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Final Data Report: Sodus Bay Limnology, Lake Chemistry, Phytoplankton and Zooplankton Abundance and Nutrient and Soil Losses from the Watershed, 2004

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Sodus Bay Limnology, Lake Chemistry, Phytoplankton and Zooplankton Abundance and Nutrient and Soil Losses from the Watershed, 2004

Prepared for Princeton Hydro

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Introduction

During the spring, summer and fall of 2004, limnological and sub-watershed data were collected from Sodus Bay. In general, monitoring and analysis were designed to meet the following objectives: document current lake, sediment and nutrient conditions; document stream loading to the lake; characterize the bay's community of phytoplankton and zooplankton to provide a benchmark against which the effectiveness of future management actions can be measured. This program will assist in developing a watershed enhancement plan and provide data for a simulation to determine the need for and likely success of adding alum to decrease phosphorus loss from the anoxic hypolimnion. Specific objectives of the sampling program are outlined below.

Reports

This report is not an interpretive report. It is a data report. That is, data summaries are provided that tabulate all the results. In this report, information on bay chemistry, phytoplankton and nutrient and soil loss estimates from selected watersheds. The final report will contain zooplankton abundance.

Sampling and Analytical Methods

Limnological and watershed sampling and analysis was performed on five dates from May to September 2004 in the Sodus Bay watershed. Limnological samples were taken from a research vessel at seven sites throughout Sodus Bay. Field measurements of temperature (SBE 3F sensor), conductivity (SBE 4C sensor), dissolved oxygen (YSI), chlorophyll *a* (WetLabs – WetStar sensor), photosynthetically active radiation (LiCor Li-193SA), turbidity (OBS-3, D&A Instruments), light transmission (WetLabs C-star, 25 cm path length), and pH (SBE 18) were done with a pre-calibrated Sea-Bird CTD (Model 25 SBE) sonde. A secchi disk transparency measurement was also done in the field. Water samples were collected from the two deepest stations (Sites 5 and 9) from three depths (1 m, 5m and 8m at Site 9 and 1 m, 5m 11m at Site 5)

using a horizontal Van Dorn bottle and analyzed for total phosphorus, soluble reactive phosphorus, nitrate, total Kjeldahl nitrogen, total suspended solids, ammonia, hardness, and alkalinity on each sampling date. Detailed analytical methodologies are presented below. A phytoplankton sample was integrated from three depths within the photic zone (2X secchi disk depth) and preserved with 3% gluteraldehyde. A vertical zooplankton tow through the photic zone surface was done with a ½ meter diameter plankton net with 63µm mesh equipped with a General Oceanics flowmeter to correct for the exact volume filtered. Samples were preserved with 10% formalin.

Six subwatersheds (First, Second, Third, Sodus West, Sodus East and Clark creeks) were sampled on five dates from May to September 2004. A point discharge estimate was derived from velocity readings taken with a Teledyne Gurley-pygmy meter combined with a cross-sectional area using the bridge or culvert at the sampling location (Rantz *et al*. 1982). Field measurements of temperature, dissolved oxygen and conductivity were taken with a pre-calibrated Hydrolab sonde. A water sample was taken and analyzed for total phosphorus, total Kjeldahl nitrogen, total suspended solids and nitrate.

All sampling bottles were pre-coded so as to ensure exact identification of the particular sample. All sample bottles were routinely cleaned with phosphate free RBS between sampling dates. Containers were rinsed prior to sample collection with the water being collected. In general, all procedures followed Standard Methods for the Analysis of Water and Wastewater. Sample water for dissolved nutrient analyses (SRP, nitrate + nitrite) was filtered immediately with 0.45-µm MCI Magna Nylon 66 membrane and either frozen or analyzed within 24 hours of collection.

Nitrate+Nitrite: Dissolved nitrate+nitrite nitrogen were performed by the automated (Technicon autoanalyser) cadmium reduction method (APHA 1999).

Soluble Reactive Phosphorus: Sample water was filtered through a 0.45-µm membrane filter. The filtrate was analyzed for orthophosphate using the automated (Technicon) colorimetric ascorbic acid method (APHA 1999). The formation of the phosphomolybdeum blue complex was read colorimetrically at 880nm.

Total Phosphorus: The persulfate digestion procedure was used prior to analysis by the automated (Technicon autoanalyser) colorimetric ascorbic acid method (APHA 1999).

Ammonia: Ammonia was measured using the ion selective probe method 4500-NH3 D (APHA 1999).

Total Kjeldahl nitrogen: Total Kjeldahl nitrogen was measured using method EPA 351.2 (EPA 1987).

Hardness: Hardness was done using method 2340 B (APHA 1999).

Alkalinity: Alkalinity was measured using method 2320 B (APHA 1999).

Total suspended solids: Total suspended solids were measured using method 2540 D (APHA 1999).

Phytoplankton: Phytoplankton were identified and enumerated following the settling chamber procedure (Utermohl 1958) using an inverted microscope. A second identification and enumeration of diatoms was performed after the organic portion was oxidized with 30% hydrogen peroxide and nitric acid. The cell volume of each species was calculated by applying average dimensions for each sampling date to the geometric shape that most closely resembled the species form (Makarewicz *et al*. 1999). At least ten specimens of each species for each sample was measured for the cell volume calculation. When fewer that ten specimens were present, those present were measured as they occurred. Individual cells of colonial and filamentous forms were measured. For comparative purposes, biovolume (μm^3/mL) was converted to biomass (mg/m^3) assuming the specific gravity of phytoplankton to be 1.0 (mm^3/L = mg/m^3) (Willen 1959, Nauwerk 1963).

Zooplankton: A one mL sub-sample was withdrawn using a Hensen-Stemple pipette from a well-mixed sample and transferred to a Sedgwick-Rafter counting cell. All zooplankton were identified and the number of individuals and eggs per species enumerated using a phase contrast microscope at 100X, species identification of Copepods and Daphnia were confirmed at 200X or 400X. Length measurements were made on the first twenty individuals of each species encountered per sample. Zooplankton taxonomy largely followed Balcer et al. (1984); other keys consulted included Edmondson (1959), Ruttner-Kolisko (1974) and Brooks (1957).

The volume of each rotifer species was computed using the geometrical shape that most closely resembled the species (Downing and Rigler 1984). Assuming a specific gravity of one, volume was converted to fresh weight and to dry weight assuming a ratio of dry to wet weight of 0.1 (Doohan 1973) for all rotifer species except Asplanchna spp. A dry weight / wet weight ratio of 0.039 was used for Asplanchna spp. (Dumont et al. 1975). The dry weight of Crustacea were calculated using the length – weight relationships found in Downing and Rigler (1984).

Quality Control

The Water Chemistry Laboratory at SUNY Brockport is certified through the New York State Department of Health's Environmental Laboratory Approval Program (ELAP - # 11439). This program includes bi-annual proficiency audits, annual inspections and good laboratory practices documentation of all samples, reagents and equipment (Table 1).

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Results

Tables and figures are also provided as Excel files on the attached compact disk.

Table 1. Results of proficiency audit samples of the Water Quality Laboratory at SUNY Brockport

WADSWORTH CENTER
NEW YORK STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL LABORATORY APPROVAL PROGRAM
Proficiency Test Report

Lab 11439 SUNY BROCKPORT EPA Lab Code NY01449
WATER LAB LENNON HALL
BROCKPORT, NY 14420
USA

Shipment 275 Non Potable Water Chemistry
Shipment Date: 19-Jul-2004

Analyte	Sample ID	Result	Mean/Target	Warning Limits	Method	Score
Sample: **Water Residue**						
Solids, Total Suspended 260 passed out of 268 reported results. EPA Code: 0072	7502	82.9	89.0	73.6-91.6	SM 18-20 2540D	Satisfactory
Sample: **Organic Nutrients**						
Kjeldahl Nitrogen, Total 89 passed out of 98 reported results. EPA Code: 0034	7504	30.41	30.5	25.0-35.0	EPA 351.3	Satisfactory
Phosphorus, Total 115 passed out of 123 reported results. EPA Code: 0035	7504	4.37	4.38	3.63-4.84	SM18-20 4500-P E	Satisfactory
Sample: **Inorganic Nutrients**						
Nitrate (as N) 113 passed out of 121 reported results. EPA Code: 0032	7507	36.1	35.4	30.4-39.7	SM18-20 4500-NO3 F	Satisfactory
Orthophosphate (as P) 97 passed out of 101 reported results. EPA Code: 0033	7507	2.49	2.57	2.32-2.84	SM18-20 4500-P F	Satisfactory
Sample: **Minerals II**						
Sodium, Total 88 passed out of 102 reported results. EPA Code: NA	7537	67.32	63.9	59.7-68.1	SM 18-20 2450D	Satisfactory

Table 2. Water chemistry parameters from Sites 5 and 9 on Sodus Bay, May through September 2004. TP = total phosphorus, TSS = total suspended solids, TKN = total Kjeldahl nitrogen, SRP = soluble reactive phosphorus, nd = non -detectable.

Site		Date Collected	TP (µg P/L)	Nitrate (mg N/L)	TSS (mg/L)	TKN (µg N/L)	SRP (µg P/L)	Alkalinity (mg/L)	Ammonia (mg N/L)	Hardness (mg $CaCO_3$/L)
Sodus Bay Site 5	1m	05/05/04	17.6	0.21	2.3	460	8.4	111.0	0.3	146.6
Sodus Bay Site 5	5m	05/05/04	12.1	0.26	1.0	450	5.8	111.0	0.3	153.4
Sodus Bay Site 5	11m	05/05/04	11.3	0.27	2.5	420	3.3	113.0	0.3	145.9
Sodus Bay Site 5	1m	06/16/04	12.3	0.22	1.0	230	6.7	124.0	0.1	140.8
Sodus Bay Site 5	5m	06/16/04	14.2	0.13	1.3	420	2.7	124.4	0.1	137.1
Sodus Bay Site 5	11m	06/16/04	148.7	0.24	194.0	2980	3.0	120.9	0.1	140.3
Sodus Bay Site 5	1m	07/21/04	14.1	nd	0.7	260	1.5	115.5	NA	140.0
Sodus Bay Site 5	5m	07/21/04	25.2	nd	0.4	430	<1.2	116.2	NA	139.5
Sodus Bay Site 5	11m	07/21/04	30.1	0.14	4.8	320	1.9	120.7	NA	140.7
Sodus Bay Site 5	1m	08/25/04	16.0	nd	2.5	370	3.7	113.0	0.5	124.9
Sodus Bay Site 5	5m	08/25/04	19.9	<0.02	2.8	440	12.5	113.3	0.5	122.1
Sodus Bay Site 5	11m	08/25/04	242.0	nd	2.0	320	199.7	104.1	0.5	116.4
Sodus Bay Site 5	1m	09/15/04	24.9	nd	1.9	330	1.4	108.5	0.1	116.8
Sodus Bay Site 5	5m	09/15/04	24.1	nd	1.8	310	1.4	109.0	0.2	118.6
Sodus Bay Site 5	11m	09/15/04	39.7	0.21	1.6	250	22.4	109.9	0.2	119.7

Site		Date Collected	TP (µg P/L)	Nitrate (mg N/L)	TSS (mg/L)	TKN (µg N/L)	SRP (µg P/L)	Alkalinity (mg/L)	Ammonia (mg N/L)	Hardness (mg $CaCO_3$/L)
Sodus Bay Site 9	1m	05/05/04	27.0	0.21	2.4	400	4.6	111.0	0.4	145.3
Sodus Bay Site 9	5m	05/05/04	13.3	0.21	2.7	530	5.2	111.0	0.5	147.5
Sodus Bay Site 9	8m	05/05/04	14.4	0.20	3.1	450	4.3	111.0	0.4	153.1
Sodus Bay Site 9	1m	06/16/04	13.0	0.06	2.5	350	3.7	122.1	0.1	139.2
Sodus Bay Site 9	5m	06/16/04	12.3	0.10	1.3	490	4.7	123.5	0.1	142.5
Sodus Bay Site 9	8m	06/16/04	9.1	0.19	1.0	490	2.0	120.9	0.1	139.6
Sodus Bay Site 9	1m	07/21/04	17.9	0.08	1.5	440	3.1	114.8	NA	132.8
Sodus Bay Site 9	5m	07/21/04	28.4	nd	1.9	510	2.3	116.5	NA	131.9
Sodus Bay Site 9	8m	07/21/04	16.3	0.16	1.1	380	1.2	115.5	NA	134.2
Sodus Bay Site 9	1m	08/25/04	22.2	nd	2.2	340	3.3	113.2	0.5	118.9
Sodus Bay Site 9	5m	08/25/04	20.2	nd	2.7	360	1.8	111.8	0.5	124.0
Sodus Bay Site 9	8m	08/25/04	19.4	<0.02	3.3	320	3.3	113.9	0.5	121.7
Sodus Bay Site 9	1m	09/15/04	24.6	0.02	1.9	310	2.2	109.7	0.2	120.6
Sodus Bay Site 9	5m	09/15/04	25.7	nd	2.2	1890	1.7	110.4	0.2	120.0
Sodus Bay Site 9	8m	09/15/04	32.7	0.16	1.5	200	13.4	109.9	0.2	121.9

Table 3. In-situ water quality measurements for Site 1, Sodus Bay, May through September 2004. mS = micro Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Date	Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
05/05/04	0.5	11.5	0.246	8.52	3.3	10.1	62.5	276.3	0.6	2.1
06/16/04	1.4	20.0	0.285	7.94	6.9	9.6	65.9	817.5	6.4	2.5
07/21/04	0.4	23.7	0.291	7.96	1.7	7.9	69.3	185.2	0.3	2.2 - (Bottom)
08/25/04	0.7	20.9	0.281	7.58	2.2	7.7	66.5	951.5	0.4	2.1
09/15/04	0.5	21.5	0.279	7.74	2.5	7.9	66.9	1424.8	0.3	2.2 - (Bottom)

Table 4. In-situ water quality measurements for Site 2, Sodus Bay, 05 May 2004. mS = mili Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.4	11.4	0.254	8.44	5.6	8.7	58.4	482.8	0.8	2.0
1.1	11.3	0.254	8.43	6.0	8.7	58.0	372.1	0.7	
1.7	11.3	0.254	8.44	6.1	8.8	58.4	239.9	0.8	
2.3	11.3	0.254	8.44	5.3	8.9	58.1	195.5	0.8	
2.8	11.3	0.254	8.44	2.0	8.9	57.2	138.4	0.8	
3.3	11.3	0.254	8.45	6.3	9.0	56.3	102.8	0.9	
4.0	11.3	0.254	8.46	5.4	9.1	55.1	72.4	1.1	
4.6	11.3	0.254	8.46	5.8	9.2	52.8	50.9	1.5	
5.2	11.3	0.254	8.47	6.0	9.4	56.3	36.4	0.9	
5.6	11.3	0.254	8.48	6.4	9.5	57.0	29.2	0.9	
5.9	11.3	0.254	8.48	6.5	9.6	57.2	25.0	0.8	

Table 4. In-situ water quality measurements for Site 2, Sodus Bay, 16 June 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.4	20.4	0.289	7.86	5.9	9.6	68.7	895.1	1.2	4.0
0.8	20.4	0.289	7.85	6.3	9.5	68.2	448.2	0.3	
1.1	20.0	0.288	7.83	6.6	9.6	68.2	466.9	0.3	
1.5	20.1	0.287	7.81	6.4	9.0	66.0	317.1	0.3	
2.0	20.2	0.287	7.77	6.2	8.4	66.3	262.3	0.4	
2.3	20.0	0.286	7.71	5.6	8.1	65.7	219.4	0.4	
2.8	19.3	0.284	7.62	5.3	8.1	63.6	194.1	0.5	
3.2	19.2	0.284	7.52	4.6	7.9	60.7	206.8	0.5	
3.5	18.9	0.283	7.44	4.1	7.7	61.3	153.0	0.7	
4.0	18.8	0.282	7.41	4.0	7.5	61.6	130.4	0.6	
4.3	18.6	0.281	7.39	3.9	7.5	61.9	99.0	0.5	
4.8	18.5	0.281	7.37	4.3	7.5	63.0	73.8	0.5	
4.9	18.5	0.281	7.37	4.7	7.5	63.0	61.0	0.5	
5.1	18.4	0.281	7.38	5.0	7.7	62.6	53.2	0.5	

Table 4. In-situ water quality measurements for Site 2, Sodus Bay, 21 July 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.7	23.9	0.302	7.81	3.1	8.2	65.1	942.9	0.4	3.3
1.2	23.8	0.302	7.80	3.3	8.2	65.4	975.0	0.3	
1.8	23.8	0.302	7.80	3.4	8.3	66.0	529.8	0.3	
2.3	23.8	0.302	7.82	3.3	8.3	65.9	365.3	0.4	
2.9	23.7	0.301	7.84	3.4	8.4	65.6	299.9	0.4	
3.4	23.0	0.301	7.83	3.6	7.8	66.0	227.8	0.4	
3.9	22.8	0.300	7.65	3.9	7.6	65.0	172.3	0.3	
4.4	22.6	0.300	7.62	4.0	7.7	66.1	133.3	0.3	
4.9	22.4	0.300	7.51	3.4	7.1	66.7	102.8	0.3	
5.4	22.0	0.302	7.34	3.8	6.4	65.0	81.0	0.4	
5.9	21.1	0.308	7.24	4.5	4.1	62.9	61.5	0.6	
6.2	21.2	0.308	7.04	3.8	3.6	46.1	60.6	4.9	

Table 4. In-situ water quality measurements for Site 2, Sodus Bay, 25 August 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.1	21.5	0.279	7.75	3.3	7.6	62.3	1209.7	0.5	2.4
0.5	21.4	0.279	7.75	3.3	7.6	62.0	409.9	0.5	
0.9	21.5	0.279	7.75	3.6	7.6	62.1	1098.2	0.5	
1.2	21.5	0.279	7.74	3.4	7.6	62.1	682.3	0.5	
1.3	21.4	0.279	7.74	3.4	7.6	62.2	659.8	0.6	
1.4	21.5	0.279	7.74	3.5	7.6	62.1	689.9	0.5	

Table 4. In-situ water quality measurements for Site 2, Sodus Bay, 15 September 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.1	21.2	0.273	7.90	5.2	8.3	18.2	3042.7	43.6	2.3
0.3	21.2	0.273	7.89	5.3	8.3	57.7	2986.7	0.3	
0.4	21.2	0.273	7.88	5.4	8.0	57.7	809.6	1.1	
0.5	21.2	0.273	7.88	5.5	8.0	57.7	734.9	0.7	

Table 5. In-situ water quality measurements for Site 6, Sodus Bay, May through September 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Date	Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
05/05/04	1.1	11.8	0.248	8.41	50.0	9.7	66.8	125.7	0.5	2.0 - (Bottom)
06/16/04	0.8	21.8	0.284	7.96	2.6	10.9	64.7	342.7	0.6	2.0 - (Bottom)
07/21/04	1.1	24.1	0.296	7.99	5.5	8.9	64.3	247.2	0.4	3.3
08/25/04	0.5	21.7	0.278	7.85	5.7	8.4	59.3	1243.0	0.5	2.3
09/15/04	1.1	21.3	0.271	7.71	5.8	7.5	62.3	888.4	0.4	1.8

Table 6. In-situ water quality measurements for Site 10, Sodus Bay, 05 May 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.1	12.3	0.253	8.37	5.1	9.5	58.9	477.4	0.8	2.3
0.5	12.3	0.253	8.38	5.5	9.5	58.7	148.5	0.8	
0.8	12.3	0.253	8.37	5.8	9.5	58.6	136.8	0.8	
1.1	12.3	0.253	8.36	7.2	9.5	58.7	114.5	0.8	
1.5	12.3	0.253	8.37	9.3	9.5	58.7	94.7	0.8	
1.8	12.3	0.253	8.37	12.1	9.5	58.5	86.6	0.8	
2.2	12.3	0.252	8.36	12.8	9.4	58.5	69.3	0.8	
2.5	12.2	0.253	8.36	9.0	9.5	58.4	60.4	0.8	
2.8	12.2	0.253	8.36	10.2	9.5		51.1	0.8	
3.3	12.2	0.253	8.36	12.5	9.5	58.1	38.9	0.9	
3.7	12.2	0.254	8.37	13.4	9.5	58.1	31.6	0.8	
4.1	12.2	0.253	8.37	13.4	9.4	57.8	25.3	0.8	
4.6	12.2	0.253	8.37	11.8	9.3	56.8	19.0	1.0	
4.9	12.2	0.253	8.38	7.9	8.7	56.7	15.6	1.0	
5.3	12.2	0.253	8.38	10.6	8.5	56.8	13.2	0.9	
5.7	12.2	0.253	8.39	4.8	9.0	56.0	10.7	1.0	
6.1	12.2	0.253	8.39	5.0	8.6	56.1	8.4	1.1	

Table 6 (cont.). In-situ water quality measurements for Site 10, Sodus Bay, 16 June 2004. mS = milli Siemens, Chl a = chlorophyll a, µl micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.2	21.7	0.298	7.77	3.6	9.9	69.1	577.1	0.4	4.1
0.5	21.6	0.298	7.76	3.9	10.3	68.8	154.1	0.3	
1.1	21.4	0.296	7.76	4.3	9.9	68.6	136.3	0.4	
1.5	21.4	0.295	7.75	4.6	10.1	67.2	136.3	0.4	
1.7	21.0	0.292	7.72	4.8	10.0	67.7	129.9	0.4	
2.1	20.1	0.289	7.69	4.6	9.8	67.3	144.1	0.6	
2.4	21.0	0.291	7.67	5.9	8.9	68.4	221.9	0.4	
2.8	18.5	0.281	7.57	10.0	8.0	68.8	209.9	0.4	
3.1	18.1	0.275	7.42	14.9	7.9	68.6	211.4	0.4	
3.5	16.6	0.266	7.25	19.9	8.0	68.0	190.5	0.4	
3.8	16.3	0.265	7.09	20.5	7.8	68.2	163.6	0.4	
4.0	16.0	0.264	6.95	17.7	7.5	68.4	139.9	0.4	
4.4	15.7	0.261	6.93	29.0	7.2	69.2	112.8	0.4	
4.8	15.6	0.260	6.92	6.4	7.3	68.8	93.6	0.4	
5.0	15.7	0.261	6.91	3.5	7.4	67.5	90.9	0.4	
5.5	15.5	0.258	6.92	3.7	7.7	18.9	73.3	9.7	
5.6	15.4	0.260	6.93	4.2	8.0	18.2	55.8	6.0	

Table 6 (cont.). In-situ water quality measurements for Site 10, Sodus Bay, 21 July 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.3	23.1	0.307	7.71	5.0	7.9	60.9	1042.5	0.6	3.2
0.7	22.4	0.301	7.69	4.8	7.1	60.4	484.6	0.6	
1.0	22.3	0.298	7.66	4.5	6.7	60.9	657.4	0.5	
1.3	22.1	0.297	7.63	4.5	6.5	60.1	1070.0	0.5	
1.8	21.9	0.297	7.61	3.9	6.4	60.5	551.9	0.8	
2.4	21.7	0.297	7.29	3.7	6.0	58.8	374.9	0.8	
2.7	21.7	0.296	7.19	4.1	5.8	56.5	383.3	0.7	
3.0	21.6	0.296	7.10	4.6	5.7	55.8	292.2	0.8	
3.2	21.4	0.294	7.05	5.8	5.6	59.6	269.2	0.7	
3.5	21.2	0.294	7.02	6.9	5.6	59.6	234.6	1.0	
3.9	21.2	0.293	6.91	12.1	5.3	62.1	171.7	1.3	
4.0	21.3	0.294	6.99	9.5	5.4	28.6	167.3	3.6	
4.3	21.0	0.293	6.83	8.7	5.2	60.4	147.9	2.8	
4.7	20.7	0.292	6.76	10.3	4.0	65.2	118.8	0.8	
5.2	20.7	0.292	6.74	1.8	4.1	26.1	91.6	0.5	
5.9	20.6	0.292	6.70	2.1	3.9	40.4	68.3	9.2	
6.1	20.4	0.332	6.71	1.8	4.0	57.9	62.0	6.4	
6.4	19.7	0.317	6.74	1.7	4.1	51.1	55.0	6.0	
6.7	19.6	0.315	6.78	1.9	4.2	65.0	46.2	0.4	
6.8	19.7	0.312	6.74	1.8	4.4	64.7	40.1	0.4	
7.1	19.8	0.311	6.73	1.9	4.5	64.4	39.8	0.5	

Table 6 (cont.). In-situ water quality measurements for Site 10, Sodus Bay, 25 August 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.3	21.7	0.289	7.64	4.7	8.7	58.3	2218.0	0.7	2.1
0.6	21.7	0.289	7.63	5.4	8.6	58.4	978.6	0.7	
0.8	21.7	0.289	7.63	5.4	8.6	58.2	1094.2	0.8	
1.3	21.7	0.289	7.63	5.2	8.6	58.1	647.6	0.7	
1.4	21.7	0.289	7.62	5.5	8.6	56.2	679.7	0.7	
1.9	21.7	0.289	7.62	5.6	8.6	57.8	465.1	0.7	
2.0	21.7	0.289	7.61	6.0	8.6	58.3	475.6	0.7	
2.6	21.7	0.289	7.61	5.5	8.6	57.9	336.6	0.7	
3.2	21.6	0.289	7.59	5.5	8.1	58.0	223.6	0.7	
3.4	21.6	0.289	7.58	6.2	8.1	57.9	201.4	0.7	
4.2	21.4	0.289	7.55	5.8	9.1	57.2	127.5	0.7	
4.4	21.5	0.288	7.47	5.8	7.5	57.3	114.5	0.7	
5.0	21.4	0.288	7.41	6.0	5.1	54.4	73.5	0.8	
5.6	19.8	0.284	7.07	6.6	4.2	50.0	58.0	0.9	
5.8	19.8	0.284	7.05	5.8	4.1	50.6	49.6	1.1	
6.2	19.7	0.284	7.11	5.8	3.8	51.9	37.8	1.1	
6.6	19.7	0.284	7.22	5.9	3.6	53.3	27.4	1.1	

Table 6 (cont.). In-situ water quality measurements for Site 10, Sodus Bay, 15 September 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.2	21.0	0.269	7.56	9.6	7.5	46.5	2953.5	1.2	1.5
0.3	21.0	0.270	7.54	8.5	7.3	46.4	2461.5	0.9	
0.8	20.9	0.270	7.51	8.2	6.9	46.5	713.4	0.8	
1.1	20.8	0.270	7.47	8.3	6.6	46.4	396.4	0.8	
1.5	20.7	0.269	7.42	8.0	6.8	46.5	289.0	0.8	
2.0	20.6	0.269	7.37	7.0	6.9	46.8	158.8	0.9	
2.3	20.0	0.269	7.30	5.5	6.9	47.5	117.9	0.8	
2.6	20.2	0.269	7.20	4.0	6.4	48.3	80.1	0.8	
3.0	20.2	0.269	7.07	3.8	5.9	49.8	50.1	0.8	
3.5	20.3	0.268	7.06	4.2	5.2	54.1	32.7	0.7	
3.7	19.9	0.268	7.09	5.2	4.8	56.0	26.6	0.7	
3.9	19.5	0.267	7.13	6.8	4.7	53.2	21.8	0.7	
4.2	18.7	0.265	7.21	9.6	5.1	56.6	15.8	0.7	

Table 7. In-situ water quality measurements for Site 12, Sodus Bay, 05 May 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.1	12.6	0.261	8.42	14.2	9.4	51.0	697.7	1.1	1.8
0.3	12.6	0.261	8.41	13.3	9.4	51.0	226.9	1.1	
0.8	12.6	0.261	8.41	7.8	8.9	50.2	172.3	1.1	
1.0	12.6	0.261	8.41	5.5	8.0	50.5	152.4	1.2	
1.6	12.6	0.261	8.41	16.1	7.7	49.9	112.4	1.3	
2.1	12.6	0.261	8.41	6.1	8.7	46.1	81.9	2.0	
2.6	12.6	0.261	8.42	5.8	8.6	41.0	58.6	1.9	
3.2	12.6	0.261	8.43	5.2	8.3	40.7	37.8	3.6	
3.8	12.6	0.272	8.43	5.8	8.1	36.7	25.2	6.9	
3.9	12.6	0.279	8.43	5.9	8.1	20.0	22.7	13.9	
4.4	12.1	0.279	8.43	7.6	8.7	49.2	17.2	1.2	
4.7	12.1	0.279	8.44	7.6	8.8	48.2	13.0	1.3	

Table 7 (cont.). In-situ water quality measurements for Site 12, Sodus Bay, 16 June 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.6	21.5	0.297	7.78	4.7	10.6	68.3	208.3	0.5	4.2
0.8	21.3	0.296	7.77	4.5	10.2	69.6	166.6	0.3	
1.3	21.1	0.294	7.76	5.5	9.7	69.2	168.5	0.6	
1.7	20.1	0.290	7.74	5.8	9.6	69.4	179.5	0.3	
2.1	19.9	0.288	7.66	8.2	8.7	69.6	259.4	0.5	
2.7	19.4	0.287	7.45	14.7	7.6	69.6	168.5	0.3	
3.2	17.2	0.274	7.16	21.4	8.5	68.8	147.4	0.4	
3.6	17.0	0.273	7.10	14.2	8.6	68.9	128.4	0.4	
3.8	17.1	0.272	7.09	9.8	7.7	67.2	112.4	0.6	
4.3	17.8	0.275	7.11	12.9	6.3	65.7	83.4	0.7	
4.5	17.2	0.272	7.12	2.3	7.0	70.7	75.2	0.6	
4.7	17.3	0.273	7.15	2.4	6.9	72.0	70.1	0.4	
4.8	17.0	0.314	7.15	2.5	7.4	70.2	70.6	0.4	
5.1	16.0	0.309	7.07	2.9	7.7	70.7	59.9	0.4	
5.3	16.0	0.304	7.07	2.6	7.5	70.8	56.9	0.4	
5.4	15.9	0.263	7.10	2.7	7.3	72.1	60.6	0.4	

Table 7 (cont.). In-situ water quality measurements for Site 12, Sodus Bay, 21 July 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.3	23.6	0.317	7.61	12.3	6.4	59.6	2691.3	1.6	3.4
0.5	23.2	0.315	7.59	7.5	5.8	60.1	689.9	0.5	
0.9	22.8	0.316	7.51	13.8	3.7	55.3	508.6	0.7	
1.3	22.7	0.312	7.13	3.3	2.7	57.7	562.3	0.5	
1.5	22.3	0.307	7.00	4.6	2.6	59.8	408.4	0.8	
1.9	22.3	0.355	6.95	3.4	2.6	54.8	400.8	0.6	
2.2	22.1	0.346	6.91	3.4	2.7	49.9	317.1	2.1	
2.3	22.0	0.339	6.86	3.5	2.7	54.6	292.2	0.6	
2.9	21.9	0.336	6.81	3.6	2.7	49.2	206.8	0.6	
3.0	21.8	0.333	6.75	3.5	2.7	55.9	182.9	0.6	
3.4	21.8	0.332	6.71	4.1	2.8	54.8	149.6	0.7	
3.7	21.8	0.331	6.71	3.7	2.8	54.6	125.1	0.7	
4.0	21.5	0.330	6.71	3.5	2.9	53.6	100.5	0.7	
4.4	21.3	0.329	6.72	3.6	2.9	54.9	78.9	0.7	
4.6	21.3	0.328	6.74	3.0	3.0	56.3	63.4	0.6	
4.7	21.3	0.327	6.75	3.0	3.1	56.5	64.8	0.6	

Table 7 (cont.). In-situ water quality measurements for Site 12, Sodus Bay, 25 August 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.4	22.1	0.294	7.58	3.4	7.3	61.6	2218.0	1.5	1.8
0.9	22.0	0.294	7.56	3.9	7.3	61.4	724.1	0.6	
1.1	21.9	0.294	7.54	4.2	7.1	61.2	631.0	0.6	
1.7	22.0	0.294	7.51	4.4	6.6	57.3	541.8	0.8	
2.1	21.8	0.293	7.46	4.5	5.9	56.9	345.4	0.8	
2.4	21.7	0.293	7.42	4.0	5.3	55.5	302.1	0.9	
2.7	21.6	0.293	7.36	4.3	4.8	54.1	247.2	1.1	
3.1	21.4	0.291	7.31	4.3	4.9	53.1	213.0	1.1	
3.3	21.2	0.291	7.49	3.3	7.0	58.0	164.8	0.8	
3.6	21.0	0.290	7.42	3.7	6.8	56.9	134.3	1.0	
3.7	21.0	0.290	7.34	3.6	6.3	56.2	133.3	1.1	

Table 7 (cont.). In-situ water quality measurements for Site 12, Sodus Bay, 15 September 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.1	20.5	0.268	7.20	8.5	6.6	14.9	3020.2	0.9	1.9
0.2	20.5	0.268	7.17	7.3	6.4	49.1	3031.4	0.8	
0.3	20.2	0.268	7.13	5.4	6.2	46.4	2986.7	0.8	
0.7	20.3	0.268	7.09	4.4	5.8	48.9	1034.8	0.8	
1.1	19.7	0.267	7.04	4.3	5.5	49.2	423.8	0.8	
1.6	19.8	0.267	6.98	4.8	5.3	50.3	259.4	0.8	
1.9	19.6	0.267	6.90	4.8	5.4	50.8	176.2	0.8	
2.4	18.9	0.266	6.82	3.9	5.6	51.3	99.7	0.8	
2.8	18.9	0.265	6.76	3.3	5.5	52.0	67.0	0.7	
3.2	18.9	0.265	6.75	3.5	5.1	55.7	47.8	0.7	
3.5	18.9	0.265	6.77	3.6	4.9	59.8	33.8	0.6	
3.8	19.2	0.266	6.79	3.7	4.9	59.3	26.8	0.6	
4.3	18.5	0.264	6.81	3.9	5.1	59.8	17.8	0.6	

Table 8. In-situ water quality measurements for Site 5, Sodus Bay, 05 May 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.2	12.0	0.250	8.51	4.9	9.7	62.7	49.6	0.7	3.2
0.5	12.0	0.250	8.51	4.7	9.8	62.5	40.9	0.6	
1.0	12.0	0.250	8.51	4.6	9.8	62.5	33.3	0.7	
1.3	12.0	0.250	8.50	4.4	9.8	62.2	28.6	0.6	
1.8	12.0	0.250	8.51	4.3	9.8	62.5	21.9	0.7	
2.2	12.0	0.250	8.50	4.4	9.8	62.9	18.1	0.6	
2.7	12.0	0.250	8.50	4.3	9.8	62.8	13.4	0.6	
3.3	12.0	0.250	8.50	4.5	9.8	63.0	10.4	0.6	
3.9	12.0	0.250	8.50	4.4	9.8	63.1	7.7	0.6	
4.3	12.0	0.250	8.51	4.3	9.8	63.5	6.0	0.6	
4.8	12.0	0.250	8.51	4.4	9.8	63.3	4.6	0.6	
5.4	12.0	0.250	8.51	4.5	9.8	63.3	3.7	0.6	
5.7	12.0	0.250	8.51	4.6	9.8	63.1	3.0	0.6	
6.2	12.0	0.250	8.51	4.5	9.8	63.0	2.5	0.6	
6.6	12.0	0.250	8.52	4.6	9.8	63.1	2.0	0.6	
7.2	12.0	0.250	8.53	5.1	9.8	63.1	1.5	0.6	
7.5	12.0	0.250	8.54	5.6	9.8	63.3	1.3	0.6	
7.9	12.0	0.250	8.54	7.0	9.8	63.5	1.1	0.6	
8.4	12.0	0.250	8.55	9.3	9.8	63.6	0.9	0.6	
8.5	12.0	0.249	8.56	6.8	8.5	62.3	0.8	3.1	
8.7	12.0	0.249	8.56	10.6	9.3	59.0	0.7	2.5	
8.8	12.0	0.250	8.56	15.8	8.0	64.1	0.7	1.0	
9.4	11.8	0.249	8.57	3.9	9.3	65.9	0.6	0.6	

Table 8 (cont.). In-situ water quality measurements for Site 5, Sodus Bay, 16 June 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.1	16.5	0.258	7.81	2.7	5.2	16.5	525.9	2.2	4.2
0.9	15.9	0.258	7.78	3.6	5.4	60.5	145.2	1.0	
1.9	15.2	0.257	7.72	2.7	5.5	55.1	154.7	1.8	
2.5	15.1	0.257	7.61	3.7	5.6	50.8	187.7	2.2	
3.1	14.6	0.257	7.50	2.4	5.7	53.2	341.6	2.7	
3.3	15.0	0.257	7.56	2.3	5.6	42.7	209.1	3.1	
3.4	14.5	0.257	7.35	2.6	5.7	48.6	233.8	3.1	
4.0	14.1	0.257	7.23	2.6	5.9	45.3	221.1	3.6	
4.1	14.2	0.257	7.35	2.4	5.8	31.5	166.0	5.0	
4.4	14.1	0.257	7.05	2.8	5.9	41.9	184.9	4.5	
5.0	13.9	0.257	7.04	2.5	6.0	30.1	130.9	8.9	
5.1	13.9	0.257	6.97	2.4	6.0	53.0	124.2	3.6	
5.8	13.8	0.257	6.93	2.4	6.1	63.0	87.9	1.1	
5.9	13.8	0.257	6.94	2.5	6.1	37.5	77.2	13.2	
6.4	13.8	0.257	6.92	2.8	6.2	62.7	74.1	2.8	
6.6	13.7	0.257	6.90	2.6	6.2	57.9	66.3	2.0	
7.5	13.7	0.257	6.87	2.8	6.3	59.6	44.0	3.9	
7.9	13.7	0.257	6.87	2.7	6.3	56.7	38.2	4.9	
8.3	13.7	0.257	6.87	2.4	6.4	58.8	35.6	6.6	
8.7	13.6	0.256	6.87	2.3	6.9	71.2	25.0	0.4	
9.0	13.6	0.256	6.88	2.4	7.0	66.6	22.3	0.5	
9.3	13.6	0.255	6.90	3.0	7.2	70.8	20.8	0.4	

Table 8 (cont.). In-situ water quality measurements for Site 5, Sodus Bay, 21 July 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.2	23.9	0.304	7.93	6.2	8.3	67.1	1904.3	2.0	4.0
0.3	23.8	0.302	7.93	6.5	8.3	66.7	1807.7	0.3	
0.5	23.6	0.302	7.92	6.6	8.4	66.5	592.3	0.2	
0.8	23.5	0.301	7.92	6.4	8.3	65.6	529.8	0.3	
1.1	23.5	0.301	7.92	5.9	8.0	66.4	583.6	0.3	
1.7	23.4	0.300	7.92	5.7	7.8	63.5	543.8	0.4	
2.4	23.1	0.299	7.91	4.2	7.0	61.4	453.2	0.4	
2.6	22.9	0.298	7.91	4.3	7.3	60.4	386.2	0.4	
2.9	22.3	0.296	7.90	3.7	6.8	60.1	402.3	0.4	
3.2	22.4	0.295	7.88	3.5	6.7	60.3	327.9	0.5	
4.0	22.6	0.295	7.77	2.8	6.1	61.9	241.7	0.4	
4.6	20.8	0.286	7.36	2.3	5.5	61.0	198.5	0.6	
4.9	20.4	0.283	7.25	2.3	4.4	62.8	150.7	0.5	
5.7	20.0	0.283	7.16	2.6	3.8	61.0	105.9	1.7	
6.1	19.7	0.283	7.06	2.9	3.6	60.3	91.9	1.2	
6.5	19.5	0.283	6.95	3.2	3.4	56.4	70.8	4.4	
6.7	19.4	0.283	6.74	4.2	3.2	56.8	74.3	1.4	
7.4	19.2	0.282	6.59	5.8	3.0	44.5	49.8	3.8	
7.9	19.0	0.283	6.52	7.2	3.0	33.0	42.7	4.4	
8.3	18.9	0.282	6.52	10.1	3.0	12.4	32.6	9.9	
8.8	18.7	0.283	6.51	12.0	3.1	24.2	26.1	10.7	
9.0	18.7	0.283	6.49	7.0	3.1	56.5	25.8	1.4	
9.6	18.6	0.282	6.51	5.0	2.9	52.6	16.4	0.8	
10.0	18.6	0.285	6.52	1.6	3.1	48.9	12.5	0.8	
10.3	18.6	0.283	6.52	1.7	3.1	50.2	8.9	0.7	
10.7	18.0	0.338	6.53	2.0	3.4	54.2	6.8	0.7	
11.0	17.6	0.331	6.54	2.2	3.5	45.0	4.7	0.8	
11.2	17.6	0.328	6.55	1.8	3.8	48.1	4.3	0.9	

Table 8 (cont.). In-situ water quality measurements for Site 5, Sodus Bay, 25 August 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.2	21.7	0.287	**7.72**	2.0	6.7	56.6	1552.1	14.2	2.2
0.5	21.6	0.287	7.72	2.1	6.4	56.9	1362.6	0.0	
0.8	21.6	0.287	7.72	3.1	6.4	57.4	435.0	0.7	
1.0	21.6	0.287	7.72	9.3	6.6	56.9	417.6	0.7	
1.4	21.7	0.287	7.71	8.0	6.6	56.9	411.4	0.7	
1.9	21.6	0.287	7.71	8.0	6.7	56.2	361.2	0.8	
2.1	21.7	0.287	7.71	8.0	6.7	56.4	317.1	0.7	
2.6	21.6	0.287	7.71	7.2	6.8	56.6	286.8	0.7	
3.0	21.6	0.288	7.71	8.4	6.9	56.4	212.2	0.8	
3.7	21.6	0.288	7.70	8.5	7.0	56.4	149.1	0.7	
4.1	21.6	0.288	7.70	8.9	7.0	50.0	124.7	1.0	
4.3	21.6	0.288	7.70	9.9	7.1	50.9	107.8	1.1	
4.5	21.6	0.288	7.69	10.3	7.2	55.8	99.7	0.7	
5.0	21.6	0.288	7.69	10.9	7.2	52.4	78.0	0.8	
5.2	21.6	0.288	7.68	11.4	7.2	53.6	71.6	0.9	
5.4	21.6	0.287	7.68	11.4	7.0	51.4	61.5	1.3	
5.8	21.5	0.287	7.67	11.1	6.6	48.2	50.9	1.9	
6.0	21.5	0.287	7.66	10.8	5.8	55.3	47.2	0.8	
6.6	21.3	0.286	7.65	13.3	4.8	49.4	33.9	2.9	
6.8	21.3	0.286	7.61	15.8	3.8	54.3	29.0	0.9	
7.5	20.6	0.285	7.55	2.0	3.0	52.3	20.5	1.0	
7.7	20.5	0.284	7.45	2.2	2.6	53.3	17.4	1.3	
8.0	19.3	0.281	7.31	3.0	2.6	52.4	14.9	1.2	
8.6	18.8	0.277	7.38	3.5	2.6	42.1	10.6	5.5	
8.8	17.4	0.277	7.35	6.8	3.0	32.4	8.8	22.0	
9.0	16.2	0.274	7.10	6.6	2.6	52.5	8.1	1.1	
9.2	16.3	0.272	7.14	5.7	2.1	53.2	7.0	1.1	

Table 8 (cont.). In-situ water quality measurements for Site 5, Sodus Bay, 15 September 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.2	20.9	0.274	7.70	7.2	7.5	54.1	2593.0	3.6	1.8
0.4	20.9	0.274	7.68	7.4	7.5	54.1	2711.4	2.1	
0.9	20.9	0.274	7.68	7.6	7.6	54.1	710.7	0.6	
1.3	20.9	0.274	7.67	7.8	7.6	53.8	463.4	0.7	
1.8	20.9	0.273	7.65	7.3	7.6	54.0	435.0	0.6	
2.0	20.9	0.274	7.63	7.2	7.5	53.9	247.2	0.7	
2.2	20.8	0.273	7.62	6.9	7.5	54.0	265.3	0.6	
2.8	20.7	0.273	7.60	6.0	7.4	54.1	153.6	0.6	
3.1	20.7	0.273	7.58	5.5	7.2	54.3	129.4	0.7	
3.4	20.5	0.272	7.55	5.1	6.9	54.2	99.0	0.6	
4.0	20.5	0.272	7.50	4.4	6.8	54.5	63.8	0.6	
4.4	20.3	0.271	7.44	4.2	6.8	54.7	48.5	0.8	
5.0	19.8	0.269	7.36	4.2	6.4	54.9	32.0	0.6	
5.6	19.8	0.270	7.28	3.9	6.1	56.1	20.0	0.6	
5.8	19.6	0.268	7.15	4.0	6.3	56.8	16.6	0.6	
6.2	18.9	0.266	6.96	3.7	6.8	57.3	13.1	0.6	
6.6	19.2	0.267	6.96	2.9	6.6	58.0	10.1	0.6	
6.9	19.0	0.267	6.98	2.5	6.1	59.3	8.1	0.6	
7.3	19.0	0.267	7.00	2.9	4.6	59.8	6.2	0.6	
7.7	19.2	0.267	7.02	3.0	3.8	59.5	4.9	0.6	
8.2	18.2	0.262	7.07	3.3	4.0	59.4	3.7	0.6	
8.8	15.5	0.253	7.14	3.3	5.0	59.9	2.5	0.7	

Table 9. In-situ water quality measurements for Site 9, Sodus Bay, 05 May 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.2	12.1	0.250	8.43	5.3	9.6	62.6	134.8	0.7	3.2
0.4	12.1	0.251	8.42	6.4	9.6	62.4	125.1	0.6	
1.0	12.1	0.250	8.42	10.0	9.5	62.2	105.9	0.6	
1.3	12.1	0.251	8.42	7.8	9.2	61.8	89.2	0.6	
1.8	12.1	0.251	8.41	9.9	9.0	61.9	63.6	0.6	
2.2	12.1	0.250	8.41	5.9	9.4	61.5	51.3	0.7	
2.7	12.1	0.250	8.41	5.8	9.5	61.8	42.9	0.6	
3.1	12.1	0.251	8.41	6.2	9.5	61.6	33.4	0.7	
3.6	12.1	0.251	8.41	5.6	9.5	61.5	25.9	0.6	
4.1	12.1	0.251	8.41	6.1	9.5	60.8	21.0	0.7	
4.5	12.1	0.250	8.41	6.0	9.5	60.7	16.6	0.7	
4.9	12.1	0.251	8.42	7.1	9.5	60.9	13.5	0.7	
5.4	12.1	0.251	8.42	8.9	9.5	60.9	10.8	0.7	
5.7	12.1	0.250	8.42	9.1	9.5	60.6	9.3	0.7	
6.2	12.1	0.251	8.43	6.6	9.5	60.3	7.1	0.7	
6.6	12.1	0.250	8.43	6.6	9.5	60.0	5.7	0.7	
7.3	12.1	0.251	8.44	6.7	9.5	59.8	4.2	0.8	
8.0	12.1	0.251	8.45	7.6	9.6	59.2	2.8	0.8	

Table 9 (cont.). In-situ water quality measurements for Site 9, Sodus Bay, 16 June 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.1	15.5	0.280	7.89	2.7	6.2	24.3	522.0	8.7	4.3
0.3	15.3	0.280	7.88	2.7	6.2	62.7	499.2	3.5	
0.4	15.2	0.281	7.85	2.7	6.2	63.9	484.6	0.8	
1.2	15.0	0.280	7.86	2.5	6.3	56.2	148.5	4.5	
1.9	14.9	0.281	7.82	2.8	6.4	50.4	149.1	2.0	
2.0	14.8	0.281	7.79	3.1	6.4	57.1	155.3	1.2	
2.2	14.8	0.281	7.71	3.2	6.4	60.3	163.0	2.2	
2.6	14.7	0.281	7.60	2.7	6.5	52.1	239.9	3.8	
3.2	14.7	0.281	7.59	3.1	6.5	51.7	241.7	5.8	
3.4	14.7	0.281	7.55	2.6	6.5	18.8	193.4	10.8	
3.6	14.6	0.281	7.23	2.5	6.6	50.8	278.4	2.8	
4.3	14.6	0.281	7.15	2.5	6.6	22.2	197.7	18.2	
5.2	14.6	0.281	7.08	2.5	6.7	4.6	112.8	18.5	
5.3	14.6	0.281	7.08	2.5	6.8	62.3	122.8	1.4	
5.8	14.6	0.281	7.05	2.5	6.8	5.8	94.7	9.1	
6.0	14.6	0.281	7.02	2.6	6.8	54.2	79.5	3.1	
6.4	14.6	0.281	7.01	2.6	6.9	55.2	71.9	4.2	
6.8	14.6	0.281	7.01	2.7	6.9	16.4	57.3	16.4	
7.0	14.6	0.281	7.00	2.9	6.9	55.3	65.0	1.1	
7.3	14.6	0.281	7.02	2.5	7.0	73.4	53.2	0.3	
7.8	14.6	0.281	7.02	2.4	7.0	73.6	42.6	0.3	
8.0	14.6	0.281	7.04	3.4	7.1	72.2	41.3	0.3	

Table 9 (cont.). In-situ water quality measurements for Site 9, Sodus Bay, 21 July 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.3	23.8	0.303	7.88	5.9	7.9	64.9	1918.6	0.3	3.5
0.6	23.4	0.303	7.86	6.0	7.7	64.2	1102.3	0.3	
1.1	23.4	0.303	7.86	5.4	7.6	63.1	1066.0	0.3	
1.2	23.1	0.302	7.85	5.6	7.7	63.5	925.5	0.3	
1.6	23.0	0.301	7.81	5.7	7.3	61.1	754.3	0.3	
2.1	23.1	0.302	7.79	5.4	7.4	60.3	652.5	0.3	
2.6	22.4	0.298	7.72	4.9	6.6	60.7	504.8	0.3	
2.9	22.1	0.296	7.56	4.4	5.4	61.8	399.4	0.3	
3.5	21.4	0.293	7.46	4.1	5.3	62.6	311.3	0.4	
3.9	21.2	0.292	7.16	4.0	5.3	62.4	247.2	0.4	
4.3	21.1	0.291	7.08	3.1	5.4	62.7	187.0	0.4	
4.6	21.1	0.291	7.02	2.7	5.3	63.0	160.0	0.4	
5.2	21.2	0.292	6.94	2.1	5.0	65.2	114.9	0.4	
5.5	20.5	0.287	6.83	2.1	4.8	65.6	99.7	0.4	
5.8	20.4	0.287	6.80	1.9	4.7	67.1	83.7	0.4	
6.0	20.5	0.287	6.82	1.9	4.8	66.6	73.3	0.4	
6.4	20.2	0.286	6.76	2.1	4.7	67.4	61.0	0.4	
7.0	20.2	0.286	6.74	3.2	4.8	68.4	47.8	0.3	
7.2	20.2	0.286	6.73	4.6	5.0	68.9	42.6	0.3	
7.5	20.2	0.286	6.72	7.8	5.0	69.0	36.4	0.3	

Table 9 (cont.). In-situ water quality measurements for Site 9, Sodus Bay, 25 August 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.3	21.7	0.289	7.70	6.4	7.7	54.1	2517.0	1.4	2.0
0.5	21.8	0.289	7.72	6.7	7.7	54.3	898.4	1.8	
0.7	21.7	0.289	7.72	7.1	7.6	53.1	654.9	0.9	
1.2	21.7	0.289	7.72	7.8	7.6	54.3	583.6	1.0	
1.6	21.7	0.288	7.72	8.3	7.6	53.1	438.3	0.9	
2.0	21.7	0.288	7.72	9.4	7.5	45.0	291.1	1.0	
2.5	21.7	0.289	7.70	8.6	7.5	32.7	244.4	2.9	
2.7	21.7	0.289	7.71	9.7	7.5	48.3	231.2	0.9	
3.2	21.7	0.288	7.70	10.9	7.5	53.0	169.1	0.9	
3.4	21.7	0.289	7.70	7.5	7.4	53.9	147.9	0.9	
3.8	21.7	0.288	7.70	8.7	6.6	50.8	114.0	1.5	
4.0	21.6	0.289	7.70	10.7	6.5	52.6	105.5	1.0	
4.4	21.7	0.288	7.70	10.2	7.0	47.0	78.9	1.9	
4.9	21.6	0.288	7.69	10.9	7.3	46.0	62.7	1.2	
5.1	21.6	0.288	7.68	10.9	7.3	53.5	53.0	1.1	
5.6	21.1	0.296	7.68	10.9	7.5	49.9	41.8	0.9	
5.9	21.6	0.288	7.67	10.8	7.6	48.5	34.2	1.9	
6.0	21.6	0.289	7.67	9.1	7.8	54.5	32.7	0.9	
6.4	21.6	0.288	7.66	5.9	7.4	43.2	24.3	1.1	

Table 9 (cont.). In-situ water quality measurements for Site 9, Sodus Bay, 15 September 2004. mS = milli Siemens, Chl a = chlorophyll a, µE = micro Einsteins, PAR = photosynthetically active radiation, NTU = nephelometric turbidity units.

Depth (m)	Temperature (°C)	Conductivity (mS/cm)	pH	Chl *a* (µg/L)	Oxygen (mg/L)	Light Transmission (%)	PAR (µE/sec/m^2)	Turbidity (NTU)	Secchi disk (m)
0.1	20.7	0.273	7.57	7.4	7.5	13.8	3193.5	0.9	1.8
0.3	20.7	0.273	7.53	8.1	7.4	55.2	3158.0	0.8	
0.7	20.7	0.273	7.52	7.9	7.4	55.4	679.7	0.6	
1.1	20.7	0.273	7.52	8.0	7.4	55.1	659.8	0.6	
1.7	20.7	0.273	7.52	7.6	7.4	55.2	393.5	0.6	
1.8	20.7	0.273	7.51	8.0	7.4	55.1	346.7	0.7	
2.3	20.7	0.273	7.51	7.6	7.4	55.1	217.0	0.7	
2.7	20.7	0.273	7.51	7.4	7.4	55.2	146.3	0.6	
2.9	20.7	0.273	7.51	7.5	7.4	55.2	135.8	0.6	
3.0	20.7	0.273	7.51	7.5	7.4	55.3	110.3	0.6	
3.2	20.7	0.273	7.51	7.3	7.4	55.3	114.0	0.6	
3.5	20.7	0.273	7.51	6.9	7.4	55.3	78.9	0.6	
4.0	20.7	0.273	7.51	7.0	7.4	55.4	59.9	0.6	
4.4	20.7	0.273	7.51	7.0	7.4	55.3	42.9	0.6	
4.9	20.6	0.273	7.51	6.9	7.4	55.6	27.7	0.6	

Table 10. Abundance and biomass of phytoplankton in Sodus Bay, 2004.

	Station 5		Station 9	
Date	Abundance (Cells/ml)	Biomass (gm/m^3)	Abundance (Cells/ml)	Biomass (gm/m^3)
05/05/04	3,005	0.97	4,476	1.00
06/16/04	1,747	0.87	1,633	0.74
07/21/04	8,490	0.33	4,447	0.70
08/25/04	6,294	0.93	10,619	1.64
09/15/04	9,182	7.37	7,496	3.98
Mean	5,744	2.09	5,734	1.61

Table 11. Percent biovolume of Sodus Bay phytoplankton by division for May through September 2004 for Stations 5 and 9. BAC=Bacillariophyta, CHL=Chlorophyta, CHR=Chrysophyta, COL=colorless flagellates, CRY=Cryptophyta, CYA=Cyanophtya, HAP=Haptophyta, PYR=Pyrrophyta and UNI=unidentified.

Station 5

	BAC	CHL	CHR	COL	CRY	CYA	HAP	PYR	UNI
05/05/04	26.0	0.3	8.5	0.0	35.9	0.0	0.9	24.0	4.4
06/16/04	22.4	10.2	0.8	0.5	62.7	0.0	0.1	1.1	2.1
07/21/04	7.0	59.9	4.6	0.0	27.5	0.6	0.0	0.0	0.4
08/25/04	18.1	14.2	4.6	0.1	52.8	0.3	3.7	6.1	0.0
09/15/04	78.2	0.9	0.1	0.3	19.2	0.0	0.0	0.8	0.4

Station 9

	BAC	CHL	CHR	COL	CRY	CYA	HAP	PYR	UNI
05/05/04	12.5	0.7	10.9	0.0	50.0	0.0	0.1	18.3	7.5
06/16/04	1.9	12.4	5.9	0.2	76.7	1.2	1.1	0.5	0.0
07/21/04	19.7	4.1	0.8	0.2	73.9	0.6	0.8	0.0	0.0
08/25/04	49.8	4.6	1.1	0.5	25.5	9.7	1.7	7.1	0.0
09/15/04	48.9	2.6	0.6	1.1	46.3	0.0	0.1	0.0	0.4

Table 12. Abundance and biovolume of Sodus Bay phytoplankton from Station 5, 5 May 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Achnanthidium minutissima		8.7	0.3	1,049	0.1
	Amphora perpusilla		1.9	0.1	408	0.0
	Asterionella formosa		20.4	0.7	21,408	2.2
	Caloneis spp.		1.0	0.0	146	0.0
	Cocconeis placentula v. euglypta		1.0	0.0	1,464	0.2
	Cymatopluera v. solea		1.9	0.1	12,582	1.3
	Diatoma spp.		3.9	0.1	7,829	0.8
	Diatoma tenue v. elongatum		17.5	0.6	26,004	2.7
	Fragilaria capucina		40.8	1.4	85,631	8.9
	Fragilaria capucina v. mesolepta		7.8	0.3	4,474	0.5
	Fragilaria crotonensis		69.9	2.3	40,171	4.2
	Fragilaria spp.		8.7	0.3	5,662	0.6
	Navicula cryptocefalsa		1.0	0.0	367	0.0
	Navicula salinarum		1.9	0.1	466	0.0
	Nitzschia dissipata		1.0	0.0	510	0.1
	Nitzschia gracilis		1.9	0.1	1,337	0.1
	Nitzschia spp.		5.8	0.2	1,118	0.1
	Sellaphora rectangularis		1.9	0.1	1,025	0.1
	Stephanodiscus astraea		3.0	0.1	33,778	3.5
	Stephanodiscus hantzschii		1.5	0.0	404	0.0
	Stephanodiscus parvus		16.5	0.5	5,806	0.6
		Total	218.1	7.3	251,638	26.0
Chlorophyta						
	Carteria spp.		7.1	0.2	2,728	0.3
	Selenastrum spp.		7.1	0.2	200	0.0
	Spermatozoopsis elegans		14.3	0.5	60	0.0
			28.6	1.0	2,988	0.3
Chrysophyta						
	Dinobryon cyst		50.0	1.7	71,873	7.4
	Dinobryon spp.		28.6	1.0	4,715	0.5
	Mallomonas spp.		14.3	0.5	5,268	0.5
		Total	92.9	3.1	81,856	8.5
Cryptophyta						
	Chilomonas paramecium		14.3	0.5	49,396	5.1
	Chroomonas pochmanii		7.1	0.2	1,916	0.2
	Cryptomonad		57.2	1.9	10,776	1.1
	Cryptomonas erosa		14.3	0.5	12,722	1.3
	Cryptomonas reflexa		50.0	1.7	138,068	14.3
	Cyathomonas truncata		14.3	0.5	1,123	0.1
	Kathablepharis ovalis		142.9	4.8	14,967	1.5
	Rhodomonas minuta		1800.9	59.9	117,867	12.2
		Total	2101.0	69.9	346,835	35.9
Haptophyta						
	Chrysochromulina parva		178.7	5.9	8,980	0.9
Pyrrophyta						
	Gymnodinium spp.		7.1	0.2	177,348	18.3
	Unidentified flagellate		250.1	8.3	54,713	5.7
		Total	257.3	8.6	232,061	24.0
Unidentified						
	Unidentified cell - sphere		128.6	4.3	42,466	4.4
		Total	3005.1		966,824	

Table 12 (cont.). Abundance and biovolume of Sodus Bay phytoplankton from Station 9, 5 May 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Achnanthes spp.		5.8	0.1	1,210	0.1
	Amphora perpusilla		4.7	0.1	586	0.1
	Asterionella formosa		27.9	0.6	29,309	2.9
	Cyclotella atomus		1.4	0.0	154	0.0
	Cyclotella kutzingiana v. parva		0.7	0.0	137	0.0
	Cyclotella ocellata		1.4	0.0	192	0.0
	Cyclotella spp.		1.4	0.0	273	0.0
	Diatoma tenue v. elongatum		2.3	0.1	3,405	0.3
	Fragilaria capucina		20.9	0.5	16,580	1.7
	Fragilaria crotonensis		126.8	2.8	55,463	5.6
	Fragilaria spp.		8.1	0.2	5,694	0.6
	Fragilaria vaucheria		2.3	0.1	293	0.0
	Gomphonema olivaceum v.olivaceoides		2.3	0.1	2,345	0.2
	Gomphonema spp.		3.5	0.1	1,905	0.2
	Navicula cryptocefalsa		4.7	0.1	1,889	0.2
	Navicula lanceolata		2.3	0.1	1,424	0.1
	Nitzschia acicularis		2.3	0.1	584	0.1
	Stephanodiscus hantzschii		4.1	0.1	1,436	0.1
	Stephanodiscus parvus		8.2	0.2	1,615	0.2
		Total	231.0	5.2	124,494	12.5
Chlorophyta						
	Chlamydomonas spp.		25.7	0.6	4,939	0.5
	Chlorella spp.		8.6	0.2	2,299	0.2
		Total	34.3	0.8	7,238	0.7
Chrysophyta						
	Dinobryon cyst		94.3	2.1	108,514	10.9
	Unidentified spheres		8.6	0.2	121	0.0
		Total	102.9	2.3	108,636	10.9
Cryptophyta						
	Chroomonas pochmanii		68.6	1.5	35,922	3.6
	Cryptomonad		8.6	0.2	13,659	1.4
	Cryptomonas obovata		8.6	0.2	2,694	0.3
	Cryptomonas reflexa		51.5	1.1	187,292	18.8
	Cyathomonas truncata		94.3	2.1	8,644	0.9
	Kathablepharis ovalis		102.9	2.3	10,776	1.1
	Rhodomonas minuta		2830.0	63.2	240,046	24.0
		Total	3164.4	70.7	499,032	50.0
Haptophyta						
	Chrysochromulina parva		42.9	1.0	808	0.1
Pyrrophyta						
	Gymnodinium spp.		8.6	0.2	124,450	12.5
	Unidentified cell - ovoid		17.2	0.4	2,263	0.2
	Unidentified flagellate		566.0	12.6	56,527	5.7
		Total	591.7	13.2	183,240	18.3
Unidentified						
	Unidentified cell - sphere		308.7	6.9	75,224	7.5
		Total	4475.9		998,672	

Table 12 (cont.). Abundance and biovolume of Sodus Bay phytoplankton from Station 5, 16 June 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Achnanthidium exiguum		1.7	0.1	283	0.0
	Amphora perpusilla		1.7	0.1	141	0.0
	Asterionella formosa		11.8	0.7	10,434	1.2
	Aulacoseira granulata		5.6	0.3	25,618	3.0
	Aulacoseira spp.		5.6	0.3	5,325	0.6
	Cocconeis placentula v. euglypta		1.7	0.1	734	0.1
	Cocconeis placentula v. lineata		0.8	0.0	4,572	0.5
	Cymbella aspera		1.7	0.1	38,312	4.4
	Fragilaria capucina		5.1	0.3	3,395	0.4
	Fragilaria crotonensis		198.7	11.4	77,507	8.9
	Gomphonema spp.		1.7	0.1	1,792	0.2
	Navicula capitatoradiata		1.7	0.1	1,122	0.1
	Navicula excelsa		0.8	0.0	222	0.0
	Navicula lanceolata		0.8	0.0	859	0.1
	Navicula spp.		1.7	0.1	323	0.0
	Navicula tripunctata		1.7	0.1	2,317	0.3
	Nitzschia spp.		3.4	0.2	9,432	1.1
	Sellaphora seminulum		0.8	0.0	118	0.0
	Staurosirella pinnata		1.7	0.1	169	0.0
	Stephanodiscus hantzschii		8.4	0.5	2,253	0.3
	Stephanodiscus parvus		26.5	1.5	9,319	1.1
		Total	283.5	16.2	194,248	22.4
Chlorophyta						
	Ankistrodesmus spp.		5.7	0.3	823	0.1
	Oocystis spp.		40.0	2.3	50,446	5.8
	Scenedesmus acutiformis		11.4	0.7	3,664	0.4
	Scenedesmus quadrecauta		22.9	1.3	2,682	0.3
	Scenedesmus spp.		22.9	1.3	674	0.1
	Schroederia judayi		11.4	0.7	359	0.0
	Sphaerocystis schroeteri		463.1	26.5	30,309	3.5
		Total	577.4	33.1	88,957	10.2
Chrysophyta						
	Dinobryon divergens		45.7	2.6	5,388	0.6
	Mallomonas spp.		5.7	0.3	1,533	0.2
		Total	51.5	2.9	6,921	0.8
Colorless flagellates						
	Colorless flagellate		68.6	3.9	4,598	0.5
Cryptophyta						
	Chroomonas pochmanii		40.0	2.3	70,720	8.1
	Cryptomonas ovata		102.9	5.9	21,553	2.5
	Cryptomonas phaseolus		5.7	0.3	3,152	0.4
	Cryptomonas platyuris		17.2	1.0	39,791	4.6
	Cryptomonas reflexa		91.5	5.2	251,552	29.0
	Cryptomonas rostratiformis		11.4	0.7	116,170	13.4
	Kathablepharis ovalis		17.2	1.0	2,021	0.2
	Kathablepharis phoenikoston		5.7	0.3	287	0.0
	Rhodomonas minuta		320.2	18.3	39,226	4.5
		Total	611.7	35.0	544,473	62.7
Cyanophyta						
	Pseudanabaena spp.		22.9	1.3	216	0.0
Haptophyta						
	Chrysochromulina parva		57.2	3.3	1,078	0.1
Pyrrophyta						
	Glenodinium spp.		5.7	0.3	5,604	0.6
	Unidentified flagellate		34.3	2.0	3,832	0.4
		Total	40.0	2.3	9,435	1.1
Unidentified						
	Unidentified cell - ovoid		11.4	0.7	7,118	0.8
	Unidentified cell - sphere		22.9	1.3	11,184	1.3
		Total	34.3	2.0	18,302	2.1
		Total	1747.0		868,227	

Table 12 (cont.). Abundance and biovolume of Sodus Bay phytoplankton from Station 9, 16 June 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Aulacoseira granulata		2.3	0.1	6,264	0.9
	Aulacosiera italica		1.5	0.1	2,153	0.3
	Cyclotella ocellata		0.8	0.0	148	0.0
	Stephanodiscus alpinus		2.3	0.1	3,248	0.4
	Stephanodiscus hantzschii		3.1	0.2	2,436	0.3
		Total	10.0	0.6	14,249	1.9
Chlorophyta						
	Coelastrum sphaericum		82.3	5.0	5,388	0.7
	Oocystis crassa		3.4	0.2	8,891	1.2
	Oocystis parva		54.9	3.4	3,678	0.5
	Oocystis spp.		41.2	2.5	50,520	6.9
	Scenedesmus quadrecauta		13.7	0.8	841	0.1
	Scenedesmus spp.		13.7	0.8	1,379	0.2
	Schroederia judayi		44.6	2.7	1,494	0.2
	Sphaerocystis schroeteri		37.7	2.3	4,267	0.6
	Unidentified flagellate - Chlorophyte		3.4	0.2	4,224	0.6
	Unidentified ovoid cell		78.9	4.8	10,690	1.5
		Total	373.9	22.9	91,373	12.4
Chrysophyta						
	Dinobryon cyst		10.3	0.6	9,311	1.3
	Dinobryon divergens		120.1	7.4	31,683	4.3
	Unidentified flagellate		34.3	2.1	2,105	0.3
		Total	164.6	10.1	43,099	5.9
Colorless flagellates						
	Colorless flagellate		51.5	3.2	1,724	0.2
Cryptophyta						
	Chilomonas paramecium		44.6	2.7	160,536	21.8
	Chroomonas pochmanii		13.7	0.8	19,714	2.7
	Cryptomonas erosa		13.7	0.8	22,760	3.1
	Cryptomonas marssoni		34.3	2.1	13,093	1.8
	Cryptomonas ovata		17.2	1.1	31,036	4.2
	Cryptomonas phaseolus		6.9	0.4	4,670	0.6
	Cryptomonas platyuris		37.7	2.3	85,350	11.6
	Cryptomonas reflexa		82.3	5.0	148,187	20.1
	Cryptomonas spp.		13.7	0.8	24,829	3.4
	Kathablepharis ovalis		17.2	1.1	2,586	0.4
	Kathablepharis phoenikoston		3.4	0.2	776	0.1
	Rhodomonas minuta		315.6	19.3	29,743	4.0
	Storeatula rhinosa		13.7	0.8	21,733	3.0
		Total	614.0	37.6	565,012	76.7
Cyanophyta						
	Anabaena circinalis (?)		48.0	2.9	8,625	1.2
	Chroococcus minimus		10.3	0.6	145	0.0
	Unknown cell - Cyanophyte		24.0	1.5	339	0.0
		Total	82.3	5.0	9,110	1.2
Haptophyta						
	Chrysochromulina parva		329.3	20.2	8,276	1.1
Pyrrophyta						
	Peridinium spp.		3.4	0.2	3,621	0.5
Unidentified						
	Unidentified flagellate - sphere		3.4	0.2	225	0.0
		Total	1632.5		736,689	

Table 12 (cont.). Abundance and biovolume of Sodus Bay phytoplankton from Station 5, 21 July 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Achnanthidium hungaricum		0.4	0.0	255	0.1
	Achnanthidium minutissima		0.4	0.0	50	0.0
	Amphora perpusilla		0.4	0.0	174	0.1
	Asterionella formosa		1.0	0.0	596	0.2
	Cocconeis pediculus		0.4	0.0	2,080	0.6
	Cocconeis placentula		0.4	0.0	732	0.2
	Cocconeis placentula v. lineata		0.2	0.0	637	0.2
	Cyclotella meneghiniana		65.3	0.8	12,572	3.8
	Cyclotella spp.		32.7	0.4	3,695	1.1
	Diatoma tenue v. elongatum		0.6	0.0	806	0.2
	Fragilaria crotonensis		1.2	0.0	189	0.1
	Fragilaria vaucheria		0.4	0.0	132	0.0
	Navicula notha		0.2	0.0	40	0.0
	Navicula spp.		0.8	0.0	238	0.1
	Nitzschia acicularis		0.4	0.0	62	0.0
	Nitzschia palea		0.4	0.0	127	0.0
	Synedra rumpens v. familiaris		1.2	0.0	162	0.0
	Synedra spp.		3.7	0.0	719	0.2
		Total	110.4	1.3	23,265	7.0
Chlorophyta						
	Coelastrum microporum		24.5	0.3	6,569	2.0
	Golenkina radiata		24.5	0.3	1,604	0.5
	Nanochloris bacarillis		7693.6	90.6	181,275	54.4
	Paradoxia spp.		24.5	0.3	1,616	0.5
	Phacotus spp.		24.5	0.3	2,463	0.7
	Schroederia judayi		12.3	0.1	115	0.0
	Staurastrum spp.		12.3	0.1	4,420	1.3
	Unidentified crescent - Cholorphyte		12.3	0.1	441	0.1
	Unidentified sphere		12.3	0.1	1,386	0.4
		Total	7840.6	92.4	199,889	59.9
Chrysophyta						
	Mallomonas spp.		24.5	0.3	15,395	4.6
Cryptophyta						
	Cryptomonad		24.5	0.3	20,527	6.2
	Cryptomonas ovata		12.3	0.1	30,174	9.0
	Cryptomonas reflexa		24.5	0.3	39,693	11.9
	Rhodomonas minuta		36.8	0.4	1,386	0.4
		Total	98.0	1.2	91,779	27.5
Cyanophyta						
	Woronichinia spp.		392.0	4.6	1,924	0.6
Unidentified						
	Unidentified flagellate - ovoid		24.5	0.3	1,232	0.4
		Total	8490.0		333,484	

Table 12 (cont.). Abundance and biovolume of Sodus Bay phytoplankton from Station 9, 21 July 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Achnanthes spp.		1.1	0.0	842	0.1
	Achnanthidium minutissima		1.1	0.0	207	0.0
	Amphora ovalis v. pediculus		1.1	0.0	1,790	0.3
	Aulacosiera italica		31.9	0.7	26,136	3.7
	Cocconeis placentula		0.5	0.0	942	0.1
	Cocconeis placentula v. euglypta		2.7	0.1	3,077	0.4
	Cocconeis placentula v. lineata		1.1	0.0	3,052	0.4
	Cyclostephanos invisitatus		3.2	0.1	613	0.1
	Cyclotella ocellata		3.2	0.1	451	0.1
	Cyclotella spp.		9.6	0.2	1,081	0.2
	Cyclotella stelligera v. tenuissima		3.2	0.1	491	0.1
	Fragilaria capucina		6.5	0.1	9,015	1.3
	Fragilaria capucina v. mesolepta		1.6	0.0	1,700	0.2
	Fragilaria crotonensis		1.6	0.0	777	0.1
	Fragilaria spp.		1.1	0.0	227	0.0
	Gomphonema spp.		1.1	0.0	408	0.1
	Gyrosigma acuminatum		0.5	0.0	80,262	11.5
	Navicula spp.		2.2	0.0	950	0.1
	Navicula tenelloides		2.2	0.0	1,399	0.2
	Navicula tripunctata v. schizonemoides		0.5	0.0	174	0.0
	Synedra rumpens		1.1	0.0	389	0.1
	Synedra rumpens v. scotia		1.6	0.0	97	0.0
	Synedra spp.		6.5	0.1	2,953	0.4
		Total	85.0	1.9	137,032	19.7
Chlorophyta						
	Ankistrodesmus convolutus		11.4	0.3	257	0.0
	Kirchneriella spp.		22.9	0.5	3,293	0.5
	Oocystis parva		85.8	1.9	5,747	0.8
	Oocystis spp.		17.2	0.4	485	0.1
	Scenedesmus quadrecauta		22.9	0.5	970	0.1
	Schroederia judayi		45.7	1.0	3,448	0.5
	Sphaerocystis spp.		154.4	3.5	10,103	1.4
	Staurastrum spp.		5.7	0.1	1,258	0.2
	Unidentified flagellate - Chlorophyte		40.0	0.9	2,619	0.4
	Unidentified ovoid cell		5.7	0.1	323	0.0
	Unidentified sphere		5.7	0.1	374	0.1
		Total	417.3	9.4	28,878	4.1
Chrysophyta						
	Kephyrion ovala		5.7	0.1	108	0.0
	Mallomonas spp.		5.7	0.1	3,592	0.5
	Unidentified flagellate		80.0	1.8	1,546	0.2
		Total	91.5	2.1	5,246	0.8
Colorless flagellates						
	Colorless flagellate		40.0	0.9	1,341	0.2
Cryptophyta						
	Chilomonas paramecium		11.4	0.3	39,517	5.7
	Chroomonas pochmanii		22.9	0.5	6,131	0.9
	Cryptomonas erosa		11.4	0.3	6,304	0.9
	Cryptomonas ovata		28.6	0.6	17,242	2.5
	Cryptomonas ozolini		11.4	0.3	14,656	2.1
	Cryptomonas reflexa		223.0	5.0	280,938	40.3
	Cyathomonas truncata		17.2	0.4	862	0.1
	Kathablepharis ovalis		325.9	7.3	49,141	7.0
	Rhodomonas minuta		1532.2	34.5	100,281	14.4
	Anabaena spp.		57.2	1.3	2,874	0.4
	Aphanothece spp.		1257.8	28.3	988	0.1
		Total	3498.9	78.7	518,933	74.4
Haptophyta						
	Chrysochromulina parva		314.4	7.1	5,927	0.8
		Total	4447.1		697,357	

Table 12 (cont.). Abundance and biovolume of Sodus Bay phytoplankton from Station 5, 25 August 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Asterionella formosa		8.9	0.1	7,880	0.8
	Aulacoseira granulata		66.2	1.1	66,505	7.1
	Cocconeis placentula v. euglypta		0.8	0.0	782	0.1
	Cyclostephanos invisitatus		4.4	0.1	679	0.1
	Cyclotella spp.		4.4	0.1	679	0.1
	Fragilaria crotonensis		199.1	3.2	82,425	8.8
	Meridion circulare		9.3	0.1	7,038	0.8
	Stephanodiscus hantzschii		2.2	0.0	594	0.1
	Stephanodiscus parvus		4.4	0.1	1,552	0.2
	Stephanodiscus spp.		4.4	0.1	509	0.1
		Total	304.0	4.8	168,643	18.1
Chlorophyta						
	Carteria spp.		13.2	0.2	18,956	2.0
	Dictyosphaerium spp.		171.5	2.7	7,184	0.8
	Golenkina radiata		19.8	0.3	2,238	0.2
	Lagerheimia ciliata		19.8	0.3	26,268	2.8
	Mougeotia spp. ?		46.2	0.7	53,385	5.7
	Oocystis parva		46.2	0.7	8,704	0.9
	Oocystis spp.		33.0	0.5	7,461	0.8
	Pandorina spp.		19.8	0.3	663	0.1
	Phacotus spp.		26.4	0.4	1,119	0.1
	Schroederia judayi		52.8	0.8	497	0.1
	Schroederia setigera		52.8	0.8	1,492	0.2
	Spermatozoopsis exsultans		6.6	0.1	41	0.0
	Unidentified flagellate - Chlorophyte		26.4	0.4	2,984	0.3
	Unidentified sphere		46.2	0.7	1,547	0.2
		Total	580.5	9.2	132,540	14.2
Chrysophyta						
	Mallomonas alpina		26.4	0.4	35,811	3.8
	Mallomonas spp.		6.6	0.1	6,963	0.7
		Total	33.0	0.5	42,774	4.6
Colorless flagellates						
	Colorless flagellate		26.4	0.4	884	0.1
Cryptophyta						
	Chilomonas paramecium		13.2	0.2	28,497	3.1
	Chroomonas norstetii		6.6	0.1	4,197	0.5
	Chroomonas pochmanii		66.0	1.0	50,359	5.4
	Cryptomonas erosa		26.4	0.4	10,611	1.1
	Cryptomonas ovata		26.4	0.4	59,574	6.4
	Cryptomonas phaseolus		19.8	0.3	13,471	1.4
	Cryptomonas reflexa		145.1	2.3	287,350	30.8
	Cyathomonas truncata		6.6	0.1	276	0.0
	Kathablepharis ovalis		118.7	1.9	17,905	1.9
	Rhodomonas minuta		475.0	7.5	19,895	2.1
Cyanophyta						
	Aphanocapsa spp.		2922.3	46.4	1,530	0.2
	Chroococcus minimus		118.7	1.9	1,679	0.2
		Total	3944.8	62.7	495,344	53.1
Haptophyta						
	Chrysochromulina parva		1378.7	21.9	34,650	3.7
Pyrrophyta						
	Ceratium hirundinella		6.6	0.1	56,793	6.1
Unidentified						
	Unidentified flagellate - ovoid		19.8	0.3	373	0.0
		Total	6293.7		932,002	

Table 12 (cont.). Abundance and biovolume of Sodus Bay phytoplankton from Station 9, 25 August 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Asterionella formosa		79.8	0.8	29,689	1.8
	Aulacoseira granulata		18.2	0.2	37,104	2.3
	Aulacosiera italica		12.2	0.1	6,680	0.4
	Cocconeis placentula v. euglypta		1.9	0.0	1,403	0.1
	Cyclostephanos invisitatus		0.9	0.0	175	0.0
	Cyclotella spp.		10.4	0.1	1,669	0.1
	Diatoma vulgare		3.9	0.0	21,677	1.3
	Epithemia spp.		3.9	0.0	6,478	0.4
	Fragilaria capucina v. mesolepta		54.5	0.5	48,836	3.0
	Fragilaria crotonensis		1304.2	12.3	626,025	38.2
	Fragilaria spp.		7.8	0.1	4,236	0.3
	Fragilaria vaucheria		11.7	0.1	4,392	0.3
	Planothidium dubium		1.9	0.0	506	0.0
	Stephanodiscus medius		0.9	0.0	305	0.0
	Stephanodiscus niagarae		1.7	0.0	27,561	1.7
	Stephanodiscus parvus		1.7	0.0	468	0.0
		Total	1515.7	14.3	817,205	49.8
Chlorophyta						
	Chlamydomonas spp.		6.6	0.1	1,768	0.1
	Chlorella spp.		19.8	0.2	280	0.0
	Coelastrum cambrium		6.6	0.1	1,768	0.1
	Coelastrum microporum		310.0	2.9	10,390	0.6
	Coelastrum reticulatum		39.6	0.4	4,476	0.3
	Crucigenia spp.		52.8	0.5	3,095	0.2
	Elakalothrix		6.6	0.1	497	0.0
	Golenkina radiata		26.4	0.2	2,984	0.2
	Lagerheimia ciliata		39.6	0.4	23,501	1.4
	Mougeotia spp. ?		6.6	0.1	5,968	0.4
	Oocystis parva		26.4	0.2	3,454	0.2
	Oocystis spp.		112.1	1.1	4,697	0.3
	Paradoxia spp.		39.6	0.4	2,487	0.2
	Schroederia judayi		6.6	0.1	249	0.0
	Schroederia setigera		33.0	0.3	3,730	0.2
	Sphaerocystis schroeteri		52.8	0.5	1,768	0.1
	Staurastrum spp.		6.6	0.1	3,705	0.2
	Unidentified sphere		6.6	0.1	1,185	0.1
		Total	798.2	7.5	76,004	4.6
Chrysophyta						
	Mallomonas alpina		6.6	0.1	10,030	0.6
	Mallomonas spp.		13.2	0.1	6,715	0.4
	Unidentified flagellate		125.3	1.2	525	0.0
		Total	145.1	1.4	17,270	1.1
Colorless flagellates						
	Colorless flagellate		178.1	1.7	8,953	0.5
Cryptophyta						
	Chilomonas paramecium		6.6	0.1	16,544	1.0
	Chroomonas norstetii		19.8	0.2	19,688	1.2
	Chroomonas pochmanii		52.8	0.5	40,287	2.5
	Cryptomonas erosa		13.2	0.1	12,538	0.8
	Cryptomonas phaseolus		26.4	0.2	7,447	0.5
	Cryptomonas platyuris		6.6	0.1	13,853	0.8
	Cryptomonas reflexa		164.9	1.6	296,849	18.1
	Kathablepharis ovalis		13.2	0.1	1,989	0.1
	Rhodomonas minuta		138.5	1.3	9,067	0.6
		Total	442.0	4.2	418,262	25.5
Cyanophyta						
	Aphanizomenon flos-aquae (?)		197.9	1.9	44,764	2.7
	Aphanocapsa holsatica		1055.5	9.9	553	0.0
	Aphanocapsa spp.		4017.4	37.8	3,627	0.2
	Aphanothece spp.		217.7	2.0	513	0.0
	Chroococcus minimus		164.9	1.6	2,331	0.1
	Chroococcus spp.		66.0	0.6	34,540	2.1
	Microcystis aeruginosa		626.7	5.9	70,876	4.3
	Woronichinia spp.		85.8	0.8	1,616	0.1
		Total	6431.7	60.6	158,820	9.7
Haptophyta						
	Chrysochromulina parva		1081.8	10.2	27,190	1.7
Pyrrophyta						
	Ceratium hirundinella		19.8	0.2	116,445	7.1
Unidentified						
	Unidentified cell - sphere		6.6	0.1	432	0.0
		Total	10619.0		1,640,581	

Table 12 (cont.). Abundance and biovolume of Sodus Bay phytoplankton from Station 5, 15 September 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Asterionella formosa		48.2	0.5	20,842	0.3
	Aulacoseira granulata		23.6	0.3	16,032	0.2
	Cyclotella spp.		55.1	0.6	4,330	0.1
	Cyclotella stelligera v. tenuissima		94.5	1.0	7,422	0.1
	Fragilaria crotonensis		442.9	4.8	231,191	3.1
	Melosira granulata fo. curvata		47.3	0.5	22,266	0.3
	Navicula spp.		1.0	0.0	392	0.0
	Nitzschia palea		3.9	0.0	729	0.0
	Stephanodiscus alpinus		15.8	0.2	49,876	0.7
	Stephanodiscus hantzschii		7.9	0.1	1,082	0.0
	Stephanodiscus niagarae		196.9	2.1	5,411,884	73.4
		Total	937.0	10.2	5,766,046	78.2
Chlorophyta						
	Ankistrodesmus falcatus		24.5	0.3	7,387	0.1
	Coelastrum microporum		12.3	0.1	3,284	0.0
	Oocystis parva		85.8	0.9	54,556	0.7
	Scenedesmus spp.		49.0	0.5	1,604	0.0
	Schroederia judayi		110.3	1.2	2,338	0.0
		Total	281.8	3.1	69,169	0.9
Chrysophyta						
	Mallomonas spp.		12.3	0.1	4,926	0.1
Colorless flagellates						
	Colorless flagellate		318.5	3.5	25,017	0.3
Cryptophyta						
	Chilomonas paramecium		24.5	0.3	64,685	0.9
	Chroomonas coerulea		24.5	0.3	11,495	0.2
	Chroomonas norstetii		61.3	0.7	119,439	1.6
	Chroomonas pochmanii		245.0	2.7	128,291	1.7
	Cryptomonas erosa		98.0	1.1	71,843	1.0
	Cryptomonas marssoni		12.3	0.1	2,463	0.0
	Cryptomonas ovata		49.0	0.5	99,734	1.4
	Cryptomonas phaseolus		196.0	2.1	99,759	1.4
	Cryptomonas platyuris		12.3	0.1	23,093	0.3
	Cryptomonas reflexa		257.3	2.8	416,776	5.7
	Cryptomonas tetrapyrenoidosa		12.3	0.1	23,888	0.3
	Cyathomonas truncata		36.8	0.4	2,463	0.0
	Kathablepharis ovalis		673.8	7.3	127,008	1.7
	Komma caudata		12.3	0.1	2,463	0.0
	Rhodomonas minuta		3797.8	41.4	223,708	3.0
		Total	5512.9	60.0	1,417,107	19.2
Cyanophyta						
	Aphanocapsa holsatica		355.3	3.9	186	0.0
	Aphanocapsa spp.		869.8	9.5	455	0.0
	Aphanothece spp.		171.5	1.9	1,403	0.0
	Woronichinia spp.		196.0	2.1	962	0.0
		Total	1592.6	17.3	3,007	0.0
Haptophyta						
	Chrysochromulina parva		159.3	1.7	3,002	0.0
Pyrrophyta						
	Hemidinium spp.		12.3	0.1	37,076	0.5
	Unidentified cell - ovoid		12.3	0.1	12,932	0.2
	Unidentified cell - sphere		12.3	0.1	1,386	0.0
	Unidentified flagellate		232.8	2.5	4,388	0.1
		Total	269.5	2.9	55,781	0.8
Unidentified						
	Unidentified flagellate - ovoid		12.3	0.1	2,829	0.0
	Unidentified flagellate - sphere		85.8	0.9	22,990	0.3
		Total	98.0	1.1	25,819	0.4
		Total	9181.8		7,369,874	

Table 12 (cont.). Abundance and biovolume of Sodus Bay phytoplankton from Station 9, 15 September 2004

Division	Taxon		Abundance (Cells/mL)	Percent Abundance	Biovolume (μm^3/mL)	Percent Biovolume
Bacillariophyta						
	Asterionella formosa		19.5	0.3	6,529	0.2
	Cocconeis placentula		1.0	0.0	1,040	0.0
	Cocconeis placentula v. lineata		1.0	0.0	1,235	0.0
	Cyclotella spp.		20.6	0.3	6,553	0.2
	Cyclotella stelligera v. tenuissima		10.3	0.1	809	0.0
	Diatoma spp.		2.1	0.0	1,182	0.0
	Epithemia spp.		2.1	0.0	5,654	0.1
	Fragilaria crotonensis		727.3	9.7	349,105	8.8
	Melosira granulata fo. curvata		41.2	0.5	19,415	0.5
	Nitzschia spp.		2.1	0.0	320	0.0
	Stephanodiscus alpinus		5.2	0.1	10,221	0.3
	Stephanodiscus niagarae		128.8	1.7	1,541,676	38.8
		Total	961.0	12.8	1,943,739	48.9
Chlorophyta						
	Oocystis crassa		34.3	0.5	11,495	0.3
	Oocystis parva		34.3	0.5	8,801	0.2
	Schroederia judayi		68.6	0.9	647	0.0
	Sphaerocystis spp.		308.7	4.1	82,763	2.1
	Unidentified flagellate - Chlorophyte		34.3	0.5	216	0.0
		Total	480.2	6.4	103,921	2.6
Chrysophyta						
	Mallomonas alpina		17.2	0.2	11,674	0.3
	Unidentified flagellate		154.4	2.1	10,992	0.3
		Total	171.5	2.3	22,666	0.6
Colorless flagellates						
	Colorless flagellate		394.5	5.3	44,615	1.1
Cryptophyta						
	Chilomonas paramecium		85.8	1.1	296,374	7.5
	Chroomonas coerulea		34.3	0.5	7,759	0.2
	Chroomonas pochmanii		463.1	6.2	418,989	10.5
	Cryptomonad		17.2	0.2	16,299	0.4
	Cryptomonas erosa		154.4	2.1	121,235	3.0
	Cryptomonas marssoni		102.9	1.4	28,369	0.7
	Cryptomonas obovata		68.6	0.9	103,454	2.6
	Cryptomonas ovata		68.6	0.9	129,317	3.3
	Cryptomonas phaseolus		120.1	1.6	88,008	2.2
	Cryptomonas platyuris		17.2	0.2	27,785	0.7
	Cryptomonas reflexa		274.4	3.7	411,630	10.4
	Kathablepharis ovalis		891.9	11.9	93,396	2.3
	Pyrenomonas ovalis		34.3	0.5	20,367	0.5
	Rhodomonas minuta		2658.4	35.5	77,950	2.0
		Total	4991.0	66.6	1,840,932	46.3
Cyanophyta						
	Woronichinia spp.		274.4	3.7	718	0.0
Haptophyta						
	Chrysochromulina parva		205.8	2.7	3,880	0.1
Unidentified						
	Unidentified flagellate - ovoid		17.2	0.2	15,213	0.4
		Total	7495.6		3,975,684	

Table 13. Phytoplankton species list for Sodus Bay, May through September 2004.

Division	Species Authority
Bacillariophyta	
	Achnanthes spp. Bory
	Achnanthidium exiguum (Grunow) Czarn.
	Achnanthidium hungaricum Grun.
	Achnanthidium minutissima (Kutz.) Czarn.
	Amphora ovalis v. pediculus (Kutz) V. H.
	Amphora perpusilla (Grun.) Grun.
	Asterionella formosa Hassall
	Aulacoseira spp. Thwaites
	Aulacoseira granulata (Ehrnb.) Simonsen
	Aulacosiera italica (Ehrnb.) Simonsen
	Caloneis spp. Cleve
	Cocconeis pediculus Ehr.
	Cocconeis placentula Ehr.
	Cocconeis placentula v. euglypta (Ehr.) Cl.
	Cocconeis placentula v. lineata (Ehr.) V. H.
	Cyclostephanos invisitatus (M. H.Hohn & Hellerm.) Theriot, Stoermer & Hak
	Cyclotella atomus Hust.
	Cyclotella kutzingiana v. parva
	Cyclotella meneghiniana Kutz.
	Cyclotella ocellata Pantocs.
	Cyclotella spp. Kutzing
	Cyclotella stelligera v. tenuissima Hust.
	Cymatopluera v. solea (Breb.) Smith
	Cymbella aspera (Her.) H. Perag.
	Diatoma spp. Bory
	Diatoma tenue v. elongatum Lyngh.
	Diatoma vulgare Bory
	Epithemia spp. Brebisson
	Fragilaria capucina Desmaz.
	Fragilaria capucina v. mesolepta Rabh.
	Fragilaria crotonensis Kitton
	Fragilaria spp.
	Fragilaria vaucheria (Kutz) Peters
	Gomphonema olivaceum v.olivaceoides (Hust.) Lange-Bert.
	Gomphonema spp. Ag.
	Gyrosigma acuminatum (Kuetz.) Rabh.
	Melosira granulata fo.curvata Grunow

Table 13 (cont.). Phytoplankton species list for Sodus Bay, May through September 2004.

Division	Species Authority
Bacillariophyta	
	Meridion circulare (Grev.) Ag.
	Navicula capitatoradiata Germain
	Navicula cryptocefalsa Lange-Bert.
	Navicula excelsa Krasske
	Navicula lanceolata (Ag.) Kutz.
	Navicula notha Wallace
	Navicula salinarum Grun.
	Navicula spp. Bory
	Navicula tenelloides Hustedt
	Navicula tripunctata (O. F. Mull.) Bory
	Navicula tripunctata v. schizonemoides (V. H.) Patr.
	Nitzschia acicularis (Kutz.) W. Smith
	Nitzschia dissipata (Kutz) Grun.
	Nitzschia gracilis Hantzsch
	Nitzschia palea (Kutz.) W. Smith
	Nitzschia spp. Hassall
	Planothidium dubium (Grunow) Round & Bukht.
	Sellaphora rectangularis (Greg.) Lange-Bert. & Metzeltin
	Sellaphora seminulum (Grunow) D.G.Mann
	Staurosirella pinnata (Ehrenb.) D. M. Williams & Round
	Stephanodiscus alpinus Hustedt
	Stephanodiscus astraea (Ehrenb.) Grunow
	Stephanodiscus hantzschii Grun.
	Stephanodiscus medius Hak
	Stephanodiscus niagarae Ehr.
	Stephanodiscus parvus Stoermer & Hak
	Stephanodiscus spp. Ehrenberg
	Synedra rumpens Kutz.
	Synedra rumpens v. familiaris (Kutz.) Hust.
	Synedra rumpens v. scotia Grunow
	Synedra spp.

Table 13 (cont.). Phytoplankton species list for Sodus Bay, May through September 2004.

Division	Species Authority
Chlorophyta	
	Ankistrodesmus convolutus Corda
	Ankistrodesmus falcatus (Corda) Ralfs
	Ankistrodesmus spp. Corda
	Carteria spp. Diesing
	Chlamydomonas spp. Ehrenberg
	Chlorella spp. Beijerinck
	Coelastrum cambrium Archer
	Coelastrum microporum Naeg.
	Coelastrum reticulatum (Dang.) Seng
	Coelastrum sphaericum Nageli
	Crucigenia spp. Morren
	Dictyosphaerium spp. Nageli
	Elakalothrix spp. Wille
	Golenkina radiata (Chod.) Wille
	Kirchneriella spp. Schmidle
	Lagerheimia ciliata (Lag.) Chodat
	Mougeotia spp. ? C. A. Agardh
	Nanochloris bacarillis
	Oocystis crassa Wittrock
	Oocystis parva W. & G. S. West
	Oocystis spp. Naegeli
	Pandorina spp. Bory de St.Vincent
	Paradoxia spp. Swirenko
	Phacotus spp.
	Scenedesmus acutiformis Schroeder
	Scenedesmus quadrecauta (Turp.) Breb
	Scenedesmus spp. Meyen
	Schroederia judayi G. M. Smith
	Schroederia setigera Lemmermann
	Selenastrum spp. Reinsch
	Spermatozoopsis elegans
	Spermatozoopsis exsultans Korsch.
	Sphaerocystis Chodat
	Sphaerocystis schroeteri Chod.
	Staurastrum Meyen ex Ralfs
	Unidentified crescent - Cholorphyte
	Unidentified flagellate - Chlorophyte
	Unidentified ovoid cell
	Unidentified sphere

Table 13 (cont.). Phytoplankton species list for Sodus Bay, May through September 2004.

Division	Species Authority
Chrysophyta	
	Dinobryon cyst Ehrenberg
	Dinobryon divergens Imhof
	Dinobryon spp. Ehrenberg
	Kephyrion ovale (Lackey) Huber-Pestalozzi
	Mallomonas alpina Pascher & Ruttner
	Mallomonas spp. Perty
	Unidentified flagellate
	Unidentified spheres
Colorless flagellates	
	Colorless flagellate
Cryptophyta	
	Chilomonas paramecium Eh.
	Chroomonas coerulea (Geitl.) Skuja
	Chroomonas norstetii Hansgirg
	Chroomonas pochmanii Huber-Pestalozzi
	Cryptomonad
	Cryptomonas erosa Eh.
	Cryptomonas marssoni Skuja
	Cryptomonas obovata Skuja
	Cryptomonas ovata Eh.
	Cryptomonas ozolini Skuja
	Cryptomonas phaseolus Skuja
	Cryptomonas platyuris Skuja
	Cryptomonas reflexa (Marsson) Skuja
	Cryptomonas rostratiformis, Skuja
	Cryptomonas spp. Ehrenberg
	Cryptomonas tetrapyrenoidosa Skuja
	Cyathomonas truncata Fromental
	Kathablepharis ovalis
	Kathablepharis phoenikoston Skuja
	Komma caudata
	Pyrenomonas ovalis
	Rhodomonas minuta Skuja
	Storeatula rhinosa

Table 13 (cont.). Phytoplankton species list for Sodus Bay, May through September 2004.

Division	Species Authority
Cyanophyta	
	Anabaena circinalis (?) Rbh.
	Anabaena spp. Bory
	Aphanizomenon flos-aquae (?) (Lyngb.) Breb.
	Aphanocapsa holsatica (Lemmermann) Cronberg et Komarek
	Aphanocapsa spp. Nageli
	Aphanothece spp. Nageli
	Chroococcus minimus (Keissler) Lemmermann
	Chroococcus spp. Nageli
	Microcystis aeruginosa Kuetz
	Pseudanabaena spp. Lauterborn
	Unknown cell - Cyanophyte
	Woronichinia spp. Elenkin
Haptophyta	
	Chrysochromulina parva Lackey
Pyrrophyta	
	Ceratium hirundinella (O. F. Muell.) Dujardin
	Glenodinium spp. (Ehrenberg) Stein
	Gymnodinium spp. Stein
	Hemidinium spp. Stein
	Peridinium spp. Ehrenberg
	Unidentified cell - ovoid
	Unidentified cell - sphere
	Unidentified flagellate
Unidentified	
	Unidentified cell - ovoid
	Unidentified cell - sphere
	Unidentified flagellate - ovoid
	Unidentified flagellate - sphere

Table 14. Water chemistry, discharge and losses from the First Creek sub-watershed within the Sodus Bay watershed, May through September 2004. TP = total phosphorus, TSS = total suspended solids, TKN = total Kjeldahl nitrogen, na = not available due to inoperative probe .

Date	TP (µg P/L)	Nitrate (mg N/L)	TSS (mg/L)	TKN (µg N/L)	Temperature (°C)	Oxygen (mg/L)	pH	Conductivity (µmhos/cm)
05/05/04	27.0	0.07	2.7	200	11.52	10.46	7.84	452
06/16/04	49.4	0.05	3.3	600	19.88	8.94	7.54	na
07/21/04	56.6	0.13	2.7	360	21.54	8.68	8.21	na
08/25/04	43.5	0.01	2.0	380	17.72	5.56	7.85	529
09/15/04	48.7	0.26	3.0	310	18.42	6.87	7.30	508

Date	Discharge (m^3/d)	TP (kg P/d)	Nitrate (kg N/d)	TSS (kg/d)	TKN (kg N/d)
05/05/04	32,907	0.89	2.30	88.8	6.58
06/16/04	7,579	0.37	0.38	25.0	4.55
07/21/04	7,520	0.43	0.98	20.3	2.71
08/25/04	3,313	0.14	0.03	6.6	1.26
09/15/04	8,612	0.42	2.24	25.8	2.67

Table 15. Water chemistry, discharge and losses from the Second Creek sub-watershed within the Sodus Bay watershed, May through September 2004. TP = total phosphorus, TSS = total suspended solids, TKN = total Kjeldahl nitrogen, na = not available due to inoperative probe .

Date	TP (µg P/L)	Nitrate (mg N/L)	TSS (mg/L)	TKN (µg N/L)	Temperature (°C)	Oxygen (mg/L)	pH	Conductivity (µmhos/cm)
05/05/04	13.9	0.28	88.3	460	12.67	12.12	8.21	502
06/16/04	27.0	0.57	3.0	1150	17.97	9.82	7.99	na
07/21/04	46.8	0.53	2.7	1020	21.78	10.40	8.62	na
08/25/04	27.3	0.72	2.0	590	16.70	10.08	8.05	548
09/15/04	30.3	0.63	1.8	140	17.40	9.86	7.83	847

Date	Discharge (m^3/d)	TP (kg P/d)	Nitrate (kg N/d)	TSS (kg/d)	TKN (kg N/d)
05/05/04	61,931	0.86	17.34	5468.5	28.49
06/16/04	20,984	0.57	11.96	63.0	24.13
07/21/04	4,506	0.21	2.39	12.2	4.60
08/25/04	4,416	0.12	3.18	8.8	2.61
09/15/04	25,780	0.78	16.24	46.4	3.61

Table 16. Water chemistry, discharge and losses from the Third Creek sub-watershed within the Sodus Bay watershed, May through September 2004. TP = total phosphorus, TSS = total suspended solids, TKN = total Kjeldahl nitrogen, na = not available due to inoperative probe .

Date	TP (µg P/L)	Nitrate (mg N/L)	TSS (mg/L)	TKN (µg N/L)	Temperature (°C)	Oxygen (mg/L)	pH	Conductivity (µmhos/cm)
05/05/04	23.6	0.17	3.1	430	11.69	11.40	7.91	401
06/16/04	50.1	0.28	16.4	1240	15.70	9.32	7.59	na
07/21/04	56.9	0.29	11.2	650	19.37	9.08	8.18	na
08/25/04	46.9	0.31	6.6	510	14.78	8.83	7.74	531
09/15/04	55.4	0.24	7.2	550	16.90	8.75	7.69	424

Date	Discharge (m^3/d)	TP (kg P/d)	Nitrate (kg N/d)	TSS (kg/d)	TKN (kg N/d)
05/05/04	25,024	0.59	4.25	77.6	10.76
06/16/04	3,948	0.20	1.11	64.8	4.90
07/21/04	2,706	0.15	0.78	30.3	1.76
08/25/04	1,586	0.07	0.49	10.5	0.81
09/15/04	8,305	0.46	1.99	59.8	4.57

Table 17. Water chemistry, discharge and losses from the Sodus West Creek sub-watershed within the Sodus Bay watershed, May through September 2004. TP = total phosphorus, TSS = total suspended solids, TKN = total Kjeldahl nitrogen, na = not available due to inoperative probe .

Date	TP (µg P/L)	Nitrate (mg N/L)	TSS (mg/L)	TKN (µg N/L)	Temperature (°C)	Oxygen (mg/L)	pH	Conductivity (µmhos/cm)
05/05/04	24.8	0.07	3.8	530	12.91	11.20	8.00	286
06/16/04	44.9	0.27	4.9	1040	17.07	9.25	7.89	na
07/21/04	63.0	0.24	3.5	710	20.62	8.67	8.47	na
08/25/04	35.3	0.21	2.8	280	16.03	9.65	8.52	367
09/15/04	45.3	0.20	6.5	470	18.04	9.23	8.03	309

Date	Discharge (m^3/d)	TP (kg P/d)	Nitrate (kg N/d)	TSS (kg/d)	TKN (kg N/d)
05/05/04	26,165	0.65	1.83	99.4	13.87
06/16/04	5,005	0.22	1.35	24.5	5.21
07/21/04	4,029	0.25	0.97	14.1	2.86
08/25/04	1,095	0.04	0.23	3.1	0.31
09/15/04	8,721	0.40	1.74	56.7	4.10

Table 18. Water chemistry, discharge and losses from the Sodus East Creek sub-watershed within the Sodus Bay watershed, May through September 2004. TP = total phosphorus, TSS = total suspended solids, TKN = total Kjeldahl nitrogen, na = not available due to inoperative probe .

Date	TP (µg P/L)	Nitrate (mg N/L)	TSS (mg/L)	TKN (µg N/L)	Temperature (°C)	Oxygen (mg/L)	pH	Conductivity (µmhos/cm)
05/05/04	27.0	0.38	3.5	390	13.08	11.81	8.56	484
06/16/04	76.9	0.83	18.9	1300	16.02	9.54	7.67	na
07/21/04	61.4	0.97	6.2	470	20.00	9.52	8.52	na
08/25/04	49.7	0.89	7.4	370	15.49	10.16	8.00	597
09/15/04	51.7	0.68	2.2	310	17.16	9.80	7.88	561

Date	Discharge (m^3/d)	TP (kg P/d)	Nitrate (kg N/d)	TSS (kg/d)	TKN (kg N/d)
05/05/04	53,290	1.44	20.25	186.52	20.78
06/16/04	11,503	0.88	9.55	217.41	14.95
07/21/04	14,711	0.90	14.27	91.21	6.91
08/25/04	7,792	0.39	6.94	57.66	2.88
09/15/04	37,169	1.92	25.27	81.77	11.52

Table 19. Water chemistry, discharge and losses from the Clark Creek sub-watershed within the Sodus Bay watershed, May through September 2004. TP = total phosphorus, TSS = total suspended solids, TKN = total Kjeldahl nitrogen, na = not available due to inoperative probe .

Date	TP (µg P/L)	Nitrate (mg N/L)	TSS (mg/L)	TKN (µg N/L)	Temperature (°C)	Oxygen (mg/L)	pH	Conductivity (µmhos/cm)
05/05/04	27.9	0.46	9.6	280	11.18	11.54	7.77	267
06/16/04	44.9	0.99	14.0	310	14.43	10.08	7.91	na
07/21/04	75.3	1.02	19.8	280	20.01	8.73	8.54	na
08/25/04	57.7	1.04	17.6	250	16.74	9.36	8.30	357
09/15/04	52.6	0.95	16.4	210	16.41	9.81	8.46	370

Date	Discharge (m^3/d)	TP (kg P/d)	Nitrate (kg N/d)	TSS (kg/d)	TKN (kg N/d)
05/05/04	4,053	0.11	1.86	38.9	1.13
06/16/04	1,443	0.06	1.43	20.2	0.45
07/21/04	429	0.03	0.44	8.5	0.12
08/25/04	724	0.04	0.75	12.7	0.18
09/15/04	2,121	0.11	2.02	34.8	0.45

Table 20. Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 5, 5 May 2004.

Sodus Bay Site 5 5 May 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Cladocera					
Bosmina longirostris		300	0.92	0.66	9
Daphnia galeata mendotae		1067	0.28	1.52	
Daphnia retrocurva		522	1.42	0.78	8,3,13,8
Daphnia retrocurva (young)		372	0.43	0.08	
Eubosmina coregoni		394	0.50	0.71	2
	Total		3.55	3.74	
Copepoda					
Copepod nauplii		211	29.82	11.93	
Copepodid		561	13.06	6.92	
	Total		42.88	18.84	
Cyclopoida					
Diacyclops thomasii		1009	2.06	9.31	38, 18, 11
Mesocyclops edax		556	0.07	0.04	
	Total		2.13	9.35	
Rotifera					
Asplanchna priodonta		429	0.07	0.05	
Asplanchna sp.		209	12.50	1.03	
Brachionus sp.		117	0.57	0.01	
Euchlanis (?) sp.		273	0.07	0.02	
Kellicottia longispina		97	0.28	0.00	
Keratella cochlearis		115	0.14	0.00	1
Keratella crassa		156	0.07	0.01	
Keratella quadrata		156	0.07	0.01	
Notholca squamula		247	0.21	0.05	
Polyarthra remata		39	0.07	0.00	
Polyarthra remata (?)		107	0.14	0.01	
Polyarthra vulgaris		106	1.21	0.04	
	Total		15.41	1.21	
	Total		63.97	33.15	

Table 20 (cont.). Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 9, 5 May 2004.

Sodus Bay Site 9 5 May 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Cladocera					
Alonella sp.		325	0.30	0.47	
Bosmina longirostris		301	2.71	1.95	
Daphnia galeata mendotae		1130	9.62	59.61	5, 8, 7, 9, 9
Daphnia sp. (young)		234	2.10	0.23	
Eubosmina coregoni		348	1.20	1.25	
Eubosmina sp. (young)		182	0.30	0.06	
Unknown Cladocera (top view)		1130	0.30	1.86	3
	Total		16.54	65.44	
Copepoda					
Copepod nauplii		192	45.70	18.28	
Copepodid		526	31.27	12.85	
	Total		76.97	31.13	
Cyclopoida					
Diacyclops thomasii		962	4.81	19.80	
Mesocyclops edax		722	0.60	0.87	
	Total		5.41	20.67	
Rotifera					
Asplanchna sp.		192	4.51	0.29	
Brachionus sp.		91	0.30	0.00	
Kellicottia longispina		105	0.60	0.00	
Keratella cochlearis		102	0.30	0.00	
Keratella crassa		180	0.60	0.08	
Polyarthra major		143	0.30	0.03	
Polyarthra vulgaris		100	0.30	0.01	
	Total		6.91	0.41	
	Total		105.83	117.65	

Table 20 (cont.). Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 5, 16 June 2004.

Sodus Bay Site 5 16 June 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Calanoida					
Skistodiaptomus oregonensis		1170	0.14	0.59	
Cladocera					
Bosmina longirostris		265	2.10	1.09	
Daphnia galeata mendotae		1093	1.54	8.75	
Daphnia retrocurva		765	7.70	13.93	2
Daphnia sp. (young)		573	0.70	0.76	
Eubosmina coregoni		368	10.36	12.43	1
	Total		22.54	37.56	
Copepoda					
Copepod nauplii		249	10.08	4.03	
Copepodid		611	5.46	4.07	
	Total		15.54	8.11	
Cyclopoida					
Diacyclops thomasii		713	0.83	1.88	
Mesocyclops edax		1076	7.71	54.26	31, 16
	Total		8.54	56.14	
Harpacticoid copepod		829	0.14	0.25	
Rotifera					
Brachionus sp.		104	0.42	0.01	
Kellicottia longispina		111	0.14	0.00	
Keratella cochlearis		114	5.46	0.03	1,1,1
Keratella crassa		197	0.42	0.07	
Ploesoma hudsoni		400	0.28	0.18	
Polyarthra euryptera		167	21.84	3.34	1
Polyarthra vulgaris		164	91.56	12.50	1 in ea.of 9 P. v.
	Total		120.12	16.14	
	Total		166.88	118.19	

Table 20 (cont.). Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 9, 16 June 2004.

Sodus Bay Site 9 16 June 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Cladocera					
Bosmina longirostris		294	3.74	2.55	
Ceriodaphnia sp.		520	0.37	0.81	
Daphnia galeata mendotae		1243	14.95	118.15	
Daphnia retrocurva		707	4.49	6.35	
Daphnia sp. (young)		417	4.49	2.17	
Diaphanosoma birgei		436	0.37	0.11	
Eubosmina coregoni		380	7.48	9.73	
	Total		35.89	139.86	
Copepoda					
Copepod nauplii		186	12.71	5.08	
Copepodid		598	5.98	4.10	
	Total		18.69	9.18	
Cyclopoida					
Diacyclops thomasii		767	0.37	0.98	
Mesocyclops edax		1022	2.24	12.88	
	Total		2.62	13.86	
Rotifera					
Kellicottia longispina		100	1.12	0.00	
Keratella cochlearis		116	18.69	0.12	1 attached to each of 12 K. c.
Keratella quadrata		156	0.37	0.03	
Ploesoma hudsoni		351	0.37	0.16	
Polyarthra euryptera		176	2.24	0.40	
Polyarthra major		147	52.34	5.10	1
Polyarthra vulgaris		101	142.06	4.48	1
Rotifer (?)		80	1.50	0.02	
	Total		218.69	10.32	
	Total		275.89	173.23	

Table 20 (cont.). Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 5, 21 July 2004.

Sodus Bay Site 5 21 July 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Calanoida					
Calanoid copepodid		488	0.32	0.16	
Skistodiaptomus oregonensis		975	0.32	0.86	
	Total		0.64	1.02	
Cladocera					
Bosmina longirostris		261	2.58	1.30	
Ceriodaphnia sp.		553	0.32	0.84	
Daphnia galeata mendotae		965	16.65	68.79	3,1, 2, 3, 4, 4
Daphnia retrocurva		551	3.96	2.57	2,2
Daphnia sp. (young)		369	5.47	1.93	
Eubosmina coregoni		404	22.54	34.17	1
Eubosmina coregoni (young)		277	3.86	2.27	
	Total		55.38	111.86	
Copepoda					
Copepod nauplii		195	58.60	23.44	
Copepodid		638	44.11	38.96	
	Total		102.70	62.40	
Cyclopoida					
Mesocyclops edax		852	11.59	32.36	1 with clusters of developing eggs
Rotifera					
Conochilis unicornis		105	32.84	0.58	
Kellicottia longispina		110	0.97	0.01	1
Keratella cochlearis		98	5.47	0.02	
Keratella crassa		190	12.88	2.04	1,1
Keratella quadrata		156	0.64	0.06	
Polyarthra euryptera		137	0.64	0.05	
Polyarthra major		145	4.51	0.42	
Polyarthra vulgaris		124	14.17	0.83	
	Total		72.12	4.00	
	Total		242.43	211.64	

Table 20 (cont.). Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 9, 21 July 2004.

Sodus Bay Site 9 21 July 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Calanoida					
Calanoid copepodid		702	0.80	0.96	
Skistodiaptomus oregonensis		1170	0.40	1.69	
	Total		1.20	2.65	
Cladocera					
Bosmina longirostris		273	2.01	1.13	
Daphnia galeata mendotae		1058	27.31	142.82	3,3
Daphnia retrocurva		658	9.59	10.85	
Daphnia sp. (young)		404	10.03	4.46	
Diaphanosoma birgei		455	0.80	0.27	
Eubosmina coregoni		400	16.85	25.05	
Eubosmina sp. (young)		255	1.60	0.76	
	Total		68.19	185.34	
Copepoda					
Copepod nauplii		216	90.65	36.26	
Copepodid		663	58.16	59.86	
	Total		148.81	96.12	
Cyclopoida					
Mesocyclops edax		1049	15.24	97.01	13
Rotifera					
Asplanchna priodonta		540	0.40	0.57	
Conochilis unicornis		97	8.02	0.13	
Kellicottia longispina		107	2.01	0.01	1
Keratella cochlearis		97	4.01	0.01	1
Keratella crassa		180	8.02	1.09	
Ploesoma hudsoni		338	0.40	0.15	
Polyarthra major		133	4.81	0.35	
Polyarthra sp.		91	0.40	0.01	
Polyarthra vulgaris		120	17.25	0.91	1,1,1,1,1
	Total		45.33	3.23	
	Total		278.77	384.36	

Table 20 (cont.). Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 5, 25 August 2004.

Sodus Bay Site 5 25 August 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Calanoida					
Skistodiaptomus oregonensis		520	0.40	0.23	
Cladocera					
Bosmina longirostris		242	2.82	1.17	
Ceriodaphnia sp.		407	3.63	3.64	1,1,1
Daphnia retrocurva		677	9.68	11.95	
Daphnia sp. (young)		416	1.21	0.58	
Diaphanosoma birgei		537	0.81	0.44	
Eubosmina coregoni		356	6.86	7.58	1
Eubosmina sp. (young)		215	0.81	0.25	
	Total		25.82	25.61	
Copepoda					
Copepod nauplii		207	141.59	56.64	
Cyclopoida					
Cyclopoid copepodid		463	48.00	11.89	
Mesocyclops edax		630	4.84	4.06	11,9,9,4,10,10
Tropocyclops prasinus		560	0.40	0.57	
	Total		53.25	16.53	
Rotifera					
Asplanchna priodonta		484	150.87	153.54	1,1,1,1,1,1,1,1
Asplanchna sp.		185	0.40	0.02	
Conochilis unicornis		97	65.35	1.05	
Kellicottia longispina		95	1.61	0.01	1
Keratella cochlearis		110	7.66	0.04	
Keratella crassa		174	8.07	0.97	1,1,1,1
Polyarthra euryptera		195	0.40	0.10	
Polyarthra major		144	42.76	3.97	1
Polyarthra sp.		111	0.81	0.03	
Polyarthra vulgaris		107	156.11	5.86	1 attached to each of 13 Poly.
	Total		434.06	165.59	
	Total		655.12	264.60	

Table 20 (cont.). Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 9, 25 August 2004.

Sodus Bay Site 9 25 August 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Cladocera					
Bosmina longirostris		275	8.18	4.72	
Ceriodaphnia sp.		433	1.82	2.20	
Daphnia galeata mendotae		960	5.84	23.83	2
Daphnia retrocurva		584	7.79	6.06	
Daphnia sp. (young)		260	1.82	0.26	
Diaphanosoma birgei		475	1.82	0.69	
Eubosmina coregoni		335	15.46	14.60	
Eubosmina sp. (young)		169	0.91	0.15	
	Total		43.64	52.50	
Copepoda					
Copepod nauplii		205	209.11	83.64	
Copepodid		495	66.37	21.35	
	Total		275.48	105.00	
Cyclopoida					
Mesocyclops edax		647	16.37	15.29	10, 10, 8, 9
Rotifera					
Asplanchna priodonta		511	148.20	177.79	1 in each of 12 Asplanchna
Conochilis unicornis		100	144.56	2.41	1,1,1,1,1,1
Keratella cochlearis		101	17.27	0.07	1
Keratella crassa		170	11.82	1.35	
Polyarthra major		143	104.56	9.46	1,1
Polyarthra vulgaris		127	305.49	19.27	1 on each of 10 Polyarthra
	Total		731.89	210.35	
	Total		1067.38	383.14	

Table 20 (cont.). Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 5, 15 September 2004.

Sodus Bay Site 5 15 September 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Cladocera					
Bosmina longirostris		282	71.78	43.96	
Ceriodaphnia sp.		363	2.39	1.67	
Daphnia galeata mendotae		665	3.19	5.08	1
Daphnia retrocurva		423	0.80	0.23	
Daphnia sp. (young)		320	3.19	0.78	
Eubosmina coregoni		355	11.17	12.24	
Eubosmina sp. (young)		260	3.19	1.59	
	Total		95.70	65.55	
Copepoda					
Copepod nauplii		186	33.50	13.40	
Copepodid		399	19.14	2.63	
	Total		52.64	16.03	
Cyclopoida					
Mesocyclops edax		455	1.60	0.37	
Tropocyclops prasinus		560	0.80	1.14	
	Total		2.39	1.50	
Rotifera					
Brachionus sp.		100	12.76	0.17	
Conochilis unicornis		130	0.80	0.02	
Kellicottia longispina		50	0.80	0.00	
Keratella cochlearis		111	33.50	0.19	1 on each of 11 Keratella
Keratella crassa		195	42.27	7.23	1,1,1,1,1,1,1
Ploesoma hudsoni		450	1.60	1.45	
Polyarthra euryptera		172	22.33	3.77	1,1
Polyarthra vulgaris		122	126.80	7.02	1,1,1,1,1,1,1
	Total		240.85	19.85	
	Total		391.57	102.94	

Table 20 (cont.). Abundance, biomass (dry weight), mean length and egg data of Sodus Bay zooplankton from Station 9, 15 September 2004.

Sodus Bay Site 9 15 September 2004		Mean Length (µm)	Abundance (#/L)	Biomass (µg/L)	Attached eggs
Cladocera					
Bosmina longirostris		282	206.20	125.92	
Bosmina sp. (young)		189	13.19	2.93	
Ceriodaphnia sp.		347	3.60	2.17	
Daphnia retrocurva		536	25.18	14.96	
Daphnia sp. (young)		226	8.39	0.84	
Diaphanosoma birgei		337	5.99	0.80	
Eubosmina coregoni		334	27.57	25.98	
Eubosmina sp. (young)		192	8.39	1.94	
	Total		298.52	175.52	
Copepoda					
Copepod nauplii		184	125.88	50.35	
Copepodid		316	41.96	2.27	
	Total		167.84	52.63	
Cyclopoida					
Mesocyclops edax		450	98.31	21.66	10, 10, 13
Harpacticoida					
Harpacticoid copepod		365	1.20	0.29	
Rotifera					
Asplanchna priodonta		540	2.40	3.38	
Asplanchna sp.		212	2.40	0.20	
Brachionus sp.		91	29.97	0.29	
Kellicottia longispina		113	11.99	0.07	1,1
Keratella cochlearis		101	293.72	1.20	1 each to 64 K. c.
Keratella crassa		173	164.24	19.55	1 each to 18 K. cr.
Ploesoma hudsoni		332	5.99	2.19	
Polyarthra euryptera		182	10.79	2.15	
Polyarthra major		142	79.12	6.91	1
Polyarthra remata		68	2.40	0.02	
Polyarthra vulgaris		88	10.79	0.23	1
Polyarthra vulgaris		122	546.68	30.39	1 each to 39 Poly.
	Total		1160.50	66.58	
	Total		1726.36	316.68	

Figure 1. Sampling sites in the Sodus Bay watershed. The latitude and longitude of the sites are: Site 1 N 43° 16.200 W 76° 58.570, Site 2 N 43° 15.956 W 76° 57.213, Site 6 N 43° 15.455 W 76° 56.507, Site 12 N 43° 14.008 W 76° 55.918, Site 10 N 43° 14.188 W 76° 56.441, Site 9 N 43° 14.902 W 76° 56.790 and Site 5 N 43° 15.185 W 76° 57.380.

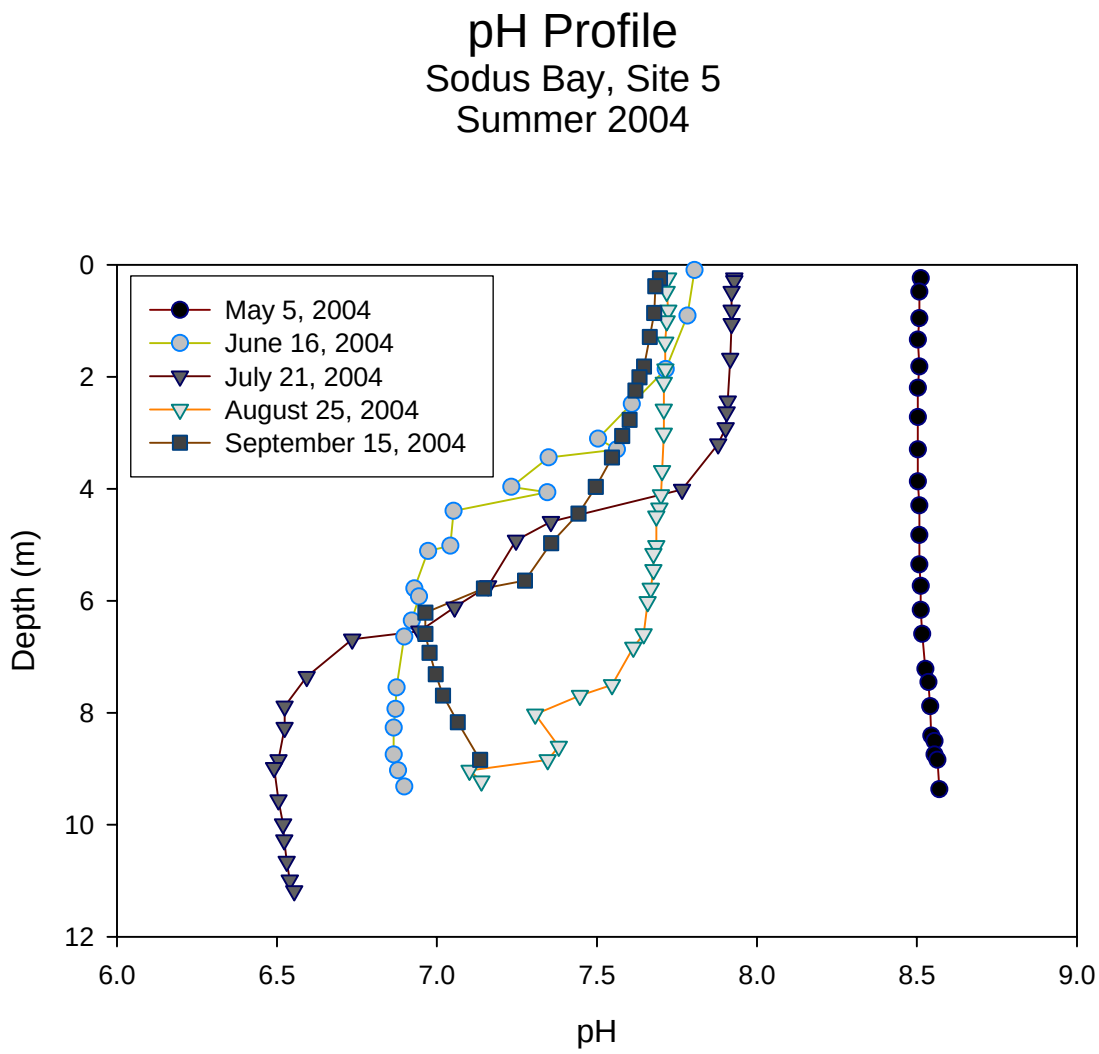


Figure 2. pH profiles of Sodus Bay Site 5, May through September 2004.

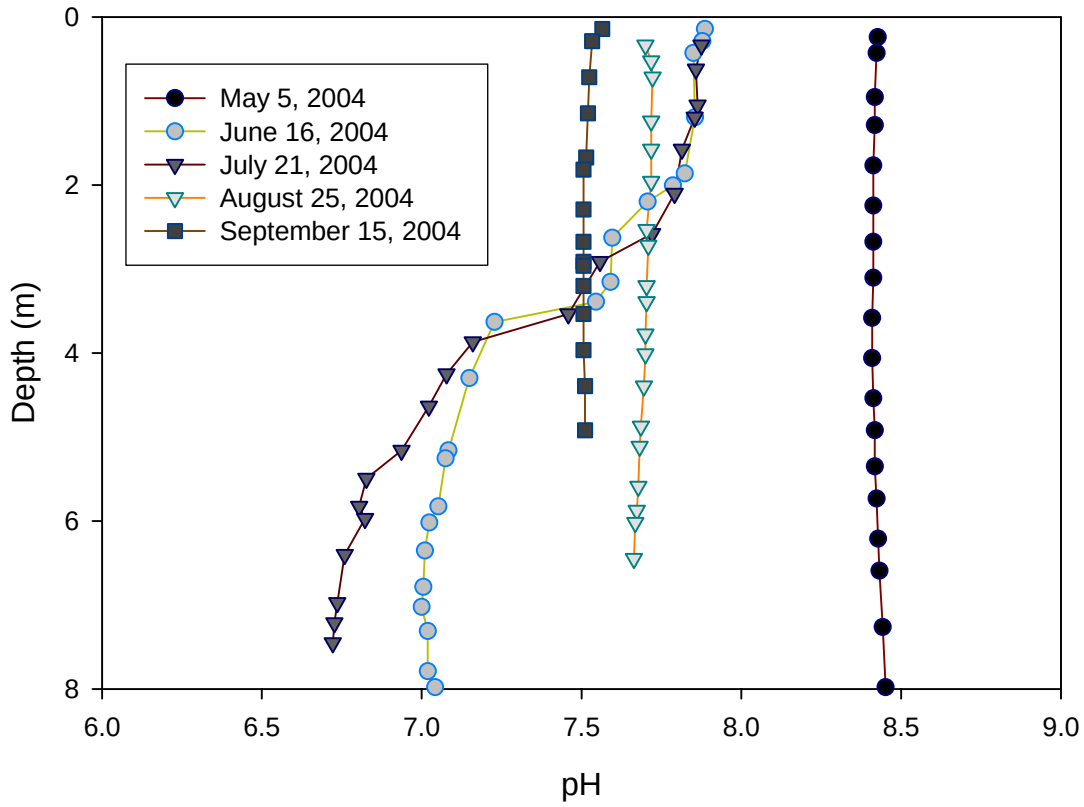


Figure 3. pH profiles of Sodus Bay Site 9, May through September 2004.

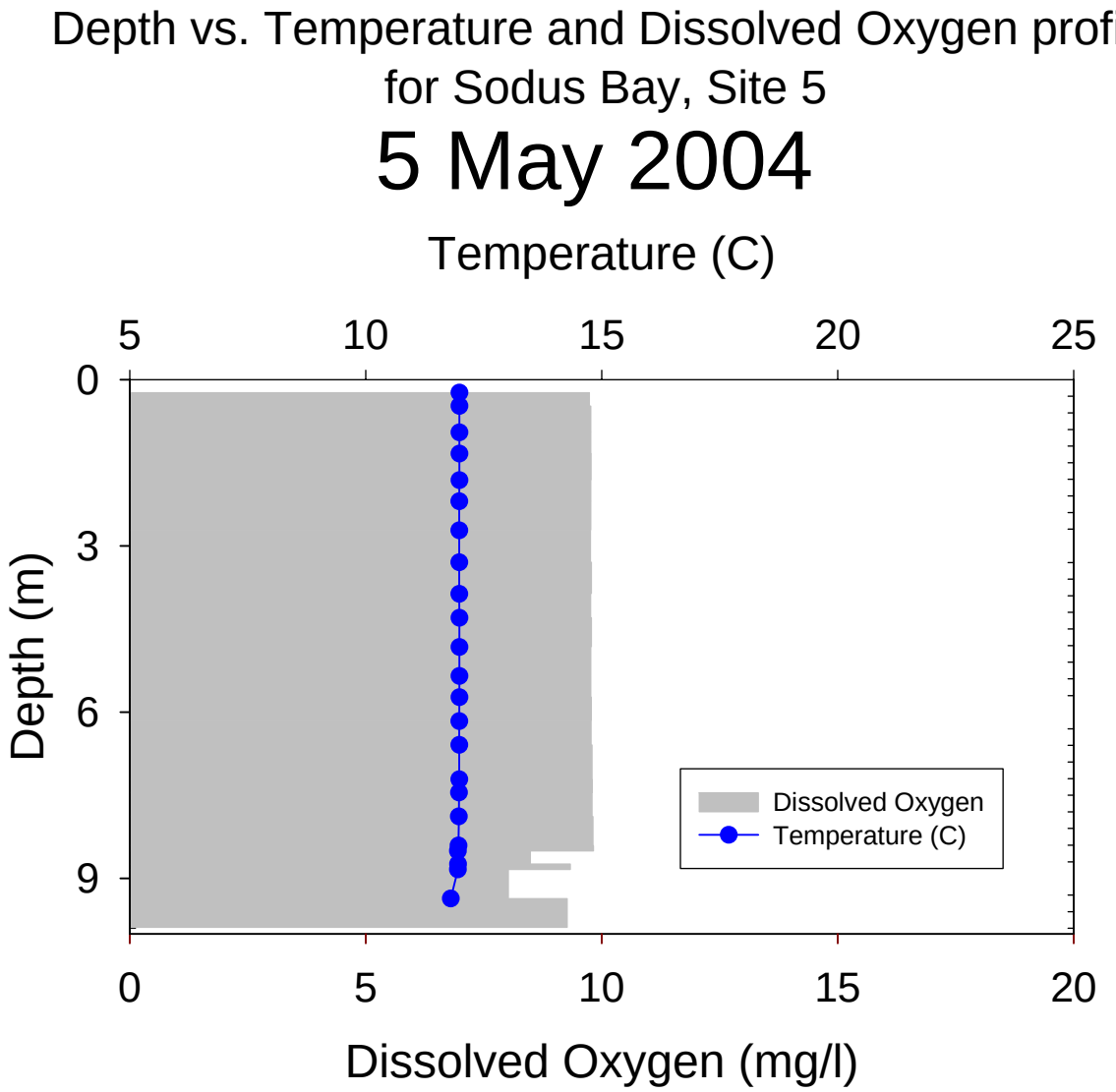


Figure 4. Temperature and dissolved oxygen profile for Sodus Bay Site 5 on 5 May 2004.

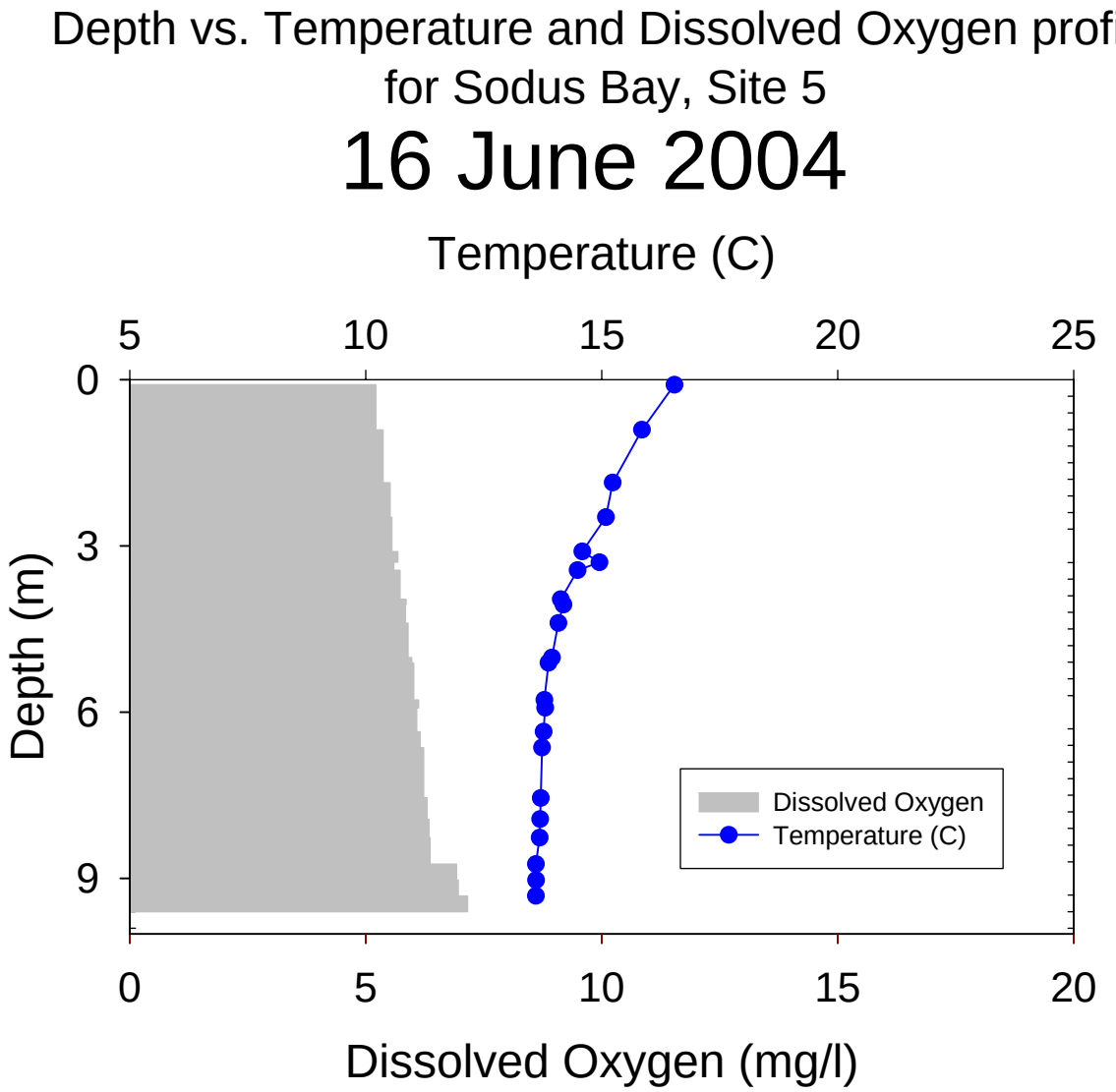


Figure 5. Temperature and dissolved oxygen profile for Sodus Bay Site 5 on 16 June 2004.

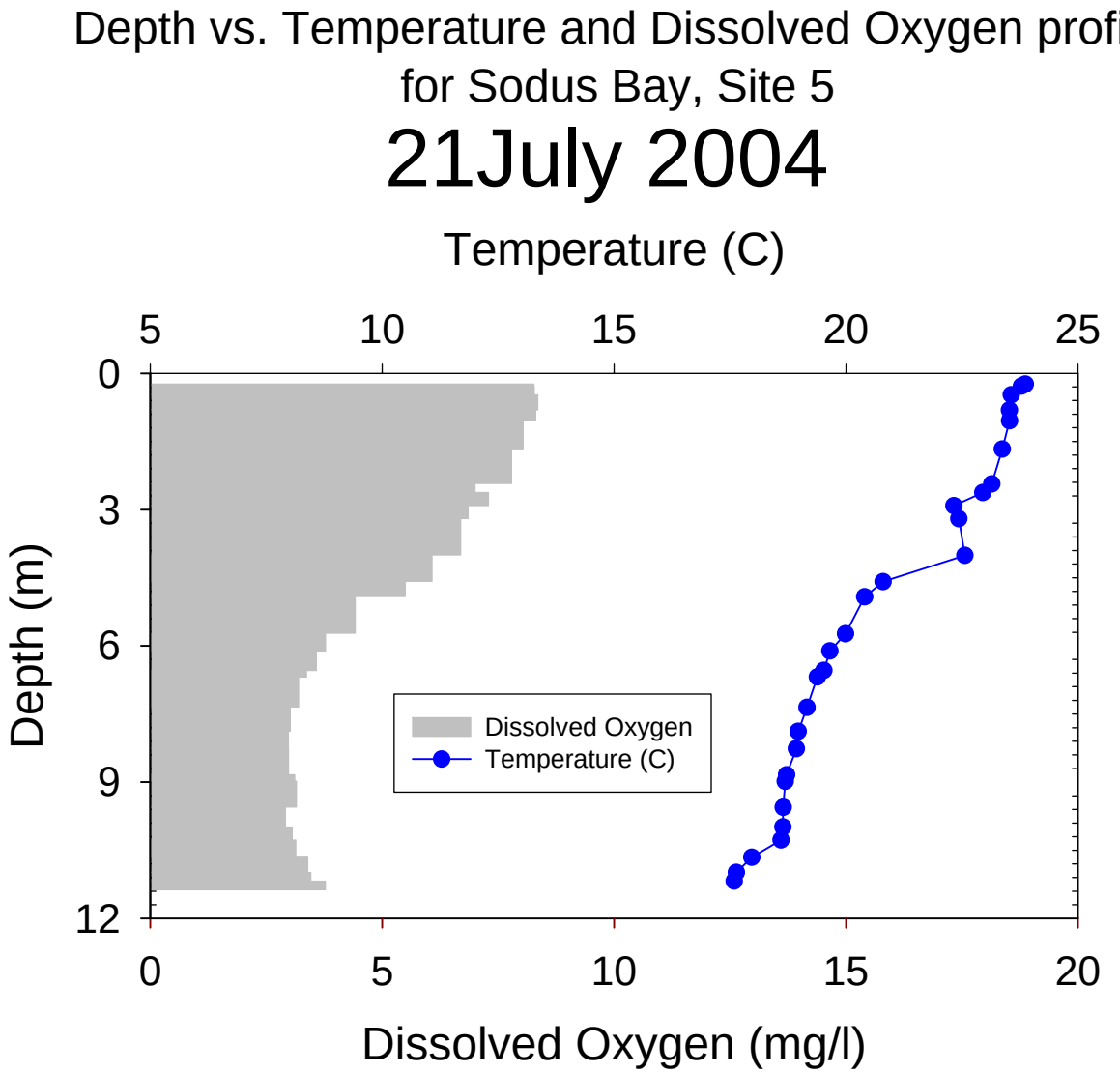


Figure 6. Temperature and dissolved oxygen profile for Sodus Bay Site 5 on 21 July 2004.

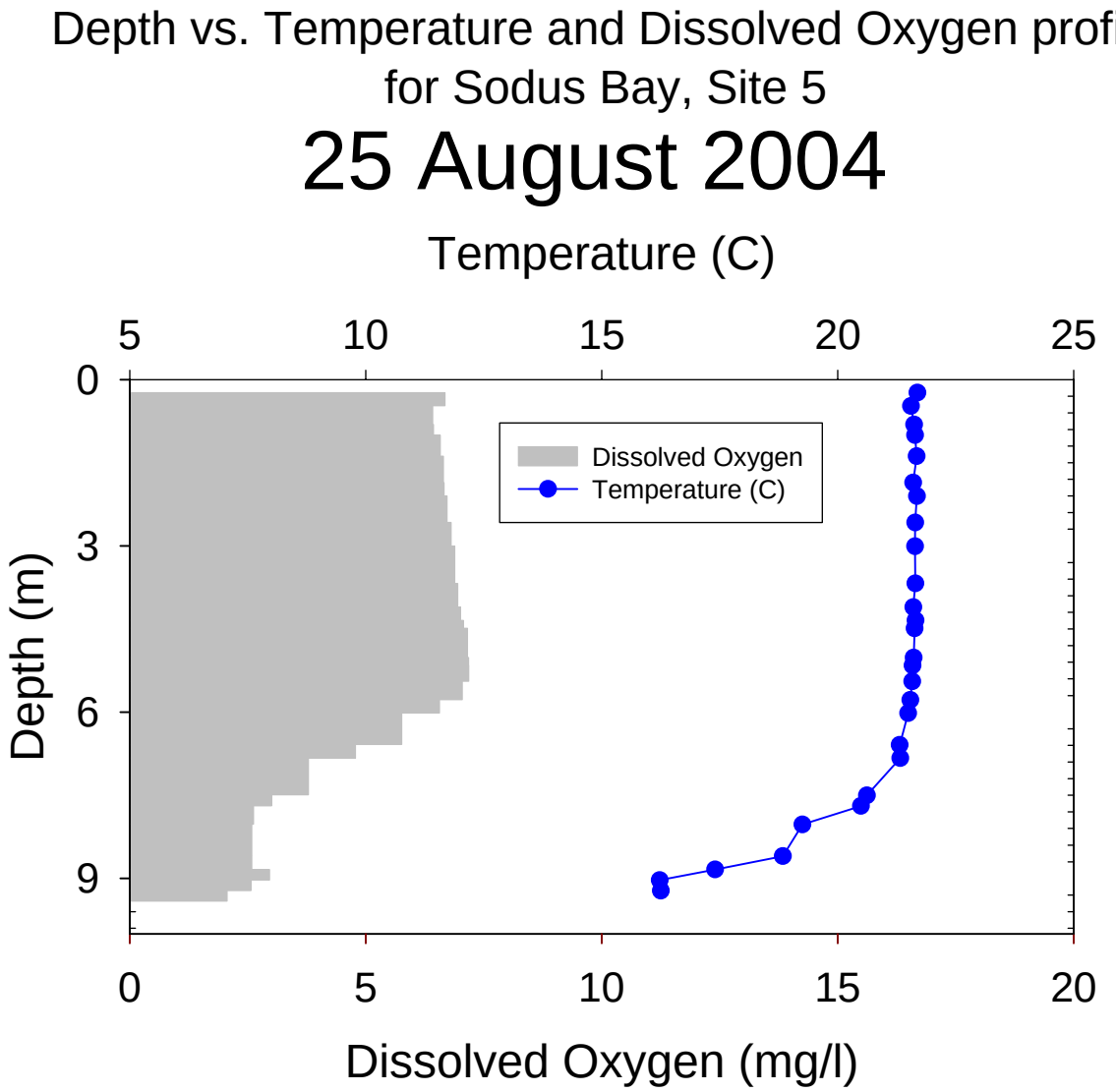


Figure 7. Temperature and dissolved oxygen profile for Sodus Bay Site 5 on 25 August 2004.

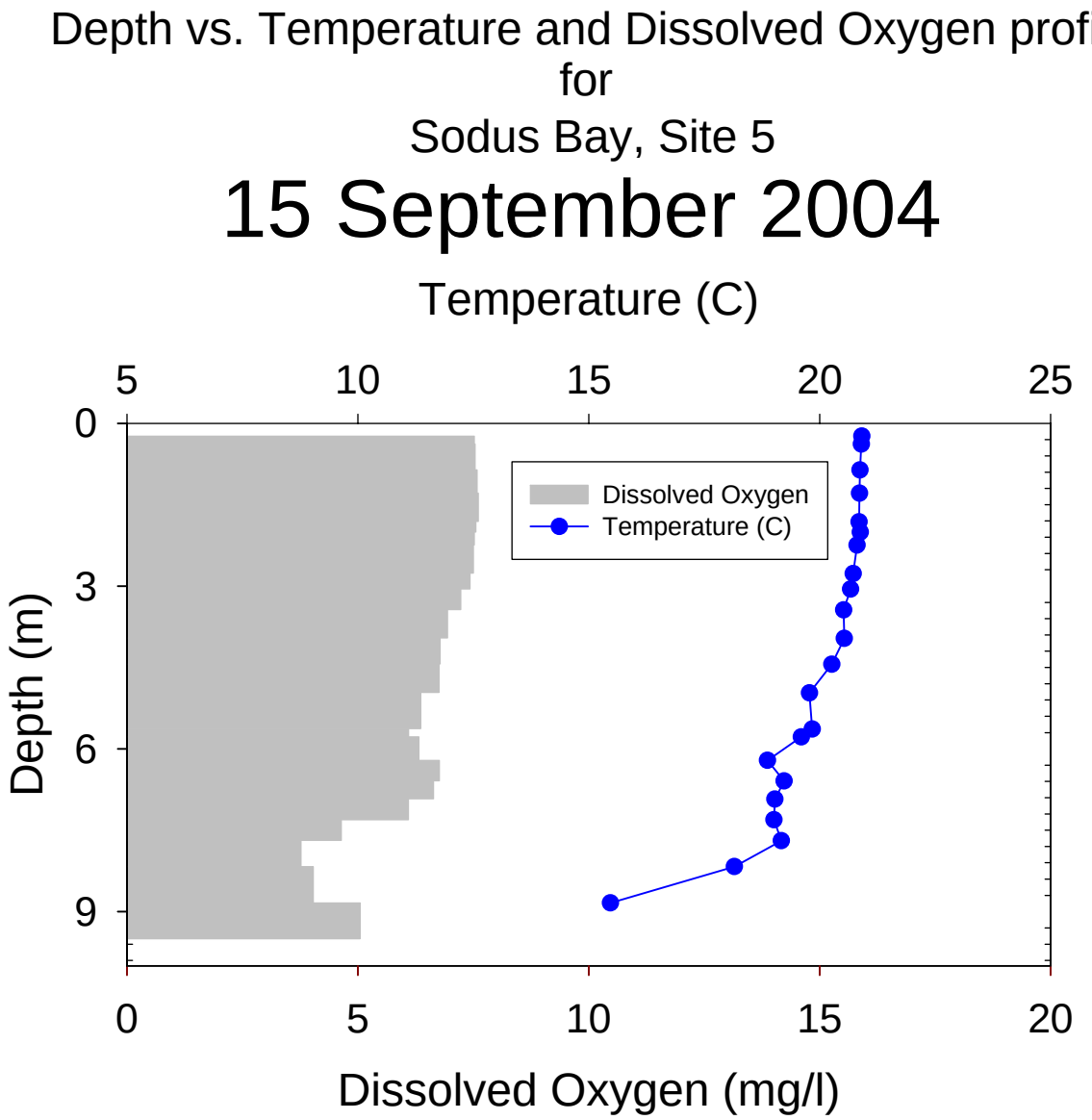


Figure 8. Temperature and dissolved oxygen profile for Sodus Bay Site 5 on 15 September 2004.

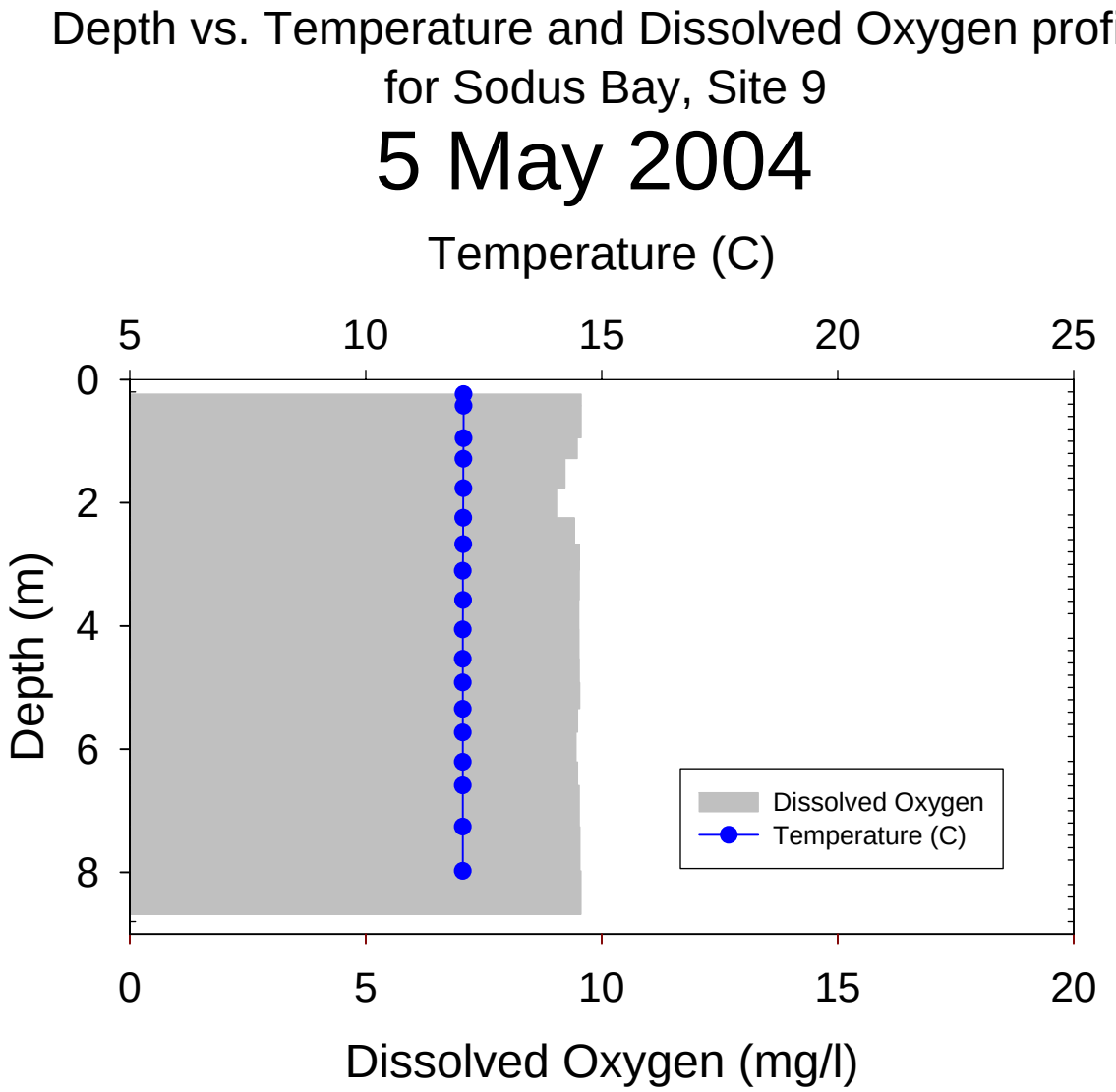


Figure 9. Temperature and dissolved oxygen profile for Sodus Bay Site 9 on 5 May 2004.

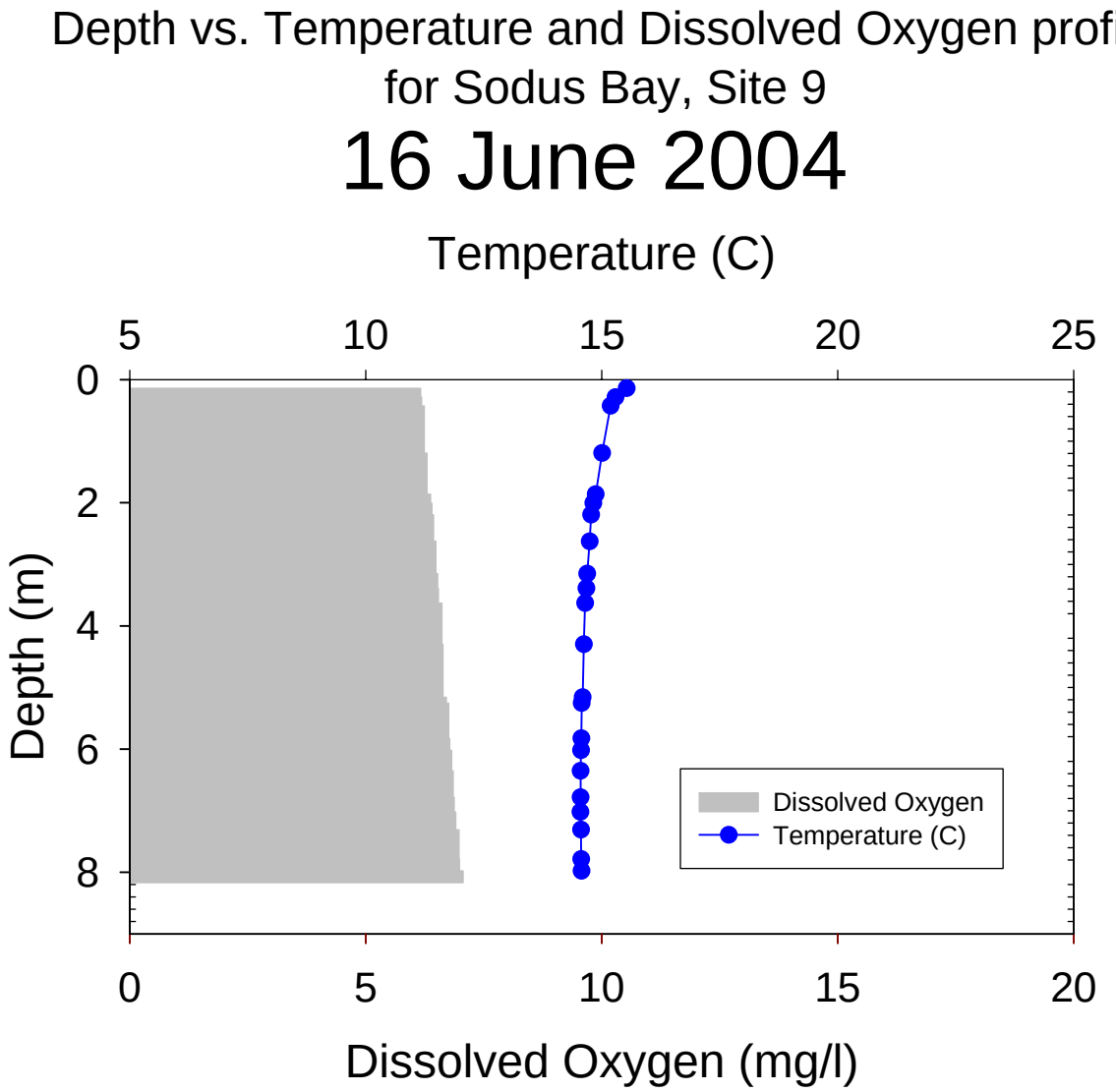


Figure 10. Temperature and dissolved oxygen profile for Sodus Bay Site 9 on 16 June 2004.

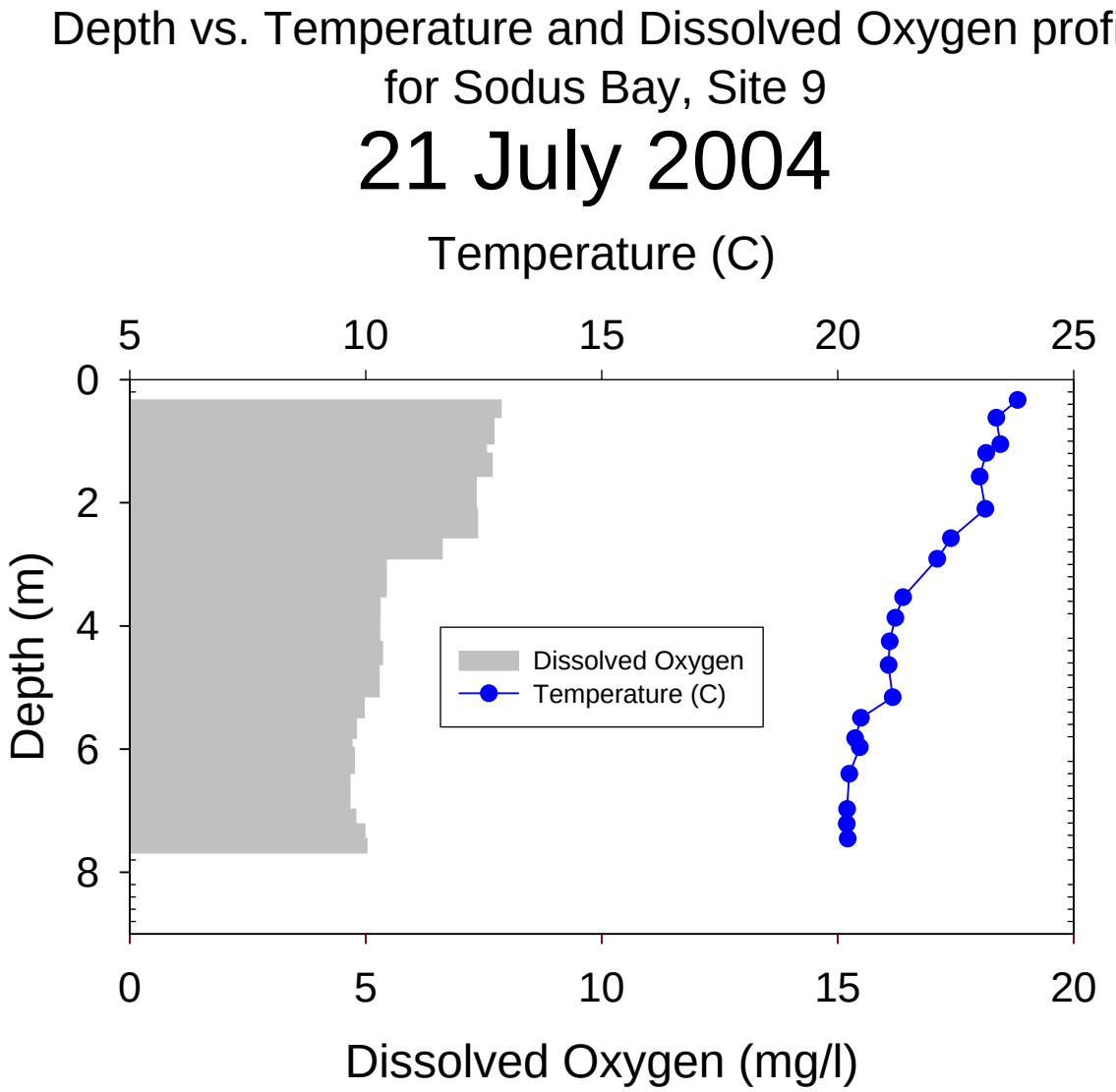


Figure 11. Temperature and dissolved oxygen profile for Sodus Bay Site 9 on 21 July 2004.

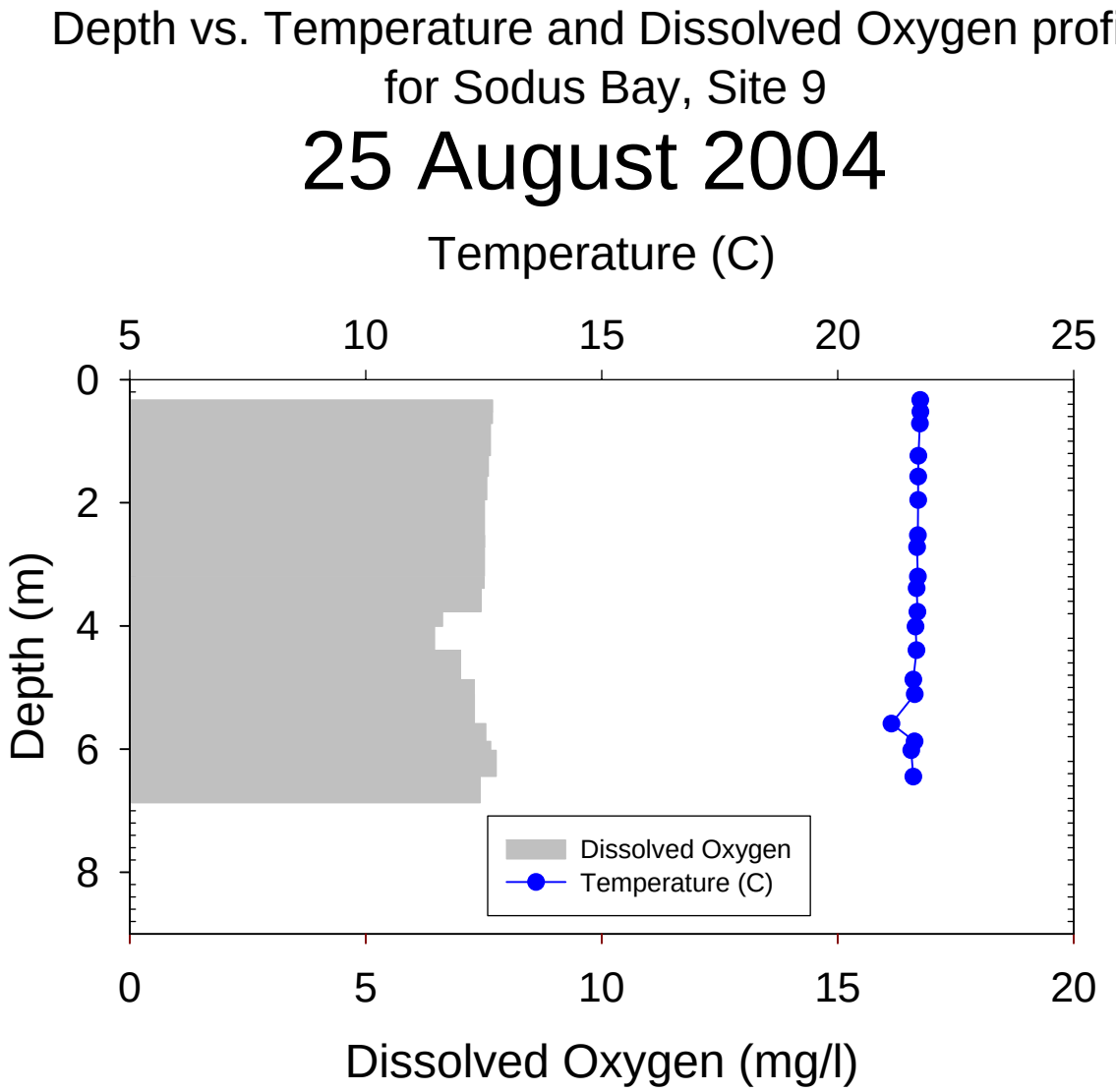


Figure 12. Temperature and dissolved oxygen profile for Sodus Bay Site 9 on 25 August 2004.

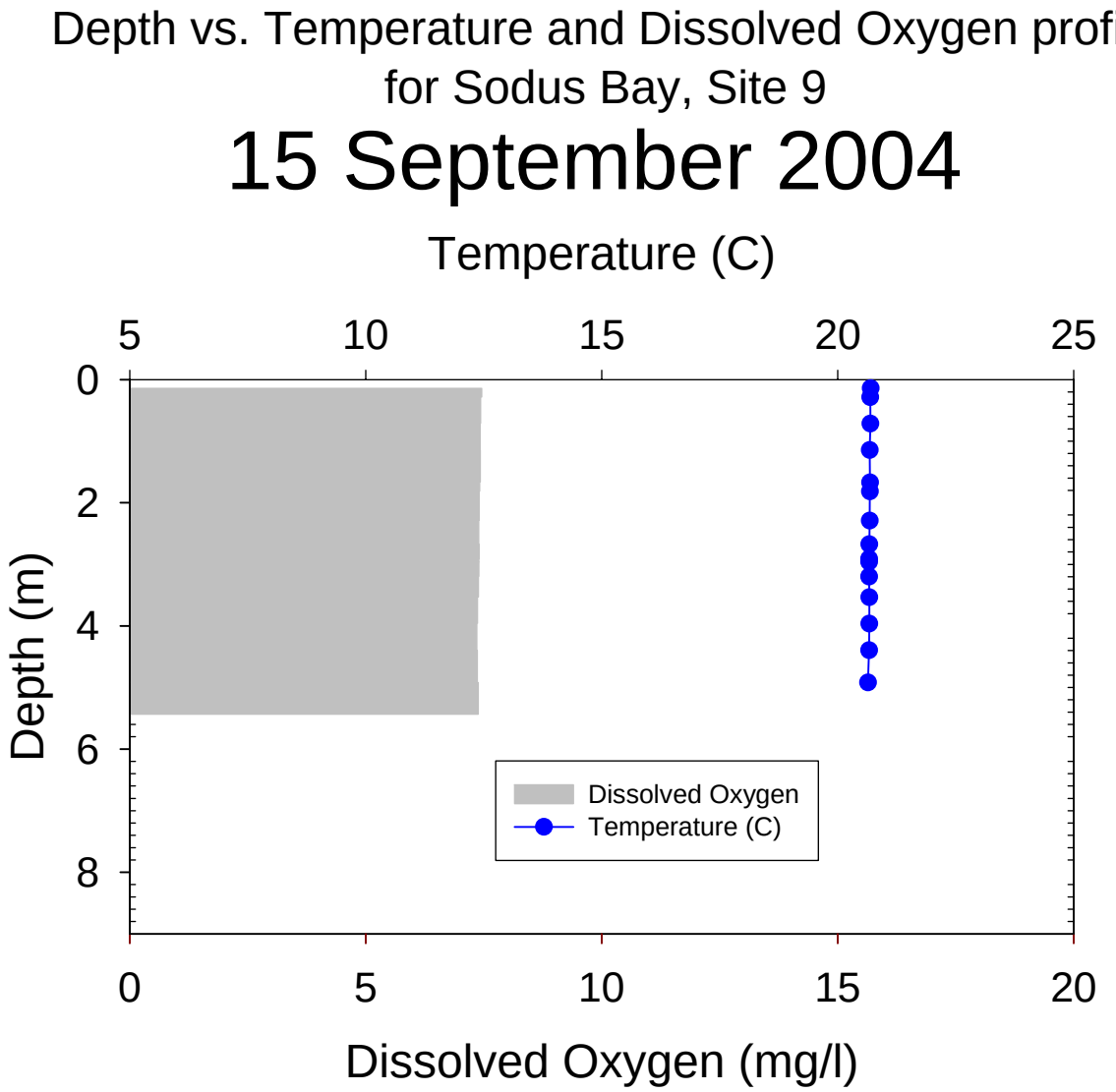


Figure 13. Temperature and dissolved oxygen profile for Sodus Bay Site 9 on 15 September 2004.

Figure 14. Total abundance of phytoplankton from Sodus Bay, May through September 2004.

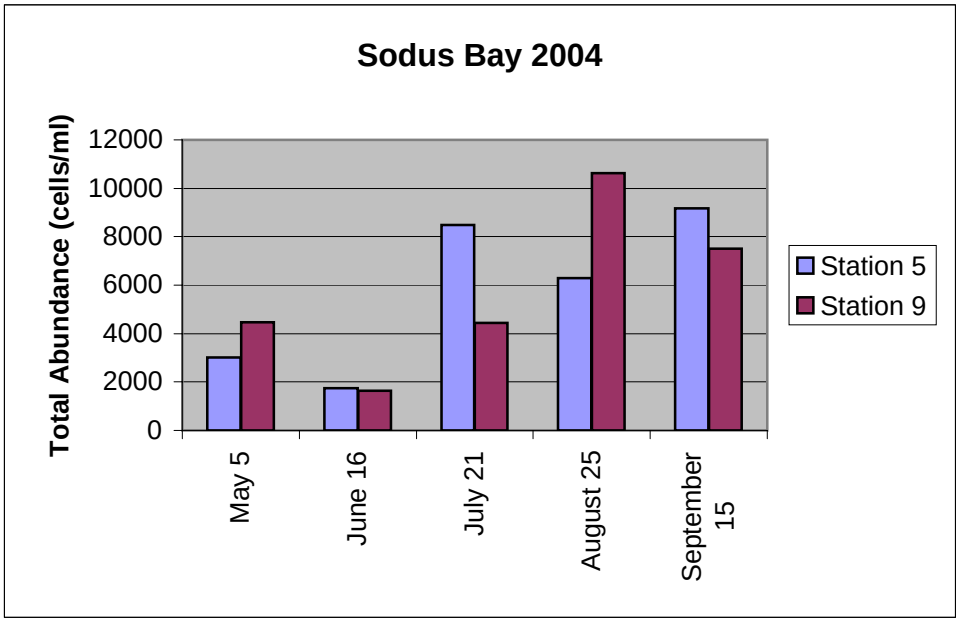


Figure 15. Total biomass of phytoplankton from Sodus Bay, May through September 2004.

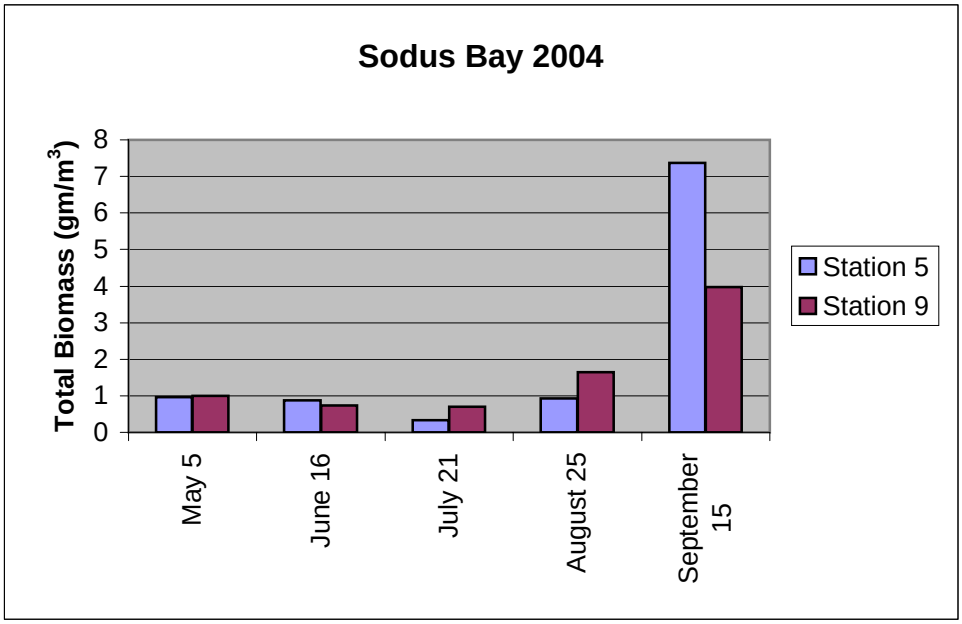
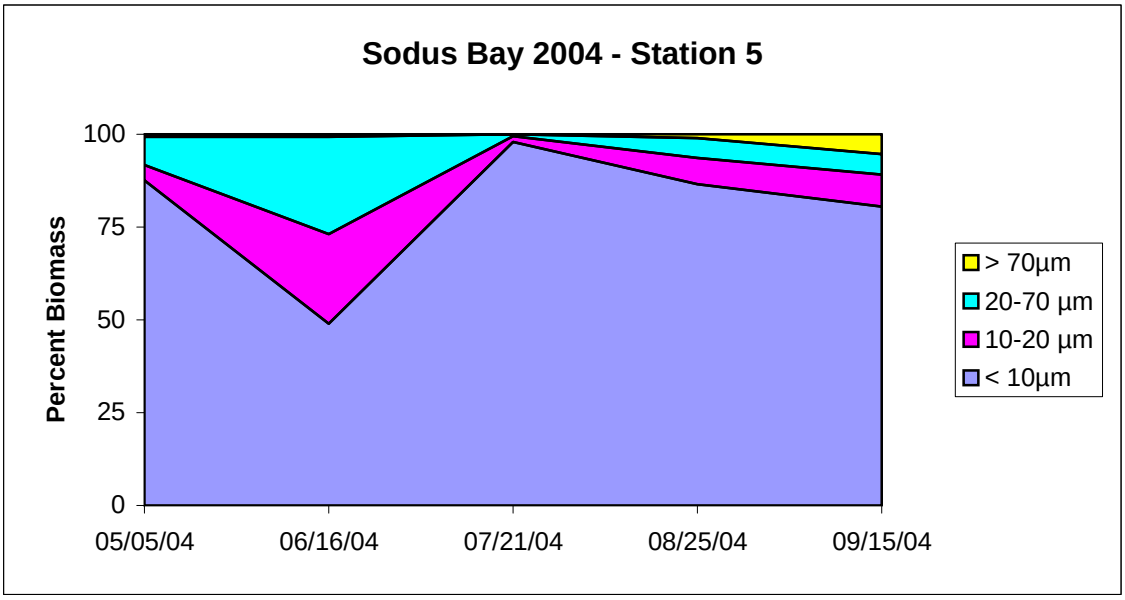


Figure 16. Size distribution of phytoplankton biomass from Sodus Bay, May through September 2004.



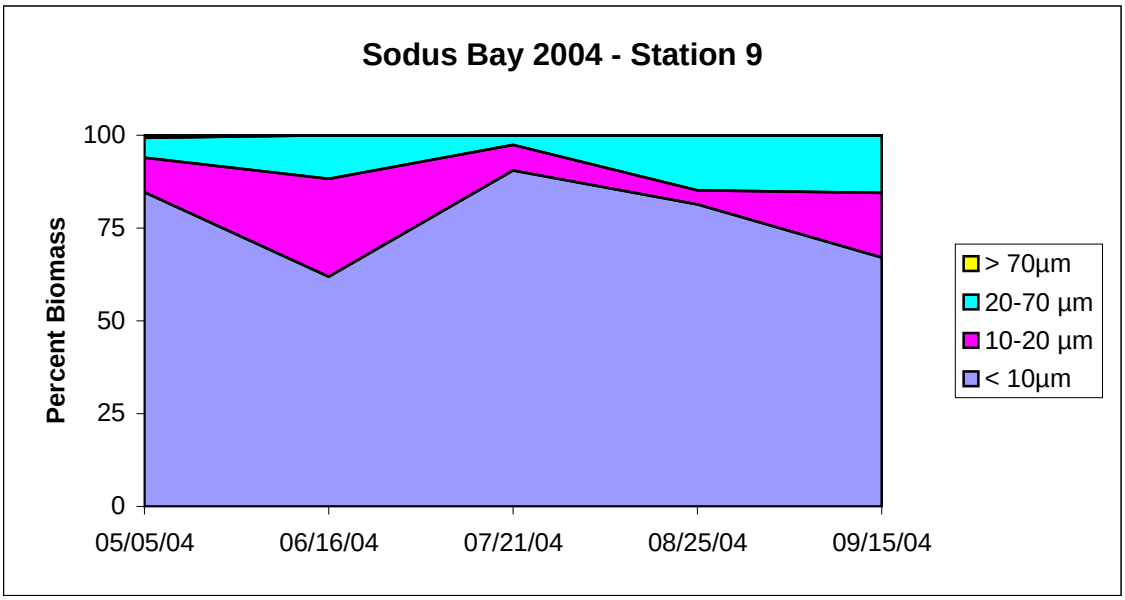


Figure 17. Cell type distribution of phytoplankton biomass from Sodus Bay, May through September 2004.