</i>	20				40		
<i>Ceratium spp.</i>					60		
<i>Dinophysis acuminata</i>	40	400	80	20	60	20	
<i>Dinophysis acuta</i>				100	60		
<i>Dinophysis norvegica</i>	80	280	200	260	40	20	
<i>Dinophysis spp.</i>				120	20		
<i>Gonyaulax spinifera</i>	20	160					
<i>Gyrodinium spp.</i>							
<i>Heterocapsa triquetra</i>			520		40		
<i>Phalacroma rotundatum</i>			40				
<i>Protoperidinium spp.</i>			80		20	40	
<i>Scrippsiella trochoidea</i>	20	40	20				

ORGANISM 21-Jul-98 (continued)	3	15	16-0m	16-10m	16-25m	16-50m	17
Unarmoured dinoflagellate		480	40	20			
<i>Achnanthes</i> spp.	20						
<i>Asterionellopsis glacialis</i>			20			20	160
<i>Cerataulina pelagica</i>	20		60	340	360		14960
<i>Chaetoceros altanticus</i>	20	40					
<i>Chaetoceros borealis</i>	40	40	60	40			
<i>Chaetoceros compressus</i>			40	60	40		
<i>Chaetoceros constrictus</i>	40		120				160
<i>Chaetoceros convolutus</i>				40	20		
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>	80	40	20	80	20	40	80
<i>Chaetoceros debilis</i>	320	80	380	400	300		3520
<i>Chaetoceros decipiens</i>		120	80	40	40	20	80
<i>Chaetoceros laciniatus</i>	20						160
<i>Chaetoceros similis</i>	20		60	100	280	40	160
<i>Chaetoceros simplex</i>	40		120	80	340	20	1200
<i>Chaetoceros socialis</i>				20			
<i>Chaetoceros</i> spp.	200	160	360	640	480	140	2720
<i>Chaetoceros</i> spp. (phaeoceros)	60				20		
<i>Corethron criophilum</i>			20	20		20	160
<i>Coscinodiscus</i> spp.	40	40		40	20	40	
<i>Cylindrotheca closterium</i>	300	160	40	240	500	1340	1920
<i>Dactyliosolen fragilissimus</i>					40		80
<i>Ditylum brightwellii</i>			20				80
<i>Guinardia delicatula</i>	120		520	380	380	60	24960
<i>Guinardia flaccida</i>	20	40	720	900	280		4480
<i>Gyrosigma tenuissimum</i>							80
<i>Leptocylindrus danicus</i>				20		60	
<i>Leptocylindrus minimus</i>	20		100	100			1840
<i>Navicula</i> spp.	20				20	20	
<i>Paralia marina</i>					60	60	
<i>Pleurosigma</i> / <i>Gyrosigma</i>	20			20			
<i>Pleurosigma angulatum</i>	140	40		20		20	160
<i>Pseudo-nitzschia delicatissima</i> group	160	120	20	60	200		
<i>Pseudo-nitzschia seriata</i> group	20		60	20	40		560
<i>Rhizosolenia hebetata</i>						20	
<i>Rhizosolenia</i> spp.	40			20	20		80
<i>Skeletonema costatum</i>	220		560	1680	5500	2100	7440
<i>Thalassiosira auguste-lineata</i>					20		80
<i>Thalassiosira nordenskioeldii</i>							
<i>Thalassiosira</i> spp.			20	40	220	40	80
Copepoda		40	160	40			
<i>Dictyocha speculum</i>	20	480	120	300	140		880
Eutreptia / Eutreptiella			20	20	100		400
<i>Helicostomella</i> spp.			60	20			
<i>Mesodinium rubrum</i>	860	12600	5600	100			7440
Tintinnids	120	360	160	400	220	140	

ORGANISM		3	15	16-0m	16-10m	16-25m	16-50m	17
28-Jul-98								
<i>Alexandrium fundyense</i>								40
Armoured dinoflagellate		280	80					160
<i>Ceratium kofoidii</i>		40	40					
<i>Ceratium lineatum</i>		40	40					120
<i>Ceratium longipes</i>		240	60					
<i>Ceratium spp.</i>								80
<i>Dinophysis acuminata</i>			20					
<i>Dinophysis acuta</i>		40						
<i>Dinophysis norvegica</i>		200	80					120
<i>Dinophysis spp.</i>			40					
<i>Gonyaulax spinifera</i>			20					
<i>Gyrodinium spp.</i>								
<i>Heterocapsa triquetra</i>		160	40					
<i>Protoperidinium spp.</i>								80
<i>Scrippsiella trochoidea</i>		280	140					80
Unarmoured dinoflagellate			20					40
<i>Cerataulina pelagica</i>		600	100					120
<i>Chaetoceros compressus</i>		40						
<i>Chaetoceros constrictus</i>		200	80					
<i>Chaetoceros convolutus</i>		40						
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>		40	60					
<i>Chaetoceros debilis</i>		2240	920					1000
<i>Chaetoceros decipiens</i>		40	120					
<i>Chaetoceros laciniatus</i>		280						
<i>Chaetoceros similis</i>		40						40
<i>Chaetoceros simplex</i>			20					
<i>Chaetoceros socialis</i>		120	100					
<i>Chaetoceros spp.</i>		920	400					320
<i>Chaetoceros spp.</i> (phaeoceros)			60					
<i>Corethron criophilum</i>		40						
<i>Coscinodiscus spp.</i>			20					
<i>Cylindrotheca closterium</i>		160	180					80
<i>Dactyliosolen fragilissimus</i>			20					240
<i>Guinardia delicatula</i>		6360	1660					212090
<i>Guinardia flaccida</i>		4760	480					12600
<i>Leptocylindrus minimus</i>		80	40					840
<i>Licmophora abbreviata</i>			20					
<i>Navicula spp.</i>		40						80
<i>Pleurosigma angulatum</i>		360	20					680
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>								40
<i>Pseudo-nitzschia delicatissima</i> group		120	200					
<i>Pseudo-nitzschia seriata</i> group		40	80					320
<i>Rhizosolenia spp.</i>								80
<i>Skeletonema costatum</i>		40	60					
<i>Thalassiosira angulata</i>								40
<i>Thalassiosira nordenskioeldii</i>								40
<i>Thalassiosira spp.</i>		80						120
Copepoda		80	60					
<i>Dictyocha speculum</i>		800	240					280
Eutreptia / Eutreptiella		80						
<i>Helicostomella spp.</i>								40
<i>Mesodinium rubrum</i>		7400	1180					3320
Tintinnids		240	200					40

ORGANISM 04-Aug-98	3	15	16-0m	16-10m	16-25m	16-50m	17
<i>Alexandrium fundyense</i>				160	80		80
Armoured dinoflagellate		400	640	1840	80		360
<i>Ceratium fusus</i>	80			80			
<i>Ceratium horridum</i>			40				
<i>Ceratium kofoidii</i>		40		320			
<i>Ceratium lineatum</i>	560	80	40	960			280
<i>Ceratium longipes</i>	80	160	200	560		40	160
<i>Ceratium spp.</i>		40	280				
<i>Ceratium tripos</i>		40	40				
<i>Dinophysis acuminata</i>		40		320			
<i>Dinophysis acuta</i>		40			160		
<i>Dinophysis norvegica</i>	80			400			80
<i>Dinophysis pulchella</i>		40					
<i>Gyrodinium spp.</i>							
<i>Heterocapsa triquetra</i>		280	80	80			
<i>Minuscula bipes</i>		40					
<i>Protoperidinium spp.</i>				320	80		
<i>Scrippsiella trochoidea</i>	560	40	160	3520			360
Unarmoured dinoflagellate		160	520	160			160
<i>Asterionellopsis glacialis</i>				80		20	
<i>Cerataulina pelagica</i>	80		120		80		40
<i>Chaetoceros borealis</i>					160		
<i>Chaetoceros compressus</i>		80	40	240	240	20	40
<i>Chaetoceros constrictus</i>	160	280	40				
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>	160	40	120	320	80		
<i>Chaetoceros debilis</i>	4480	6040	1840	4400	16400	640	
<i>Chaetoceros decipiens</i>	560	80	40	80	160		40
<i>Chaetoceros laciniosus</i>	80	120		80	240	40	
<i>Chaetoceros similis</i>		40					
<i>Chaetoceros socialis</i>	960	840	240	2160	80	100	40
<i>Chaetoceros spp.</i>	320	1320	1080	640	2640	140	200
<i>Chaetoceros spp.</i> (phaeoceros)					160		40
<i>Corethron criophilum</i>	80		40			20	
<i>Cylindrotheca closterium</i>	720	160		640	1760	1160	480
<i>Dactyliosolen fragilissimus</i>						40	200
<i>Ditylum brightwellii</i>		40		80		20	
<i>Guinardia delicatula</i>	62160	4280	3000	14000	10640	2020	880
<i>Guinardia flaccida</i>	12000	800	520	8720	5760	1300	93520
<i>Leptocylindrus danicus</i>				80			120
<i>Leptocylindrus minimus</i>	240	320	200	160	160	80	11320
<i>Navicula spp.</i>						20	
<i>Pleurosigma angulatum</i>	160		40			20	
<i>Pseudo-nitzschia delicatissima</i> group	3360	10600	80160	6160	11920	1440	40
<i>Pseudo-nitzschia seriata</i> group	240	320		400	480		40
<i>Rhizosolenia spp.</i>	80		80				1040
<i>Skeletonema costatum</i>	320	1120	1360	160	80	180	40
<i>Thalassiosira spp.</i>		80	120		80		120
Copepoda	80			80	80		
<i>Dictyocha speculum</i>	240	560	160	720		20	280
Eutreptia / Eutreptiella	160	40	40	160	80	20	240
<i>Helicostomella spp.</i>		520					
<i>Mesodinium rubrum</i>	8640	320	1520	2160	160		5960
<i>Salpingella spp.</i>		80	120	320	160	60	520
Tintinnids							

ORGANISM	11-Aug-98	3	15	16-0m	16-10m	16-25m	16-50m	17
<i>Alexandrium fundyense</i>		120	160	560	80	360	120	40
<i>Alexandrium ostenfeldii</i>		240	720	880	360	400	80	80
Armoured dinoflagellate			80	40		40		
<i>Ceratium fusus</i>			40	120	160	120		
<i>Ceratium kofoidii</i>			640	600	720	400	480	120
<i>Ceratium lineatum</i>			280	80	240	240	40	280
<i>Ceratium longipes</i>								40
<i>Ceratium spp.</i>				40				
<i>Ceratium tripos</i>					40			
<i>Dinophysis acuminata</i>		120		40	80	80	40	
<i>Dinophysis acuta</i>					80		40	
<i>Dinophysis norvegica</i>		80	120	160	80	80		40
<i>Dinophysis spp.</i>				40		80		
<i>Gonyaulax spinifera</i>		40	200	120				
<i>Heterocapsa triquetra</i>				40				
<i>Phalacroma rotundatum</i>						40		
<i>Protoperidinium depressum</i>		40				40		
<i>Protoperidinium ovatum</i>				40				
<i>Protoperidinium spp.</i>		40		80				
<i>Scrippsiella trochoidea</i>		1040	3360	2840	1480	760	200	520
Unarmoured dinoflagellate						80		
<i>Asterionellopsis glacialis</i>				80	120	40	80	
<i>Cerataulina pelagica</i>		440	40		40	360	160	
<i>Chaetoceros borealis</i>					40	40		
<i>Chaetoceros compressus</i>		240		1000	400	160	440	
<i>Chaetoceros concavicornis</i>					40			
<i>Chaetoceros constrictus</i>				40			40	
<i>Chaetoceros convolutus</i>		80				40	40	
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>		40		240	40	200	240	
<i>Chaetoceros debilis</i>		120		440	640	280	360	
<i>Chaetoceros decipiens</i>		80		40			80	40
<i>Chaetoceros laciniatus</i>		40		160	80	120		
<i>Chaetoceros similis</i>						40		
<i>Chaetoceros socialis</i>		2360	1360	2400	1560	1040	1200	80
<i>Chaetoceros spp.</i>		240	120	720	360	600	480	
<i>Chaetoceros spp.</i> (phaeoceros)		40					40	
<i>Corethron criophilum</i>				80				
<i>Coscinodiscus spp.</i>		40			40	40		40
<i>Cylindrotheca closterium</i>		480	280	280	480	920	2280	280
<i>Dactyliosolen fragilissimus</i>		120				40	120	
<i>Ditylum brightwellii</i>		40	40	280	200	40	160	
<i>Guinardia delicatula</i>		2040	2640	3440	4520	4080	2840	320
<i>Guinardia flaccida</i>		13680	1560	8240	10520	10600	9720	96860
<i>Gyrosigma tenuissimum</i>		80						
<i>Leptocylindrus danicus</i>			40					
<i>Leptocylindrus minimus</i>		600	920	720	360	280	240	1120
<i>Licmophora abbreviata</i>			40					
<i>Navicula spp.</i>		40						
<i>Pleurosigma / Gyrosigma</i>			40					40
<i>Pleurosigma angulatum</i>		80					40	80
<i>Pseudo-nitzschia delicatissima</i> group		8880	840	19080	65130	21120	19960	120
<i>Pseudo-nitzschia seriata</i> group		680	400	320	640	760	160	80
<i>Rhizosolenia spp.</i>		80			40		160	1200
<i>Skeletonema costatum</i>		760	240	3280	3040	2720	3120	40
<i>Thalassiosira baltica</i>					40			

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
11-Aug-98 (continued)							
<i>Thalassiosira oestrupii</i>					40		
<i>Thalassiosira spp.</i>				80	120		
Copepoda	40	40	80	80			
<i>Dictyocha speculum</i>	200	120	240	160	200	80	
Eutreptia / Eutreptiella	40	80	120	240	120	40	360
<i>Helicostomella spp.</i>		80	80			40	
<i>Mesodinium rubrum</i>	640	2440	2960		160		2360
<i>Salpingella spp.</i>						40	
Tintinnids	360	40	360	200	160	320	320
18-Aug-98							
<i>Alexandrium fundyense</i>	40		40	560		40	
Armoured dinoflagellate	360	240	680	1200	120	40	20
<i>Ceratium kofoidii</i>		40		240			100
<i>Ceratium lineatum</i>	520	320	120	9600			140
<i>Ceratium longipes</i>	80	40		80			20
<i>Ceratium spp.</i>		80					
<i>Ceratium tripos</i>	80		80	80			
<i>Dinophysis acuminata</i>			80	480			
<i>Dinophysis norvegica</i>	40	40	120	720			
<i>Gonyaulax spinifera</i>			120				
<i>Gyrodinium spp.</i>					40		
<i>Heterocapsa triquetra</i>	40		120	80			
<i>Protoperidinium spp.</i>	40	80		480			40
<i>Scrippsiella trochoidea</i>	760	600	1240	12720			60
Unarmoured dinoflagellate				160			
<i>Actinoptychus senarius</i>	80					120	
<i>Asterionellopsis glacialis</i>	40				120		
<i>Cerataulina pelagica</i>	80	40					
<i>Chaetoceros borealis</i>					120		
<i>Chaetoceros compressus</i>		40	40		280		
<i>Chaetoceros constrictus</i>		40					
<i>Chaetoceros debilis</i>			40		80		
<i>Chaetoceros socialis</i>	920	1960	960	14880	720		60
<i>Chaetoceros spp.</i>	80	120	80	80	40	40	60
<i>Chaetoceros spp. (phaeoceros)</i>	40						
<i>Corethron criophilum</i>	40	80	80	240	80		
<i>Coscinodiscus spp.</i>	80				80	40	
<i>Cylindrotheca closterium</i>	360	240	40	80	320	520	100
<i>Dactyliosolen fragilissimus</i>	40	160		2560	480	40	60
<i>Ditylum brightwellii</i>	80	40	80	160	80	40	
<i>Guinardia delicatula</i>	2360	1680	3880	4960	960	280	240
<i>Guinardia flaccida</i>	80160	36740	4760	13760	11600	6840	161990
<i>Leptocylindrus danicus</i>	280	240	480			40	20
<i>Leptocylindrus minimus</i>	520	400		80	80		
<i>Paralia marina</i>						120	
<i>Pleurosigma / Gyrosigma</i>							20
<i>Pleurosigma angulatum</i>	40	40					
<i>Pseudo-nitzschia delicatissima</i> group	280	600			1120	3240	200
<i>Pseudo-nitzschia seriata</i> group	40	80	80	320			
<i>Rhizosolenia spp.</i>							280
<i>Skeletonema costatum</i>	520	360	680	400	880	360	60
<i>Thalassiosira spp.</i>		40		240		40	
Copepoda		40	40				20
<i>Dictyocha speculum</i>	200	240	280	1360			20
<i>Ebria tripartita</i>		40		880			

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
18-Aug-98 (continued)							
<i>Eutreptia / Eutreptiella</i>	40	80	200	160			80
<i>Helicostomella spp.</i>			40				20
<i>Mesodinium rubrum</i>	560	1120	1720	560	40	160	320
<i>Notholca spp.</i>					40		
<i>Parafavella spp.</i>					40		
Tintinnids	120	320	40	880	160	200	120
25-Aug-98							
<i>Alexandrium fundyense</i>		120	280	80	40	20	
<i>Alexandrium ostenfeldii</i>					40		
Armoured dinoflagellate	240	240	200	120	320	20	1160
<i>Ceratium fusus</i>	80	20	40	200	40		40
<i>Ceratium kofoidii</i>	240	120	80	160			
<i>Ceratium lineatum</i>	1040	440	840	920	80	40	240
<i>Ceratium longipes</i>	80			80			
<i>Ceratium spp.</i>					40		
<i>Ceratium tripos</i>		20	120	120	80	20	40
<i>Dinophysis acuminata</i>		20	240	120			
<i>Dinophysis norvegica</i>	80	20	80	320			80
<i>Gonyaulax spinifera</i>	160	280	160				80
<i>Gyrodinium spp.</i>			40				
<i>Heterocapsa triquetra</i>		60	240				
<i>Phalacroma rotundatum</i>					40		
<i>Scrippsiella trochoidea</i>	960	240	920	760	280	20	160
Unarmoured dinoflagellate		40	280				160
<i>Asterionellopsis glacialis</i>				240		80	
<i>Cerataulina pelagica</i>					120		
<i>Chaetoceros borealis</i>					40	20	
<i>Chaetoceros compressus</i>			40		120	100	
<i>Chaetoceros constrictus</i>		20	40			20	
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>	80			40	40	60	
<i>Chaetoceros debilis</i>		20	80		40		
<i>Chaetoceros laciniosus</i>						40	
<i>Chaetoceros socialis</i>	6320	380	4120	1680	2440	440	40
<i>Chaetoceros spp.</i>	240	20	40	160	280	220	
<i>Corethron criophilum</i>				40	80	60	
<i>Coscinodiscus spp.</i>					60		40
<i>Cylindrotheca closterium</i>	1200	80	40	200	880	280	240
<i>Dactyliosolen fragilissimus</i>	240			80	40	60	120
<i>Ditylum brightwellii</i>	320	60	80	120	80	80	
<i>Eucampia spp.</i>						80	
<i>Guinardia delicatula</i>	5360	1200	5160	3280	3080	1280	640
<i>Guinardia flaccida</i>	38160	2100	12120	17120	14880	19160	20600
<i>Helicotheca tamesis</i>						40	
<i>Leptocylindrus danicus</i>	400		240		160	300	160
<i>Leptocylindrus minimus</i>	160	40			40	40	240
<i>Paralia marina</i>					40	40	
<i>Pleurosigma / Gyrosigma</i>				40			
<i>Pleurosigma angulatum</i>							120
<i>Pseudo-nitzschia delicatissima</i> group	1440	80	360	40	1520	1620	80
<i>Pseudo-nitzschia seriata</i> group	80	200	120	40	40	60	
<i>Rhizosolenia spp.</i>				120			240
<i>Skeletonema costatum</i>	880	280	1080	1040	1040	720	360
<i>Thalassiosira oestrupii</i>				40			
<i>Thalassiosira spp.</i>	240		240	80	40	20	40
Copepoda			40	40		20	

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
25-Aug-98 (continued)							
<i>Dictyocha speculum</i>	160	20	480	640	360		80
Eutreptia / Eutreptiella	160	80	80	40	40		1080
<i>Helicostomella spp.</i>		20	40		40		40
<i>Mesodinium rubrum</i>	240	400	2960	120			1120
Tintinnids	160	100	280	360	40	40	200
01-Sep-98							
<i>Alexandrium fundyense</i>	40	200					
Armoured dinoflagellate	320	1680	560	260	20		20
<i>Ceratium fusus</i>	80				20		
<i>Ceratium kofoidii</i>	20	240		60			20
<i>Ceratium lineatum</i>	2200	1560	80	300			100
<i>Ceratium longipes</i>	60	40		20	40		
<i>Ceratium minutum</i>		80		20			
<i>Ceratium tripos</i>	60	160	40	20			
<i>Dinophysis acuminata</i>	60	40					
<i>Dinophysis acuta</i>	60			100	20		
<i>Dinophysis norvegica</i>	100	120		20		20	
<i>Dinophysis spp.</i>				40			
<i>Gonyaulax spinifera</i>	180	320					
<i>Gyrodinium spp.</i>		760					
<i>Heterocapsa triquetra</i>	120	1000		80			
<i>Protoperidinium depressum</i>				20			
<i>Protoperidinium spp.</i>		40		100	20		100
<i>Scrippsiella trochoidea</i>	300	680		260	40		80
Unarmoured dinoflagellate		280				20	
<i>Actinoptychus senarius</i>						80	
<i>Asterionellopsis glacialis</i>		120	80	180	40		
<i>Asterionellopsis kariana</i>					20		
<i>Cerataulina pelagica</i>	20	40	40				60
<i>Chaetoceros borealis</i>	60			40	20	40	
<i>Chaetoceros compressus</i>	60		40	100		40	
<i>Chaetoceros constrictus</i>	20	80	40			20	
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>		120	40	20			
<i>Chaetoceros debilis</i>	60	80	40	40	20		
<i>Chaetoceros decipiens</i>					20		
<i>Chaetoceros socialis</i>	3240	10680	6120	4240	1340		420
<i>Chaetoceros spp.</i>	540	440	240	120	220	100	100
<i>Chaetoceros spp.</i> (phaeoceros)						40	
<i>Corethron criophilum</i>	140	80	280	460	220	60	20
<i>Coscinodiscus spp.</i>							20
<i>Cylindrotheca closterium</i>	220	80	40	300	1040	460	240
<i>Dactyliosolen fragilissimus</i>	180			40		120	
<i>Ditylum brightwellii</i>	60	400	480	160	400	120	
<i>Eucampia zodiacus</i>	100						
<i>Guinardia delicatula</i>	5400	6160	1200	1620	1920	1100	100
<i>Guinardia flaccida</i>		80		60	40	60	20
<i>Leptocylindrus danicus</i>	40				20		20
<i>Leptocylindrus mediterraneus</i>						40	
<i>Leptocylindrus minimus</i>	160	40	40	100	20	100	140
<i>Navicula spp.</i>	20			20		20	
<i>Pleurosigma / Gyrosigma</i>							40
<i>Pleurosigma angulatum</i>	60				20		
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>						20	
<i>Pseudo-nitzschia delicatissima</i> group	200	520	880	4080	4840	2180	280
<i>Pseudo-nitzschia seriata</i> group		200		100	20	20	

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
01-Sep-98 (continued)							
<i>Rhizosolenia hebetata</i>					40		
<i>Rhizosolenia spp.</i>	420		40	20		40	120
<i>Skeletonema costatum</i>	200	1480	1760	1120	1400	640	220
<i>Thalassionema nitzschiooides</i>					40		
<i>Thalassiosira oestrupii</i>		40		20	40		
<i>Thalassiosira spp.</i>			80	60	100		
<i>Brachionus spp.</i>							20
<i>Copepoda</i>	40			80	40		60
<i>Dictyocha speculum</i>	220	360	80	240	60		120
<i>Eutreptia / Eutreptiella</i>	60	80		240	40	40	620
<i>Helicostomella spp.</i>		40					60
<i>Mesodinium rubrum</i>	1500	640	80			40	3720
Tintinnids	500			760	100		160
08-Sep-98							
<i>Alexandrium fundyense</i>	60	100	120				
Armoured dinoflagellate	160	180	160	100	80		60
<i>Ceratium fusus</i>	60	160	40	20	20		
<i>Ceratium horridum</i>							20
<i>Ceratium kofoidii</i>			120				
<i>Ceratium lineatum</i>	780	860	960	60	100		160
<i>Ceratium longipes</i>	40	20	80				
<i>Ceratium minutum</i>							20
<i>Ceratium spp.</i>	20		20				40
<i>Ceratium tripos</i>	60	100	100	20	20		80
<i>Dinophysis acuminata</i>		40	100				
<i>Dinophysis norvegica</i>	60	180	100				20
<i>Dinophysis spp.</i>			120				
<i>Gonyaulax spinifera</i>	60	80					
<i>Gyrodinium spp.</i>	160						
<i>Heterocapsa triquetra</i>	160	60	300				
<i>Phalacroma rotundatum</i>		20					
<i>Protoperidinium spp.</i>	20		40				20
<i>Scrippsiella trochoidea</i>	260	340	840	60		20	60
Unarmoured dinoflagellate	20		20		20		
<i>Actinoptychus senarius</i>				120	40		
<i>Asterionellopsis glacialis</i>					60	60	
<i>Cerataulina pelagica</i>	280	180	340	100		40	460
<i>Chaetoceros borealis</i>				40	20		
<i>Chaetoceros compressus</i>			20		20		20
<i>Chaetoceros constrictus</i>	40	20					
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>		20		20	20	40	
<i>Chaetoceros danicus</i>					40		
<i>Chaetoceros debilis</i>	40	60	40	20	60		20
<i>Chaetoceros decipiens</i>	20						
<i>Chaetoceros laciniosus</i>	20						20
<i>Chaetoceros socialis</i>	100						920
<i>Chaetoceros spp.</i>	100	100	300	220	80	80	440
<i>Chaetoceros spp.</i> (phaeoceros)	20	20	120	20			
<i>Chaetoceros subtilis</i>		20					
<i>Corethron criophilum</i>	160	260	340	180	220	60	100
<i>Coscinodiscus spp.</i>	60				40		20
<i>Cylindrotheca closterium</i>	800	420	420	2840	1320	500	500
<i>Dactyliosolen fragilissimus</i>				20			
<i>Ditylum brightwellii</i>	100	40	100	120	120	20	60
<i>Eucampia zodiacus</i>			180	60			

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
08-Sep-98 (continued)							
<i>Guinardia delicatula</i>	1140	920	2240	2000	1240	420	280
<i>Guinardia flaccida</i>			20	20		40	
<i>Gyrosigma littorale</i>							40
<i>Gyrosigma tenuissimum</i>	20						80
<i>Helicotheca tamesis</i>					20		
<i>Lauderia annulata</i>							60
<i>Leptocylindrus mediterraneus</i>				20			
<i>Leptocylindrus minimus</i>	120	180	100	180	80	100	100
<i>Navicula spp.</i>	40	20				20	
<i>Paralia marina</i>					20		
<i>Pleurosigma angulatum</i>	120	20		20	20		120
<i>Pseudo-nitzschia delicatissima</i> group	1580	380	520	3160	1940	1760	260
<i>Pseudo-nitzschia seriata</i> group	20				140		
<i>Rhizosolenia spp.</i>		60	20	80	40	20	40
<i>Skeletonema costatum</i>	980	300	600	660	600	400	1780
<i>Striatella unipunctata</i>		20					
<i>Thalassionema nitzschiooides</i>					40		
<i>Thalassiosira oestrupii</i>		80		100	20		
<i>Thalassiosira spp.</i>	20						
<i>Triceratium alternans</i>					20		
Copepoda	40	200	20			20	
<i>Dictyocha speculum</i>	320	340	260	80	60	20	100
Eutreptia / Eutreptiella	100		160	40	20		100
<i>Helicostomella spp.</i>	20	40					20
<i>Mesodinium rubrum</i>	5020	2860	1760			20	6800
Tintinnids	140	240	440	220	140	100	360
15-Sep-98							
<i>Alexandrium fundyense</i>	20	60					20
Armoured dinoflagellate			40	60	40		40
<i>Ceratium fusus</i>	40	20	20	40			
<i>Ceratium kofoidii</i>	20			40			20
<i>Ceratium lineatum</i>	120		40	20	20		140
<i>Ceratium longipes</i>	20	20	40	20			
<i>Ceratium spp.</i>							60
<i>Ceratium tripos</i>	80	40	80	60	40	20	80
<i>Dinophysis acuminata</i>			20	20			
<i>Dinophysis acuta</i>				80			20
<i>Dinophysis norvegica</i>	40	40		20			
<i>Dinophysis spp.</i>		20					
<i>Gonyaulax spinifera</i>	20						
<i>Gyrodinium spp.</i>	20					80	180
<i>Heterocapsa triquetra</i>		40	180	20			
<i>Phalacroma rotundatum</i>				20			
<i>Prorocentrum minimum</i>				20			
<i>Prorocentrum spp.</i>		40					
<i>Protoperidinium spp.</i>		20					
<i>Scrippsiella trochoidea</i>	60	160	40	60			120
Unarmoured dinoflagellate	20	20	40				40
<i>Actinoptychus senarius</i>					20	80	80
<i>Asterionellopsis glacialis</i>					20	20	
<i>Cerataulina pelagica</i>				20	20		500
<i>Chaetoceros borealis</i>					20		20
<i>Chaetoceros constrictus</i>	20						
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>	20			60			
<i>Chaetoceros debilis</i>	60						20

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
15-Sep-98 (continued)							
<i>Chaetoceros decipiens</i>	60	20					20
<i>Chaetoceros laciniosus</i>							760
<i>Chaetoceros socialis</i>	80						140
<i>Chaetoceros spp.</i>	80	20	20			20	20
<i>Chaetoceros spp. (phaeoceros)</i>	20						
<i>Chaetoceros teres</i>		20					
<i>Corethron criophilum</i>	120	160				40	80
<i>Coscinodiscus spp.</i>					20		20
<i>Cylindrothecca closterium</i>	220	100	240	760	1500	280	120
<i>Dactyliosolen fragilissimus</i>							80
<i>Ditylum brightwellii</i>				20	100		20
<i>Eucampia zodiacus</i>							60
<i>Guinardia delicatula</i>		20	20	40	100	340	300
<i>Guinardia flaccida</i>					20		
<i>Gyrosigma tenuissimum</i>							20
<i>Leptocylindrus danicus</i>						20	140
<i>Leptocylindrus mediterraneus</i>					20		
<i>Leptocylindrus minimus</i>	40		20			20	
<i>Licmophora abbreviata</i>							
<i>Pleurosigma angulatum</i>	20						40
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>					20		
<i>Proboscia alata</i>						20	
<i>Pseudo-nitzschia delicatissima</i> group	1480	360	580	640	1640	1060	340
<i>Pseudo-nitzschia seriata</i> group							280
<i>Rhizosolenia spp.</i>	20						100
<i>Skeletonema costatum</i>	100				80	200	480
<i>Thalassiosira oestrupii</i>	40				20		20
<i>Copepoda</i>	80	40				20	80
<i>Dictyocha speculum</i>	20	80	320	100	80		80
<i>Eutreptia / Eutreptiella</i>	80	80		100	20		20
<i>Helicostomella spp.</i>							60
<i>Mesodinium rubrum</i>	2680	860	1060	40			4020
Tintinnids	160	40	20	140			220
22-Sep-98							
<i>Alexandrium fundyense</i>	20						
Armoured dinoflagellate	80	20	20	20			40
<i>Ceratium fusus</i>	40	20					
<i>Ceratium kofoidii</i>	20						
<i>Ceratium lineatum</i>	140	100	40	20			80
<i>Ceratium longipes</i>		20				20	
<i>Ceratium spp.</i>			20				
<i>Ceratium tripos</i>	20	20	120	40	20		20
<i>Dinophysis norvegica</i>	100		60				
<i>Dinophysis spp.</i>	20						60
<i>Gonyaulax spinifera</i>	20						
<i>Gyrodinium spp.</i>							20
<i>Heterocapsa triquetra</i>	20	40	180				
<i>Scrippsiella trochoidea</i>	80			20			120
Unarmoured dinoflagellate	20	20		20			
<i>Actinoptychus senarius</i>				40	40		
<i>Asterionellopsis glacialis</i>	20				20		
<i>Cerataulina pelagica</i>	300						1520
<i>Chaetoceros borealis</i>	20						
<i>Chaetoceros compressus</i>	20						80
<i>Chaetoceros constrictus</i>		20					40

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
22-Sep-98 (continued)							
<i>Chaetoceros debilis</i>	80				20		120
<i>Chaetoceros decipiens</i>							60
<i>Chaetoceros laciniosus</i>	20						100
<i>Chaetoceros lorenzianus</i>	20						20
<i>Chaetoceros socialis</i>							40
<i>Chaetoceros spp.</i>	260	20			20		540
<i>Chaetoceros spp. (phaeoceros)</i>	20	20	20	20			
<i>Corethron criophylum</i>	100	60	20	20			260
<i>Coscinodiscus spp.</i>			20				
<i>Cylindrotheca closterium</i>	620	340	440	540	300	280	200
<i>Ditylum brightwellii</i>	60	20			20		60
<i>Eucampia zodiacus</i>	440					20	160
<i>Guinardia delicatula</i>	560	60		40	180	80	2720
<i>Guinardia flaccida</i>						20	
<i>Gyrosigma fasciola</i>	20						
<i>Lauderia annulata</i>							240
<i>Leptocylindrus danicus</i>					20		20
<i>Leptocylindrus minimus</i>	60				40		20
<i>Navicula spp.</i>	40						20
<i>Pleurosigma / Gyrosigma</i>						40	20
<i>Pleurosigma angulatum</i>	40						40
<i>Pseudo-nitzschia delicatissima</i> group	880	320	300	500	80	20	280
<i>Pseudo-nitzschia seriata</i> group	300	80			60		660
<i>Rhizosolenia spp.</i>	20						
<i>Skeletonema costatum</i>	140	60			80	60	540
<i>Thalassiosira oestrupii</i>	20		20	20			20
<i>Thalassiosira spp.</i>							20
Copepoda	40	20		20			20
<i>Dictyocha speculum</i>	80	260	140	60	60		40
Eutreptia / Eutreptiella		60	420	40			180
<i>Helicostomella spp.</i>	20				20		20
<i>Mesodinium rubrum</i>	3240	5260	2720	120	60		2640
Tintinnids	320	500	100	80			140
29-Sep-98							
Armoured dinoflagellate	20				20		40
<i>Ceratium fusus</i>			40	40			
<i>Ceratium lineatum</i>			20	40			80
<i>Ceratium spp.</i>				20			
<i>Ceratium tripos</i>			80		80	40	
<i>Dinophysis norvegica</i>		20					40
<i>Gyrodinium spp.</i>						20	
<i>Heterocapsa triquetra</i>		40	40	20			
<i>Scrippsiella trochoidea</i>	20						
Unarmoured dinoflagellate			40				
<i>Actinopychus senarius</i>			160	40	120	80	80
<i>Cerataulina pelagica</i>					20	20	400
<i>Chaetoceros borealis</i>		20		20			
<i>Chaetoceros constrictus</i>	60						80
<i>Chaetoceros convolutus</i>						20	
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>			20	40	20		
<i>Chaetoceros debilis</i>	20						440
<i>Chaetoceros decipiens</i>			20				
<i>Chaetoceros laciniosus</i>							320
<i>Chaetoceros lorenzianus</i>	20	20					120
<i>Chaetoceros socialis</i>							480
<i>Chaetoceros spp.</i>	40	20	20		60		800

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
29-Sep-98 (continued)							
<i>Chaetoceros spp. (phaeoceros)</i>		20	20				
<i>Corethron criophilum</i>	60	60	20	40	80	60	400
<i>Coscinodiscus spp.</i>			20		20		40
<i>Cylindrotheca closterium</i>	160	40	80	420	640	140	120
<i>Dactyliosolen fragilissimus</i>							200
<i>Ditylum brightwellii</i>	60	40		20	20	20	720
<i>Eucampia zodiacus</i>							760
<i>Guinardia delicatula</i>	560	20	120		80	80	8040
<i>Guinardia flaccida</i>				40			
<i>Lauderia annulata</i>							240
<i>Leptocylindrus danicus</i>	100	20					760
<i>Leptocylindrus mediterraneus</i>			60				
<i>Leptocylindrus minimus</i>			60		20		80
<i>Navicula spp.</i>		,					40
<i>Pleurosigma / Gyrosigma</i>		40				60	
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>					20		
<i>Pseudo-nitzschia delicatissima</i> group	340	280	860	380	340	160	360
<i>Pseudo-nitzschia seriata</i> group	300		40				2280
<i>Rhizosolenia spp.</i>			20				80
<i>Skeletonema costatum</i>				20			400
<i>Striatella unipunctata</i>		20					
<i>Thalassiosira nordenskioeldii</i>							40
<i>Thalassiosira oestrupii</i>	20				20		
Copepoda	40		20	40	20		
<i>Dictyocha speculum</i>	40	80	60		20		80
<i>Eutreptia / Eutreptiella</i>		40	120		20		160
<i>Mesodinium rubrum</i>	600	620	600			20	1400
Tintinnids	20	40	20	60	40	20	160
13-Oct-98							
Armoured dinoflagellate	280	40		20	80	20	40
<i>Ceratium fusus</i>				20			
<i>Ceratium kofoidii</i>					20		
<i>Ceratium lineatum</i>			40	20	40	20	240
<i>Ceratium tripos</i>	40		20	20			
<i>Dinophysis acuminata</i>			20		20		
<i>Dinophysis norvegica</i>	40	20					40
<i>Dinophysis spp.</i>	40		20				
<i>Protoperdinium spp.</i>							120
<i>Scrippsiella trochoidea</i>	80						160
Unarmoured dinoflagellate				20	20		
<i>Actinoptychus senarius</i>	280	200	20	240	60	180	
<i>Asterionellopsis glacialis</i>	80				20	20	80
<i>Cerataulina pelagica</i>		20					
<i>Chaetoceros borealis</i>						20	
<i>Chaetoceros compressus</i>	40	20				20	
<i>Chaetoceros constrictus</i>		20				20	
<i>Chaetoceros convolutus</i>				20	40		
<i>Chaetoceros convolutus</i> var. <i>trisetosa</i>	40	60	20		40	20	
<i>Chaetoceros debilis</i>	360	140	60	80	180	40	2120
<i>Chaetoceros decipiens</i>		40					
<i>Chaetoceros didymus</i>							40
<i>Chaetoceros laciniosus</i>							120
<i>Chaetoceros lorenzianus</i>	40			40		40	160
<i>Chaetoceros socialis</i>					60		
<i>Chaetoceros spp.</i>	200	100	40		100		400

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
13-Oct-98 (continued)							
<i>Chaetoceros spp. (phaeoceros)</i>				80			40
<i>Corethron criophilum</i>	160	20	160	160	260	80	440
<i>Coscinodiscus spp.</i>			120	60	80	100	
<i>Cylindrotheca closterium</i>	480	520	200	520	680	740	200
<i>Dactyliosolen fragilissimus</i>			20			60	600
<i>Ditylum brightwellii</i>	1200	2400	2280	2000	2040	2180	520
<i>Eucampia zodiacus</i>	40	100				20	880
<i>Guinardia delicatula</i>	440	400	160	260	360	200	160
<i>Guinardia flaccida</i>						40	240
<i>Gyrosigma littorale</i>	40	40					
<i>Gyrosigma tenuissimum</i>		60				20	
<i>Helicotheca tamesis</i>				20		20	
<i>Lauderia annulata</i>	840	60			20	60	6480
<i>Leptocylindrus danicus</i>	6480	1620	100	40	220	1840	70140
<i>Leptocylindrus mediterraneus</i>					40		
<i>Leptocylindrus minimus</i>	320	60		100	40	60	680
<i>Navicula spp.</i>				20		20	
<i>Paralia marina</i>				20	20	20	
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>		20					
<i>Pseudo-nitzschia delicatissima</i> group	3640	4340	3520	3660	5540	6840	40
<i>Pseudo-nitzschia seriata</i> group		60	160	160	260	400	440
<i>Rhizosolenia spp.</i>			20	20			160
<i>Skeletonema costatum</i>	120	60	20	160	80	100	80
<i>Thalassiosira baltica</i>		20				40	
<i>Thalassiosira oestrupii</i>		20					
<i>Thalassiosira spp.</i>		20		40		80	120
<i>Triceratium alternans</i>						20	
Copepoda		40		20	20		
<i>Dictyocha speculum</i>	40		20	40	40		200
Eutreptia / Eutreptiella		20	60	60	40	20	360
<i>Mesodinium rubrum</i>	1000	280	1300	340			2760
<i>Parafavella spp.</i>						20	
Tintinnids	160	20	260	80	100	20	120
26-Oct-98							
<i>Alexandrium fundyense</i>							40
Armoured dinoflagellate	40		160	40		20	120
<i>Ceratium fusus</i>			40				
<i>Ceratium lineatum</i>	120		160	40			
<i>Ceratium longipes</i>				40			
<i>Ceratium tripos</i>		80	40		40		
<i>Dinophysis acuminata</i>							
<i>Heterocapsa triquetra</i>	40		40				
<i>Prorocentrum micans</i>				40			40
<i>Protoperidinium spp.</i>							
Unarmoured dinoflagellate							40
<i>Actinopychus senarius</i>							
<i>Asterionellopsis glacialis</i>							40
<i>Cerataulina pelagica</i>			40				
<i>Chaetoceros compressus</i>	40	40				20	40
<i>Chaetoceros convolutus</i>			40				
<i>Chaetoceros debilis</i>	560	600	1000	400	720	240	1600
<i>Chaetoceros decipiens</i>		40	40				
<i>Chaetoceros ingolfianus</i>						40	
<i>Chaetoceros laciniosus</i>			40				
<i>Chaetoceros lorenzianus</i>	80	40					

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
26-Oct-98 (continued)							
<i>Chaetoceros socialis</i>				40	120	40	80
<i>Chaetoceros spp.</i>	40	120	240		80	20	240
<i>Chaetoceros spp. (phaeoceros)</i>	40						
<i>Corethron criophilum</i>	320	80	320	280	320	80	200
<i>Coscinodiscus spp.</i>	40				80	20	
<i>Cylindrotheca closterium</i>	240	320	840	400	760	240	400
<i>Dactyliosolen fragilissimus</i>				80	120		
<i>Ditylum brightwellii</i>	2240	1880	4440	2920	2760	640	2120
<i>Eucampia zodiacus</i>	40		200	80		40	680
<i>Guinardia delicatula</i>	400	240	480	360	240	140	40
<i>Guinardia flaccida</i>	200	200			200	20	320
<i>Lauderia annulata</i>	5800	2480	4200	2840	1560	860	10160
<i>Leptocylindrus danicus</i>	6480	6840	16560	12280	7320	2680	5880
<i>Leptocylindrus minimus</i>	480	120	80		40	80	1320
<i>Navicula spp.</i>	40					60	80
<i>Pleurosigma / Gyrosigma</i>						20	
<i>Pleurosigma angulatum</i>		40					
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>		40					40
<i>Porosira glacialis</i>						20	
<i>Pseudo-nitzschia delicatissima</i> group	2320	5880	3880	3920	4880	1860	1040
<i>Pseudo-nitzschia seriata</i> group	120		120	40	160		80
<i>Rhizosolenia spp.</i>	40		40				80
<i>Skeletonema costatum</i>	80	40	160	80	160	60	360
<i>Thalassionema nitzschiooides</i>				80		40	
<i>Thalassiosira spp.</i>	80	80	120	160	40		80
<i>Dictyocha speculum</i>	120		80				40
<i>Eutreptia / Eutreptiella</i>	40	80	200	160	40		640
<i>Mesodinium rubrum</i>	2200	1200	1800		80		2160
Tintinnids	80	40	80		40	40	80
10-Nov-98							
Armoured dinoflagellate	40		80	80	20		40
<i>Ceratium fusus</i>						20	
<i>Ceratium lineatum</i>		80	20				20
<i>Ceratium minutum</i>			20				
<i>Ceratium spp.</i>				20			
<i>Ceratium tripos</i>				60			
<i>Dinophysis norvegica</i>				20			
<i>Dinophysis spp.</i>						20	
<i>Gyrodinium spp.</i>		40					380
Unarmoured dinoflagellate					20		20
<i>Actinopychus senarius</i>	220	160	180	320	160	540	
<i>Asterionellopsis glacialis</i>		40	80	60	60		
<i>Cerataulina pelagica</i>	20	40				20	
<i>Chaetoceros borealis</i>				60	20	20	
<i>Chaetoceros compressus</i>					20	20	
<i>Chaetoceros concavicornis</i>						20	
<i>Chaetoceros constrictus</i>							20
<i>Chaetoceros debilis</i>	380	1200	1000	720	800	720	20
<i>Chaetoceros decipiens</i>		160	60	20	20		
<i>Chaetoceros ingolfianus</i>					20		
<i>Chaetoceros lorenzianus</i>				40			
<i>Chaetoceros socialis</i>	160	200	40	20	80		140
<i>Chaetoceros spp.</i>				20	20	20	
<i>Chaetoceros spp. (phaeoceros)</i>	20		20				20
<i>Corethron criophilum</i>	20		100	60	120	80	

ORGANISM	3	15	16-0m	16-10m	16-25m	16-50m	17
10-Nov-98 (continued)							
<i>Coscinodiscus spp.</i>	100	80	40	40	40	20	
<i>Cylindrotheca closterium</i>	440	1160	460	360	220	280	640
<i>Ditylum brightwellii</i>	20		100	260	120	80	
<i>Eucampia zodiacus</i>	1300	480	260	40	140	180	2560
<i>Guinardia delicatula</i>	80	200	140	180	280	200	
<i>Guinardia flaccida</i>	40			20		20	
<i>Gyrosigma tenuissimum</i>							20
<i>Leptocylindrus danicus</i>	100	4200	100	160			40
<i>Leptocylindrus mediterraneus</i>	20			20	20		
<i>Leptocylindrus minimus</i>		80					20
<i>Navicula spp.</i>			20	60	40	120	
<i>Odontella regia</i>				20		20	
<i>Paralia marina</i>				20		20	
<i>Pleurosigma / Gyrosigma</i>				20			20
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>					80		
<i>Pseudo-nitzschia delicatissima</i> group	2200	6640	4180	3700	3140	3720	480
<i>Pseudo-nitzschia seriata</i> group	80	1000	560	300	840	680	80
<i>Skeletonema costatum</i>	40		20		40	40	20
<i>Thalassionema nitzschiooides</i>				20	20		
<i>Thalassiosira baltica</i>				40	140	40	
<i>Thalassiosira gravida</i>				20		40	
<i>Thalassiosira spp.</i>	20	80	60	60	60		
Copepoda	20						
<i>Dictyocha speculum</i>			20		40		20
<i>Eutreptia / Eutreptiella</i>	60	120	20		60	20	
<i>Mesodinium rubrum</i>	660	720	1240	80			1640
Tintinnids	120	40	120			40	40
08-Dec-98							
Armoured dinoflagellate	20	20		20			
<i>Ceratium fusus</i>	20					20	
<i>Ceratium lineatum</i>	20	20					
<i>Ceratium tripos</i>							20
<i>Phalacroma rotundatum</i>	20						
Unarmoured dinoflagellate	20						20
<i>Actinoptychus senarius</i>	220		40	400		60	40
<i>Asterionellopsis glacialis</i>		40		20			
<i>Cerataulina pelagica</i>							80
<i>Chaetoceros borealis</i>	20						
<i>Chaetoceros compressus</i>		20					
<i>Chaetoceros convolutus</i>			20				20
<i>Chaetoceros debilis</i>	20		60			20	
<i>Chaetoceros decipiens</i>		20					20
<i>Chaetoceros socialis</i>	200	20	40	60	20	60	160
<i>Chaetoceros spp.</i>		20	20			20	40
<i>Corethron criophilum</i>	20			40			
<i>Coscinodiscus spp.</i>	20	60	20	100	60		40
<i>Cylindrotheca closterium</i>	240	440	320	560	500	600	580
<i>Ditylum brightwellii</i>	40	20		20		40	40
<i>Eucampia zodiacus</i>	1900	180	1580	700	420	480	1500
<i>Grammatophora marina</i>		20					
<i>Guinardia delicatula</i>	40	20	20			20	20
<i>Guinardia striata</i>	20						
<i>Gyrosigma fasciola</i>							20
<i>Licmophora abbreviata</i>						20	
<i>Navicula spp.</i>	20	40		120	80	60	100

ORGANISM 08-Dec-98 (continued)	3	15	16-0m	16-10m	16-25m	16-50m	17
<i>Paralia marina</i>		40			40	40	
<i>Pleurosigma / Gyrosigma</i>	20	20					
<i>Pleurosigma angulatum</i>	20					20	
<i>Pleurosigma angulatum</i> var. <i>strigosa</i>	100		60		20	40	
<i>Pseudo-nitzschia delicatissima</i> group	1260	2960	1340	1480	980	1000	1260
<i>Pseudo-nitzschia seriata</i> group	40			20			20
<i>Rhabdonema</i> spp.						20	
<i>Skeletonema costatum</i>	80	20		80	40	60	20
<i>Thalassiosira baltica</i>	20		20		20	20	
<i>Thalassiosira</i> spp.				60	20	20	20
Copepoda	20		20			20	
<i>Dictyocha speculum</i>						20	
<i>Eutreptia / Eutreptiella</i>						20	
<i>Mesodinium rubrum</i>	80	80	240	140			540
<i>Salpingella</i> spp.							20
Tintinnids	40		20		20		140

Date mm/dd/yy	Temp. Surface	Temp. Bottom	Salinity Surface	Salinity Bottom	Silicate Surface	Phosphate Surface	Nitrates Surface	Ammonia Surface	Nitrite Surface
Station 3									
01/20/97	2.1	2.9	31.33	31.34					
02/24/97	1.0	2.1	31.29	31.26					
03/19/97	1.3	2.3	31.14	31.61					
04/22/97	3.4	3.6	30.98	31.00					
05/13/97	6.2	4.8	30.46	30.79					
05/20/97	6.2	5.0	27.62	30.27					
06/03/97	7.0	5.8	30.95	30.70					
06/10/97	9.6	6.4	29.80	30.62					
06/17/97	8.8	6.7	30.67	31.05					
06/23/97	8.9	8.1	31.06	31.10	0.86	0.505	1.59	2.79	0.17
07/09/97	11.9	9.7	31.04	31.20					
07/14/97	12.0	9.6	31.05	31.20	3.69	0.782	2.00	3.64	0.18
07/21/97	11.2	10.3	31.32	31.34	4.08	0.750	3.03	3.61	0.22
07/28/97	12.8				4.53	0.747	2.65	3.56	0.22
08/05/97	12.1	11.5	31.60	31.63	4.66	0.802	2.78	4.64	0.25
08/10/97	13.1	12.2	31.45	31.54	5.68	0.602	2.77	6.06	0.32
08/19/97	13.0	12.2	31.72	31.74	5.25	0.806	2.67	4.60	0.21
08/26/97	13.3	11.7	31.81	31.97	6.88	0.952	4.16		0.35
09/03/97	13.5				3.42	0.783	2.26	4.11	0.29
09/15/97	13.9	13.2	31.87	31.89	3.06	0.813	2.26		0.32
10/01/97	11.8	11.8	32.27	32.28	6.71	1.022	5.68	4.88	0.56
10/14/97	11.6				7.65	1.059	6.55	4.93	0.56
11/12/97	9.4	9.6	32.37	32.37	8.31	1.127	7.52		0.43
12/09/97	6.0	6.1	31.61	32.27	7.69	0.981	7.90	3.34	0.23
01/20/98	3.3	2.9	31.82	31.82	7.52	0.907	7.36	4.04	0.17
02/10/98	2.2	2.1	31.50	31.50	7.35	0.838	6.46	4.13	0.13
03/26/98	2.0	2.2	29.59	30.05	11.04	0.810	7.62	2.48	0.17
04/21/98	5.8	4.4	29.82	30.47	11.15	1.019	7.51	5.23	0.24
05/12/98	7.8				9.72	0.765	6.96	6.72	0.25
05/19/98	8.3	6.7	29.91	30.31	5.74	0.778	4.44	5.21	0.25
05/26/98	7.2	6.4	30.86	30.92	2.51	0.623	3.60	6.04	0.22
06/02/98	9.2	7.1	30.90	31.08	0.74	0.524	0.53	3.07	0.13
06/09/98	8.5	7.8	30.95	31.06	1.84	0.569	2.96	3.56	0.21
06/16/98	10.3				2.54	0.550	2.52	2.89	0.09
06/23/98	9.8	9.0	30.96	31.02	3.22	0.617	3.11		0.26
06/29/98	10.1	9.2	31.04	31.15	3.59	0.651	3.39	5.57	0.23
07/07/98	11.0	10.6	31.29	31.26	3.42	0.581	3.39	2.88	0.18
07/14/98	11.9	9.8	31.31	31.16	4.01	0.627	3.28	4.98	0.19
07/21/98	11.7	10.7	31.41	31.42	3.97	0.674	3.70	3.05	0.24
07/28/98	12.8	10.6	31.41	31.54	3.86	0.754	2.98	4.66	0.27
08/04/98	13.3	11.4	31.62	31.50	1.86	0.661	0.68	3.10	0.14

Date mm/dd/yy	Temp. Surface	Temp. Bottom	Salinity Surface	Salinity Bottom	Silicate Surface	Phosphate Surface	Nitrates Surface	Ammonia Surface	Nitrite Surface
Station 3									
08/11/98	12.2	11.7	31.58	31.61	1.53	0.596	1.12	4.33	0.13
08/18/98	13.0	11.8	31.57	31.68	2.26	0.588	1.23	3.62	0.19
08/25/98	12.5	11.9	31.76	31.77	2.08	0.617	1.41	3.23	0.17
09/01/98	15.0	12.4	31.38	31.79	1.95	0.644	0.86	3.20	0.19
09/08/98	13.0	12.5	31.75	31.78	4.22	0.739	3.20	4.02	0.31
09/15/98	12.5	11.8	31.91	31.94	5.67	0.931	4.49	4.92	0.29
09/22/98	12.0	11.5	32.03	32.08	7.29	0.953	5.87	3.41	0.31
09/29/98	12.0	11.4	31.76	32.03	8.41	1.036	6.26	5.09	0.36
10/13/98	10.2	10.1	31.98	32.07	8.04	1.003	7.25	4.84	0.32
10/26/98	9.5	9.4	32.12	32.21	7.87	0.981	6.97	5.60	0.33
11/10/98	8.5	8.4	32.28	32.29	7.73	0.930	7.83	3.73	0.29
12/08/98	6.8	6.7	32.13	32.14	8.86	1.096	9.53	4.10	0.26
Station 15									
01/20/97	2.5	3.1	31.49	31.53					
02/24/97	2.0	2.0	31.28	31.39					
03/19/97	1.7	2.6	31.59	31.69					
04/22/97	3.5	3.3	30.57	30.86					
05/13/97	6.8	4.2	30.11	31.14					
05/20/97	6.1	4.4	27.10	30.99					
06/03/97	7.9	5.3	29.15	30.89					
06/10/97	9.0	5.8	29.62	30.75					
06/17/97	8.5	6.2	30.83	31.15					
06/23/97	10.0	7.1	30.93	31.26	0.44	0.419	0.23	3.74	0.12
07/09/97	10.8	8.9	31.11	31.26					
07/14/97	12.6	9.4	30.73	31.28	2.53	0.641	1.86	3.05	0.18
07/21/97	11.7	9.6	31.26	31.38	3.59	0.693	2.95		0.22
07/28/97	12.1				3.67	0.655	1.32	3.32	0.16
08/05/97	12.2				4.11	0.485	2.35	4.33	0.20
08/10/97	13.0	10.8	31.49	31.75	4.10		0.91	2.42	0.16
08/19/97	13.0	11.8	31.57	31.78	4.35	0.617	1.32	2.92	0.16
08/26/97	12.7	11.4	31.96	32.00	6.51	0.858	4.71	3.81	0.34
09/03/97	14.1				0.74	0.476	0.17	4.58	0.09
09/15/97	13.9	13.1	31.71	31.87	3.75	0.603	2.80	6.04	0.37
10/01/97	12.0	11.7	32.32	32.32	5.53	0.897	4.62	3.03	0.51
10/14/97	11.3				6.95	0.844	5.60	6.38	0.49
11/12/97	9.6	9.7	32.38	31.04	6.49	0.867	7.18	3.32	0.32
12/09/97	5.6	5.4	31.95	32.23	7.89	0.916	7.74	5.66	0.23
01/20/98	3.7	3.0	31.73	31.85	7.25	0.875	7.35	2.94	0.18
02/10/98	2.5	2.2	31.52	31.53	7.92	0.838	7.27	5.20	0.13
03/26/98	2.3	3.0	29.20	31.28	11.46	0.770	8.03	4.15	0.16
04/21/98	5.0	4.5	30.20	30.38	9.72	0.826	7.68	2.02	0.20

Date mm/dd/yy	Temp. Surface	Temp. Bottom	Salinity Surface	Salinity Bottom	Silicate Surface	Phosphate Surface	Nitrates Surface	Ammonia Surface	Nitrite Surface
Station 15									
05/12/98	7.2				8.69	0.671	6.12		0.24
05/19/98	9.5	5.5	29.57	30.84	1.76	0.523	0.61	4.89	0.14
05/26/98	7.8	5.9	30.89	31.12	1.36	0.453	1.22	2.87	0.15
06/02/98	8.5	6.9	31.11	31.13	0.69	0.418	0.24	2.48	0.13
06/09/98	8.5	7.8	30.85	31.14	1.89	0.565	2.87	3.64	0.18
06/16/98	9.3	8.7	30.75	30.79	2.05	0.498	2.39	3.18	0.06
06/23/98	10.5	8.9	30.89	31.02	2.95	0.688	2.58	4.17	0.18
06/29/98	10.8	8.1	31.23	31.30	3.67	0.639	3.68	4.07	0.23
07/07/98	13.0	9.3	31.09	31.42	2.75	0.441	1.66	1.71	0.11
07/14/98	13.0	10.5	31.10	31.18	3.04	0.522	2.57	2.62	0.17
07/21/98	12.5	10.5	31.37	31.42	3.32	0.521	2.77	3.01	0.21
07/28/98	12.8	9.9	31.47	31.72	3.32	0.576	2.32	3.80	0.23
08/04/98	13.5	10.6	31.51	31.70	0.86	0.434	0.15	3.35	0.11
08/11/98	14.0	10.8	31.47	31.62	0.92	0.504	0.24	2.86	0.08
08/18/98	13.5	11.3	31.61	31.72	1.36	0.405	0.25	5.81	0.21
08/25/98	14.2	11.5	31.72	31.79	1.20	0.467	0.15	2.92	0.11
09/01/98	14.8	11.8	31.96	32.22	2.30	0.447	0.42	2.65	0.15
09/08/98	13.0	12.0	31.69	31.87	4.06	0.761	3.08	4.14	0.29
09/15/98	12.5	11.4	31.94	32.00	5.98	0.971	4.94	3.65	0.32
09/22/98	12.8	11.6	31.97	32.05	6.95	0.920	4.27	4.01	0.25
09/29/98	12.3	11.2	31.76	32.11	8.81	0.866	5.26	4.86	0.30
10/13/98	10.0	10.0	32.00	32.10	8.22	0.835	7.17	3.45	0.32
10/26/98	9.5	9.2	32.34	32.34	8.25	0.951	8.05	4.33	0.36
11/10/98	8.2	7.9	32.34	32.33	7.65	0.891	7.26	2.75	0.28
12/08/98	6.8	6.2	32.23	32.20	9.09	1.102	9.17	3.77	0.24
Station 17									
01/20/97	1.0	3.0	30.10	30.70					
02/24/97	0.8	1.5	29.72	30.16					
03/19/97	0.4	1.5	29.80	30.67					
04/22/97	3.9	3.7	29.41	30.66					
05/13/97	5.6	5.5	28.63	28.79					
05/20/97	6.9	5.5	23.85	29.32					
06/03/97	8.6	6.5	28.38	29.94					
06/10/97	9.3	8.6	28.52	28.85					
06/17/97	9.0	8.2	29.98	30.31					
06/23/97	9.9	9.6	30.05	30.11	1.99	0.452	1.68		0.18
07/09/97	12.8	11.1	29.23	30.58					
07/14/97	13.9	10.1	30.68	31.16	3.33	0.559	0.86	4.55	0.12
07/21/97	12.5	11.7	29.71	30.23	5.52	0.659	1.10		0.17
07/28/97	12.8	11.4	30.60	31.26	6.02	0.746	2.15	3.78	0.20
08/05/97	13.0	12.6	30.93	30.85	6.90	0.795	3.23		0.28

Date mm/dd/yy	Temp. Surface	Temp. Bottom	Salinity Surface	Salinity Bottom	Silicate Surface	Phosphate Surface	Nitrates Surface	Ammonia Surface	Nitrite Surface
Station 17									
08/10/97	15.5	12.0	30.78	31.43	7.45	0.524	3.70	5.76	0.37
08/19/97	13.8	13.3	30.58	30.72	5.85	0.819	3.09	4.06	0.29
08/26/97	13.2	12.1	30.99	31.83	6.34	0.777	3.55	4.71	0.24
09/03/97	14.0				7.81	0.809	4.25	3.42	0.34
09/15/97	13.8	13.0	30.90	31.63	8.03	0.883	4.39		0.39
10/01/97	12.5	12.3	29.94	31.29	8.59	0.956	5.90	5.78	0.58
10/14/97	11.3				8.12	0.954	6.81		0.71
11/12/97	9.0	9.2	31.70	31.71	8.67	1.020	7.42		0.49
12/09/97	5.3	5.6	31.60	31.79	8.13	0.979	8.05	5.01	0.26
01/20/98	3.3	2.4	30.96	31.53	9.62	0.948	7.91	3.84	0.17
02/10/98	1.0	1.4	29.91	30.46	11.94	0.791	7.17	4.00	0.15
03/26/98	2.0	2.2	28.09	29.18	14.60	0.705	6.48	3.06	0.14
04/21/98	5.2	4.8	27.37	29.58	13.43	0.725	6.36	3.66	0.22
05/12/98	8.0	6.3	28.63	29.58	10.54	0.689	6.42	5.29	0.24
05/19/98	8.3	6.8	28.57	29.85	6.97	0.673	4.95		0.26
05/26/98	9.0	7.6	29.13	29.98	3.50	0.604	3.49	5.44	0.19
06/02/98	9.2	7.7	29.37	30.54	1.35	0.497	0.94	3.76	0.14
06/09/98	9.1	8.4	29.78	30.31	1.87	0.535	1.66	3.53	0.20
06/16/98	10.5	9.8	30.60	30.41	2.21	0.523	1.71	3.68	0.06
06/23/98	11.0	9.7	29.22	30.56	4.71	0.660	2.97	4.95	0.22
06/29/98	11.5	10.4	29.52	29.97	6.00	0.655	3.79	4.29	0.26
07/07/98	12.1	11.4	30.43	30.58	5.89	0.719	4.06	5.61	0.32
07/14/98	11.9	10.9	29.70	30.38	3.75	0.591	3.03	3.26	0.18
07/21/98	13.0	11.6	30.23	30.87	2.21	0.544	1.46	3.63	0.17
07/28/98	13.0	12.2	30.66	30.88	1.76	0.417	0.64	2.77	0.08
08/04/98	13.2	11.8	28.95	31.22	1.72	0.632	0.76	4.42	0.16
08/11/98	13.6	13.3	31.01	31.03	0.99	0.760	0.91	4.80	0.09
08/18/98	13.8	12.6	30.93	31.40	0.69	0.690	0.97	3.33	0.04
08/25/98	14.0	13.5	30.71	30.89	1.90	0.902	1.00	3.89	0.15
09/01/98	13.3	12.2	31.24	31.72	4.09	0.799	2.39	4.10	0.25
09/08/98	13.8	13.4	30.94	31.10	5.08	0.776	2.95	4.10	0.29
09/15/98	13.0	12.7	29.96	31.34	6.26	1.005	4.01		0.32
09/22/98	13.1	12.7	31.09	31.20	6.44	0.915	4.47	3.86	0.30
09/29/98	12.2	11.5	30.69	31.94	7.33	1.044	5.46	4.52	0.31
10/13/98	10.5	10.3	30.93	31.92	6.08	0.809	4.80	4.65	0.30
10/26/98	9.7	9.4	30.85	30.90	6.87	0.811	4.59	5.44	0.29
11/10/98	8.2	8.1	31.10	31.19	9.09	1.018	6.86	6.26	0.34
12/08/98	5.7	5.9	30.10	30.19	11.27	1.053	9.41	4.11	0.31

Date	Depth	Temp.	Salinity	Silicate	Phosphate	Nitrates	Ammonia	Nitrite
Station 16								
01/20/97	0 m	3.2	31.56					
01/20/97	10 m	3.9	31.56					
01/20/97	25 m	4.0	31.57					
01/20/97	50 m	4.7	31.82					
02/24/97	0 m	1.9	31.46					
02/24/97	10 m	2.5	31.46					
02/24/97	25 m	3.0	31.64					
02/24/97	50 m	3.8	31.93					
03/19/97	0 m	2.1	31.66					
03/19/97	10 m	2.4	31.67					
03/19/97	25 m	2.5	31.75					
03/19/97	50 m	3.1	31.95					
04/22/97	0 m	3.2	31.06					
04/22/97	10 m	3.5	31.16					
04/22/97	25 m	3.3	31.64					
04/22/97	50 m	3.6	31.98					
05/13/97	0 m	5.0	30.98					
05/13/97	10 m	4.4	31.09					
05/13/97	25 m	4.0	31.55					
05/13/97	50 m	4.0	31.70					
05/20/97	0 m	7.2	28.68					
05/20/97	10 m	4.9	30.64					
05/20/97	25 m	4.3	31.22					
05/20/97	50 m	4.0	31.70					
06/03/97	0 m	7.5	30.05					
06/03/97	10 m	6.6	30.37					
06/03/97	25 m	5.0	31.05					
06/03/97	50 m	4.7	31.69					
06/10/97	0 m	7.8	30.25					
06/10/97	10 m	6.5	30.70					
06/10/97	25 m	6.4	30.76					
06/10/97	50 m	5.6	31.34					
06/17/97	0 m	8.5	30.57					
06/17/97	10 m	6.7	30.92					
06/17/97	25 m	6.0	31.47					
06/17/97	50 m	5.7	32.00					
06/23/97	0 m	9.2	31.12	0.51	0.508	0.53	5.35	0.15
06/23/97	10 m	7.7	31.11	0.63	0.456	0.98	2.77	0.16
06/23/97	25 m	6.4	31.58	2.70	0.602	4.40	2.84	0.25
06/23/97	50 m	6.3	31.73	3.08	0.708	4.63	4.21	0.21
07/09/97	0 m	10.0	31.26					
07/09/97	10 m	9.0	31.32					

Date	Depth	Temp.	Salinity	Silicate	Phosphate	Nitrates	Ammonia	Nitrite
Station 16								
07/09/97	25 m	8.2	31.37					
07/09/97	50 m	7.4	31.77					
07/14/97	0 m	11.9	31.23	2.31	0.570	2.01	4.36	0.19
07/14/97	10 m	9.4	31.32	2.48	0.705	2.60	1.96	0.17
07/14/97	25 m	8.3	31.52	3.64	0.766	4.23	2.95	0.21
07/14/97	50 m	7.5	31.98	5.00	0.862	5.35	4.37	0.21
07/21/97	0 m	11.4	31.37	3.85	0.716	3.05	5.87	0.20
07/21/97	10 m	9.9	31.43	3.90	0.711	3.25	2.71	0.21
07/21/97	25 m	9.7	31.50	4.15	0.646	3.73	5.92	0.21
07/21/97	50 m	8.2	31.92	5.22	0.783	5.63	2.27	0.22
08/05/97	0 m	12.5	31.16	3.10	0.633	1.27	5.25	0.15
08/05/97	10 m	11.2	31.60	3.63	0.559	2.47	3.75	0.19
08/05/97	25 m	10.7	31.67	4.20	0.577	3.03	3.07	0.19
08/05/97	50 m	9.2	32.12	6.10	0.780	5.76	2.16	0.19
08/10/97	0 m	13.0	31.81	4.55	0.507	2.31	4.52	0.21
08/10/97	10 m	11.5	31.67	5.26	0.555	2.72	1.99	0.20
08/10/97	25 m	10.3	31.87	5.54	0.711	4.68	2.22	0.25
08/10/97	50 m	9.1	32.27	7.63	0.812	6.81	2.61	0.20
08/19/97	0 m	13.1	31.64	3.91	0.545	1.09	2.64	0.16
08/19/97	10 m	11.7	31.74	4.93	0.656	2.95	2.27	0.21
08/19/97	25 m	10.7	32.07	6.51	0.731	4.55		0.20
08/19/97	50 m	9.4	32.46	7.41	0.892	7.49	2.08	0.18
08/26/97	0 m	13.0	32.00	6.89	0.590	3.16	6.44	0.21
08/26/97	10 m	11.7	32.04	6.85	0.738	4.01	2.17	0.23
08/26/97	25 m	10.8	32.13	6.76	0.796	5.77	2.72	0.26
08/26/97	50 m	10.0	32.36	9.09	0.906	7.10	2.23	0.28
09/03/97	0 m	13.3		1.88	0.507	0.62	7.63	0.13
09/03/97	10 m			3.83	0.569	2.37		0.21
09/03/97	25 m			4.61	0.635	3.24		0.30
09/03/97	50 m			7.17	0.827	6.70	5.67	0.32
09/15/97	0 m	13.5	31.81	4.09	0.698	3.15	3.60	0.39
09/15/97	10 m	12.6	31.92	4.11	0.655	3.36	4.47	0.41
09/15/97	25 m	12.0	32.14	3.97	0.632	3.58	2.43	0.32
09/15/97	50 m	10.4	32.60	7.07	0.853	7.49	4.98	0.25
10/01/97	0 m	11.8	32.34	5.62	0.821	5.31	3.63	0.49
10/01/97	10 m	11.6	32.35	5.54	0.729	5.32	4.77	0.43
10/01/97	25 m	11.2	32.43	6.20	0.780	6.36	3.30	0.35
10/01/97	50 m	10.9	32.54	7.51	0.887	7.70	4.62	0.27
10/14/97	0 m	11.1		5.97	0.785	5.71	3.62	0.27
10/14/97	10 m			5.78	0.732	5.62	4.47	0.23
10/14/97	25 m			10.54	0.810	7.19	1.86	0.24
10/14/97	50 m			7.73	0.814	8.36		0.20

Date	Depth	Temp.	Salinity	Silicate	Phosphate	Nitrates	Ammonia	Nitrite
Station 16								
11/12/97	0 m	9.8	32.46	6.40	0.914	7.24	3.39	0.31
11/12/97	10 m	9.8	32.46	6.39	0.823	7.29	3.85	0.30
11/12/97	25 m	10.0	32.55	7.25	0.864	7.84	4.61	0.32
11/12/97	50 m	10.0	32.58	6.82	0.859	7.88		0.31
12/09/97	0 m	6.8	31.56	7.39	0.934	8.00	1.97	0.19
12/09/97	10 m	6.9	32.36	6.98	0.863	7.56	3.39	0.19
12/09/97	25 m	6.9	32.36	7.20	0.890	7.83	4.19	0.19
12/09/97	50 m	6.9	32.36	7.31	0.920	8.00	2.33	0.19
02/10/98	0 m	2.8	31.56	7.62	0.829	7.30		0.15
02/10/98	10 m	2.7	31.63	7.66	0.847	7.31	2.14	0.13
02/10/98	25 m	2.8	31.65	7.59	0.844	7.45	1.87	0.14
02/10/98	50 m	2.9	31.67	7.53	0.832	7.32	1.77	0.13
03/26/98	0 m	2.5	29.77	10.39	0.786	7.51	2.69	0.16
03/26/98	10 m	2.7	30.90	8.50	0.818	7.39	1.77	0.15
03/26/98	25 m	2.9	31.22	6.39	0.700	5.93	5.40	0.14
03/26/98	50 m	3.1	31.41	6.24	0.791	5.68	3.38	0.13
04/21/98	0 m	4.8	29.82	10.75	0.824	8.16	5.14	0.19
04/21/98	10 m	4.3	30.78	8.70	0.800	7.65	1.68	0.19
04/21/98	25 m	4.1	31.24	7.05	0.769	6.45	2.46	0.17
04/21/98	50 m	4.0	31.46	6.34	0.769	5.96	4.64	0.16
05/12/98	0 m	6.8		8.34	0.716	6.44	5.36	0.24
05/12/98	10 m			8.08	0.633	6.21	2.70	0.22
05/12/98	25 m			9.01	0.739	7.46	2.53	0.22
05/12/98	50 m			6.86	0.863	8.08	3.64	0.24
05/19/98	0 m	8.5	29.39	1.51	0.388	0.10	5.65	0.14
05/19/98	10 m	6.6	30.31	3.43	0.573	3.43	2.59	0.20
05/19/98	25 m	5.6	30.98	5.98	0.772	6.83	6.48	0.25
05/19/98	50 m	5.1	31.51	6.45	0.882	7.72	4.95	0.30
05/26/98	0 m	7.1	30.97	2.12	0.580	2.86	5.56	0.18
05/26/98	10 m	6.3	31.03	2.81	0.605	4.13	1.93	0.19
05/26/98	25 m	5.6	31.27	4.39	0.730	5.96	2.66	0.20
05/26/98	50 m	5.2	31.61	5.38	0.772	6.97	2.80	0.23
06/02/98	0 m	8.2	31.27	0.45	0.375	0.19	6.01	0.08
06/02/98	10 m	6.7	31.17	0.73	0.460	0.76	3.90	0.12
06/02/98	25 m	6.0	31.34	2.89	0.712	5.10	1.71	0.20
06/02/98	50 m	5.4	31.59	4.44	0.804	6.40	2.79	0.22
06/09/98	0 m	8.3	31.13	1.89	0.609	3.17	4.58	0.19
06/09/98	10 m	7.3	31.19	1.64	0.566	2.71	2.69	0.20
06/09/98	25 m	6.6	31.27	2.15	0.630	3.66	2.18	0.20
06/09/98	50 m	5.8	31.53	3.31	0.737	5.67	2.41	0.24
06/16/98	0 m	8.9	30.89	1.31	0.457	1.96	4.92	0.08
06/16/98	10 m	8.3	30.91	2.08	0.528	2.87	1.84	0.08

Date	Depth	Temp.	Salinity	Silicate	Phosphate	Nitrates	Ammonia	Nitrite
Station 16								
06/16/98	25 m	8.0	31.03	2.11	0.524	3.08	1.96	0.08
06/16/98	50 m	6.7	31.50	3.03	0.574	4.13	4.15	0.15
06/23/98	0 m	9.9	30.92	2.54	0.640	2.77	4.03	0.18
06/23/98	10 m	8.6	31.04	2.52	0.538	3.08	2.95	0.18
06/23/98	25 m	7.2	31.43	3.65	0.618	4.74	3.76	0.26
06/23/98	50 m	6.5	31.70	4.27	0.707	5.72	2.68	0.25
06/29/98	0 m	9.7	31.21	3.14	0.624	4.05	3.92	0.22
06/29/98	10 m	8.7	31.25	3.16	0.654	4.27	2.67	0.26
06/29/98	25 m	8.0	31.32	3.16	0.613	4.37	2.86	0.23
06/29/98	50 m	7.1	31.60	4.19	0.694	5.36	2.86	0.27
07/07/98	0 m	11.5	31.28	2.34	0.474	2.13	2.94	0.10
07/07/98	10 m	9.5	31.32	3.91	0.687	4.95	3.06	0.25
07/07/98	25 m	9.0	31.43	3.83	0.691	5.15	2.60	0.20
07/07/98	50 m	8.1	31.67	4.61	0.727	6.06	4.54	0.22
07/14/98	0 m	10.7	31.12	2.85	0.562	3.49	2.88	0.16
07/14/98	10 m	8.1	31.46	2.59	0.501	3.38	2.02	0.15
07/14/98	25 m	7.4	31.64	3.30	0.564	4.04	1.85	0.17
07/14/98	50 m	7.0	31.88	4.76	0.692	5.64	1.74	0.20
07/21/98	0 m	10.4	31.47	3.66	0.611	4.20	2.87	0.24
07/21/98	10 m	9.8	31.53	3.62	0.589	4.20	2.26	0.24
07/21/98	25 m	9.2	31.65	4.06	0.597	5.20	2.47	0.27
07/21/98	50 m	7.8	31.99	4.77	0.629	6.43	4.37	0.24
08/04/98	0 m	13.5	31.77	0.74	0.379	0.06	2.69	0.10
08/04/98	10 m	10.8	31.62	1.61	0.441	0.40	2.47	0.13
08/04/98	25 m	10.1	31.66	3.40	0.657	4.04	2.57	0.32
08/04/98	50 m	8.6	31.98	5.00	0.809	6.35	3.39	0.33
08/11/98	0 m	12.0	31.64	0.80	0.442	0.30	4.06	0.07
08/11/98	10 m	11.2	31.61	2.29	0.536	2.45	2.19	0.16
08/11/98	25 m	10.7	31.73	2.50	0.550	2.83	2.34	0.22
08/11/98	50 m	9.6	31.89	3.90	0.779	4.38	3.00	0.22
08/18/98	0 m	12.9		0.73	0.348	0.08	5.12	0.04
08/18/98	10 m			0.88	0.344	0.03	2.34	0.03
08/18/98	25 m	10.3	31.85	3.88	0.667	4.33	2.26	0.25
08/18/98	50 m	8.7	32.27	6.59	0.782	7.88	2.12	0.23
08/25/98	0 m	12.2	31.71	1.99	0.521	0.66	2.65	0.13
08/25/98	10 m	11.2	31.77	2.11	0.498	1.11	1.68	0.14
08/25/98	25 m	10.5	31.93	3.44	0.656	3.46	2.28	0.21
08/25/98	50 m	9.9	32.07	5.37	0.797	5.90	2.00	0.24
09/01/98	0 m	13.8	31.87	3.22	0.536	2.37	2.79	0.25
09/01/98	10 m	12.1	31.85	3.17	0.543	2.79	4.80	0.27
09/01/98	25 m	11.7	31.89	3.16	0.593	3.35	2.27	0.27
09/01/98	50 m	9.9	32.21	4.74	0.695	5.29	3.69	0.24

Date	Depth	Temp.	Salinity	Silicate	Phosphate	Nitrates	Ammonia	Nitrite
Station 16								
09/08/98	0 m	12.8	31.79	3.37	0.650	2.92	2.86	0.27
09/08/98	10 m	11.5	31.94	4.74	0.803	4.31	3.04	0.31
09/08/98	25 m	10.6	32.12	5.50	0.850	6.12	3.15	0.28
09/08/98	50 m			6.98	0.944	7.70	2.61	0.25
09/15/98	0 m	12.3	31.96	5.83	0.755	5.43	3.08	0.31
09/15/98	10 m	11.4	32.03	6.01	0.814	5.88	2.63	0.31
09/15/98	25 m	10.8	32.12	6.45	0.879	6.76	3.00	0.32
09/15/98	50 m	9.5	32.43	7.86	1.009	9.24	3.00	0.26
09/22/98	0 m	12.0	32.10	6.22	0.774	4.93	3.00	0.24
09/22/98	10 m	11.5	32.05	6.46	0.763	5.60	2.34	0.26
09/22/98	25 m	10.5	32.21	7.53	0.847	7.79	2.46	0.25
09/22/98	50 m	9.6	32.43	8.28	0.933	8.78	2.12	0.20
09/29/98	0 m	11.8	32.08	7.00	0.902	6.47	3.49	0.25
09/29/98	10 m	11.1	32.12	7.00	0.902	6.47	3.49	0.25
09/29/98	25 m	10.5	32.25	7.39	0.877	7.45	3.38	0.24
09/29/98	50 m	10.1	32.37	8.12	0.885	8.28	4.83	0.21
10/13/98	0 m	10.1	32.20	6.94	0.766	7.33	2.33	0.28
10/13/98	10 m	10.1	32.20	7.08	0.773	7.37	2.15	0.29
10/13/98	25 m	10.1	32.21	7.08	0.828	7.27	1.80	0.28
10/13/98	50 m	9.8	32.35	8.05	0.819	8.11	1.96	0.27
10/26/98	0 m	9.7	32.31	6.98	0.859	7.50	2.59	0.25
10/26/98	10 m	9.4	32.40	7.15	0.801	7.76	4.05	0.23
10/26/98	25 m	9.3	32.48	7.24	0.802	7.96	4.25	0.35
10/26/98	50 m	9.2	32.57	8.83	1.000	9.63	2.04	0.26
11/10/98	0 m	8.8	31.99	7.61	0.991	8.63	3.46	0.26
11/10/98	10 m	8.8	32.46	7.52	0.959	8.48	1.92	0.24
11/10/98	25 m	8.8	32.45	7.26	0.828	8.47	1.18	0.23
11/10/98	50 m	8.8	32.46	7.50	0.874	8.74	2.20	0.24
12/08/98	0 m	7.0	32.32	8.05	1.030	9.37	4.19	0.30
12/08/98	10 m	7.1	32.32	8.58	1.012	9.65	2.60	0.22
12/08/98	25 m	7.1	32.32	7.40	0.955	8.77	4.05	0.21
12/08/98	50 m	7.2	32.35	8.51	1.095	9.87	2.90	0.21