

**BIRCH ISLAND LAKE MANAGEMENT PLAN –
PHASE I REPORT**

**Submitted to the Wisconsin Department of Natural
Resources, Spooner, WI**

By

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And

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July 16, 2004

BIRCH ISLAND LAKE MANAGEMENT PLAN – PHASE I REPORT

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To: Wisconsin Department of Natural Resources
From: Barry Borman, Birch Island Lake Grant Representative and Barr Engineering
Subject: FINAL REPORT ON BIRCH ISLAND LAKE MANAGEMENT PLAN – PHASE I
Date: July 16, 2004
Project: 49-07-011-PH1
c:

This document presents the results of the Birch Island DNR Grant Phase 1 Project. A floppy disk contains the same information as this written form. The Following six types of data were collected.

- 1. Water Quality Laboratory Data**—Samples were collected by Birch Island Lake Association volunteers and submitted to the laboratory for analysis. The data from the laboratory results sheets appears in a table that includes water quality laboratory data and measurements. Samples were collected from 4 lake basins (Main, North, West and East). The isopleth figures will be completed during Phase 3--the data analysis/report completion project. Refer to the file Water_Quality_Data.xls on the floppy.
- 2. Water Quality Measurements**—Measurements by the Birch Island Lake Association volunteers are in a table that also includes the laboratory data. Data collected from each basin (Main, East, West and North) are summarized in a separate table. Shown are the Secchi disc transparency measurements. The North, Main, West and East Basins Isopleth Information summarizes the dissolved oxygen, temperature, and specific conductance data as show in the isopleth graph. Refer to the file Water_Quality_Data.xls on the floppy.
- 3. Lake Level Measurements**— A Birch Island Lake Association volunteer measured lake levels daily beginning on April 28, continuing through the growing season, and ending near the time of ice-in. Data were collected from two gauges, a left gauge and a right gauge. The data is summarized in tables. The tables are found in the file, LAKLEVEL. The data summary tables look just like the tables used to record the data making the summary process

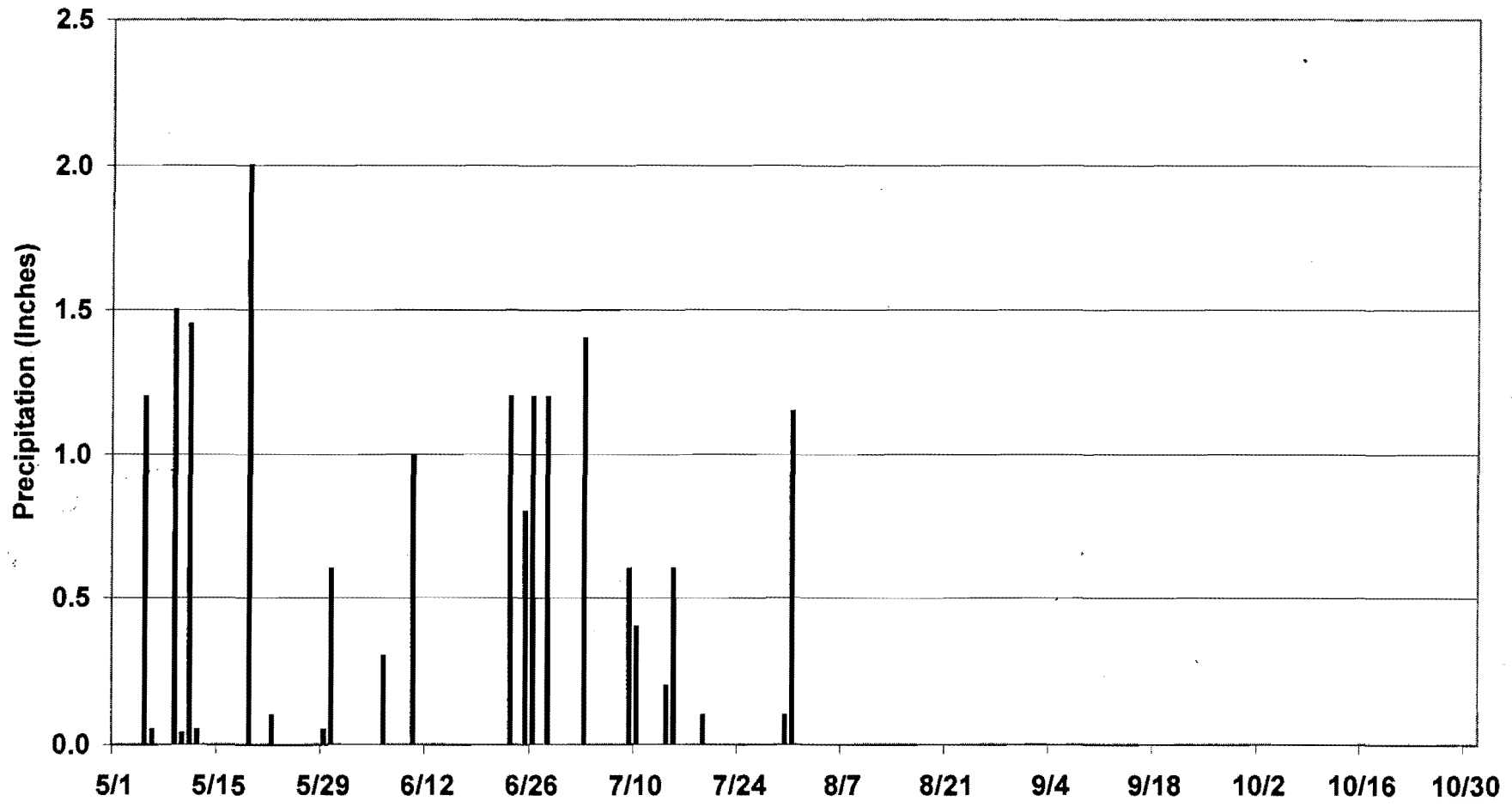
straightforward. Please note that data from the left and right gages are summarized in separate tables.

4. **Precipitation Data**—Birch Island Lake Association volunteers measured precipitation throughout the growing season. Data were collected from 3 gauges—southwest Don Stamp, north shore Frank Striene, and south shore Barry Borman.. Please note that the data from each gage is summarized in a separate table, located in a separate tab in the file. The tables are found in the file, com_prec. The data summary files look just like the tables used to record the data making the summary process straightforward.

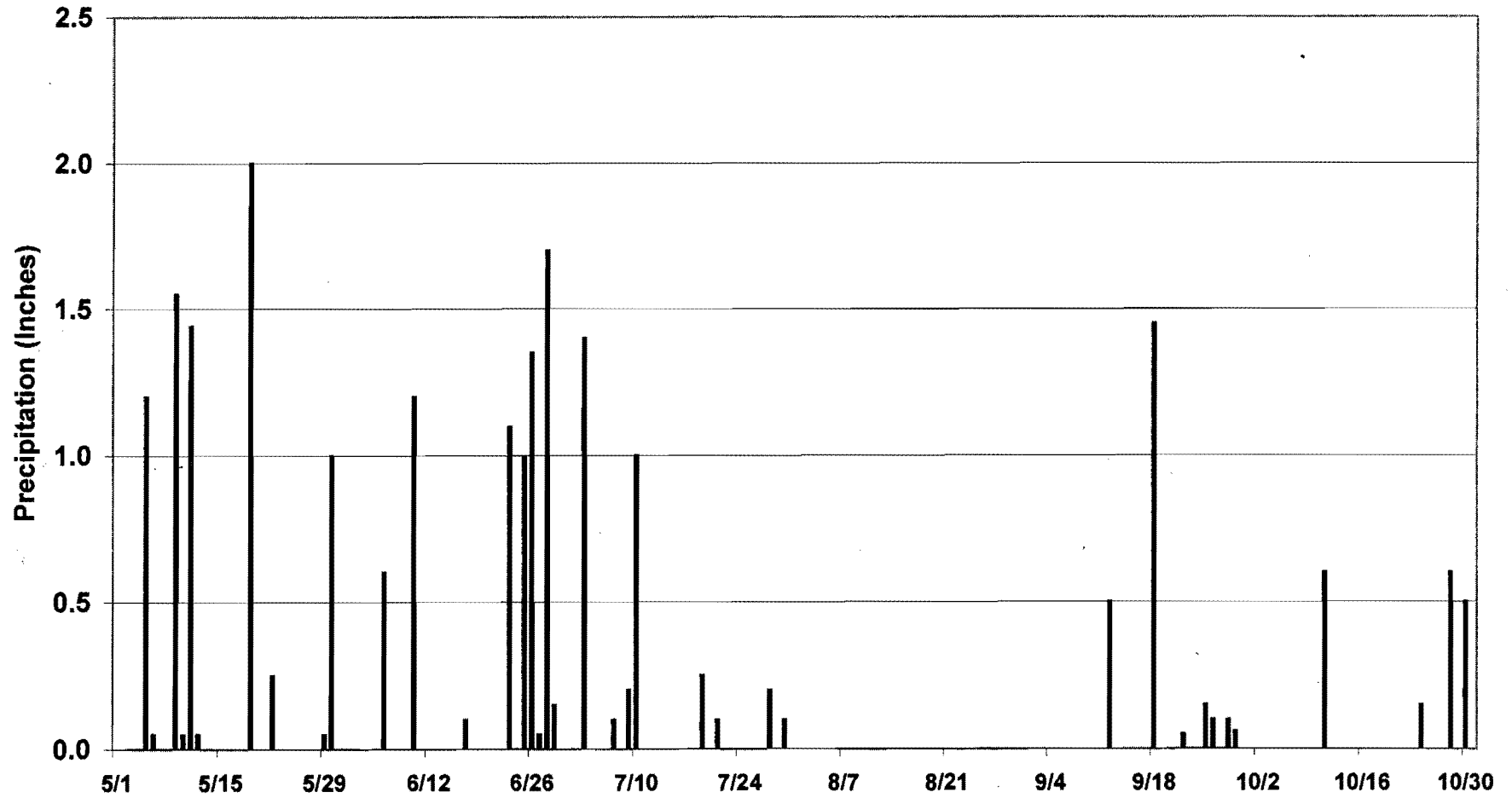
5. **Macrophyte Data**—Macrophyte data were collected by a team comprised of Barr staff and Birch Island Lake Association volunteers over a two day sample period. Abbreviations for the plant names were generally recorded on the data sheets rather than recording the full scientific name or common name. The data recorded on the data sheets is summarized in a table. The table is found in the file, Macrophyte_data and the tab Mac. The following information from the data sheets appears on the table: Transect, Depth Code, Depth, Substrate, Species Code, and the four individual density ratings from the four individual rake casts. Also, the average density and macrophyte type (submerged, floating, or emergent, designated by a number 1, 2, or 3) appears in the designated columns. You will notice a number of tabs in the macrophyte file. At a later time, additional information will be summarized or graphed during the analysis phase of the project. For now, the tabs depict the types of information to be included in the analysis. Example Lake is used in the tables and some “dummy” data are included to illustrate how the information will be evaluated.

6. **Survey Data**—Questionnaires were sent to Birch Island Lake Association members and a total of 46 completed and returned. The survey data is summarized in the file survey_data. For each of the questions on the survey, the answers are tabulated and recorded in the column responses under the title. Comments are included in the data section of the report.

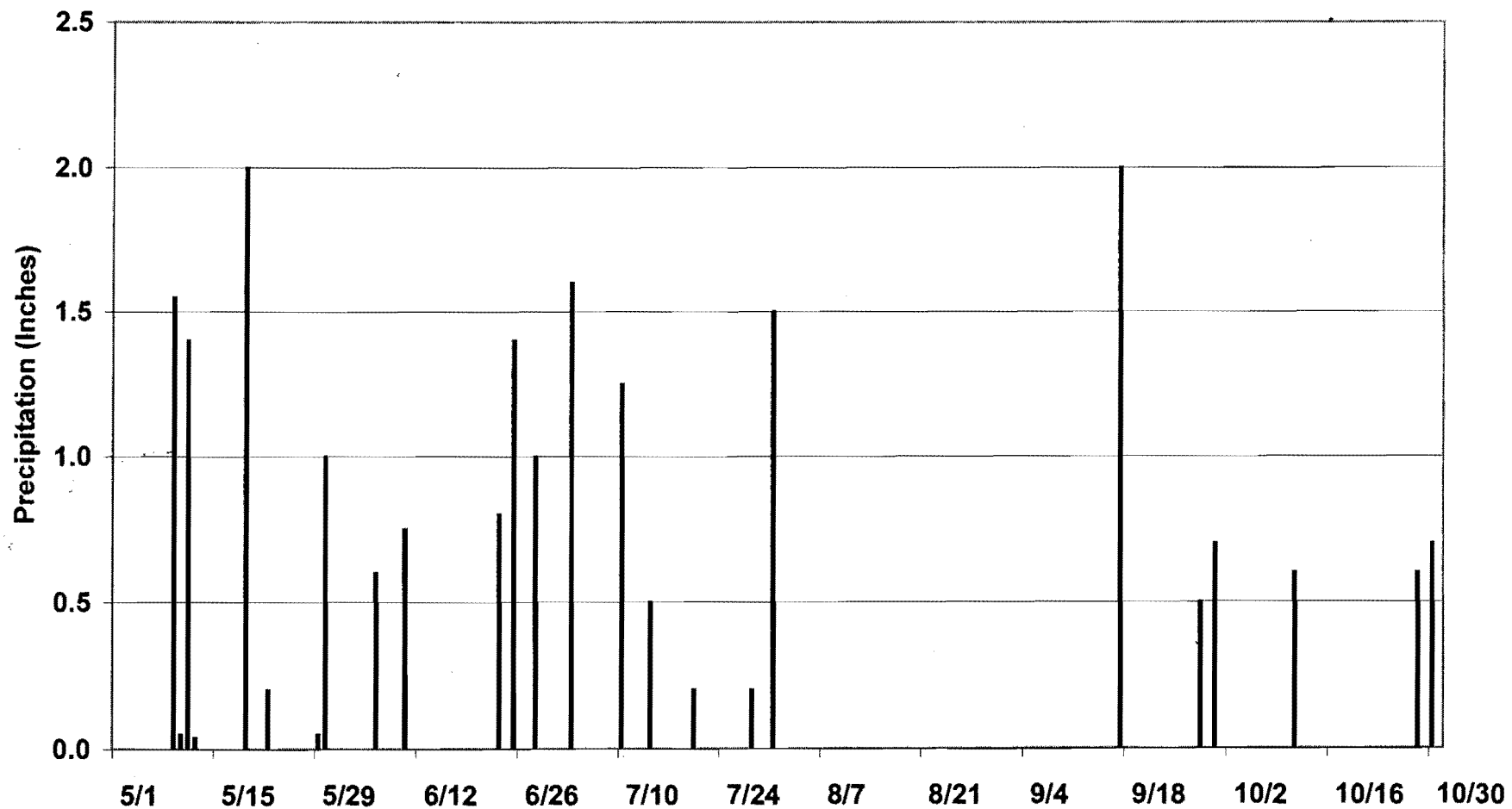
2003 Birch Island Lake Precipitation North Shore



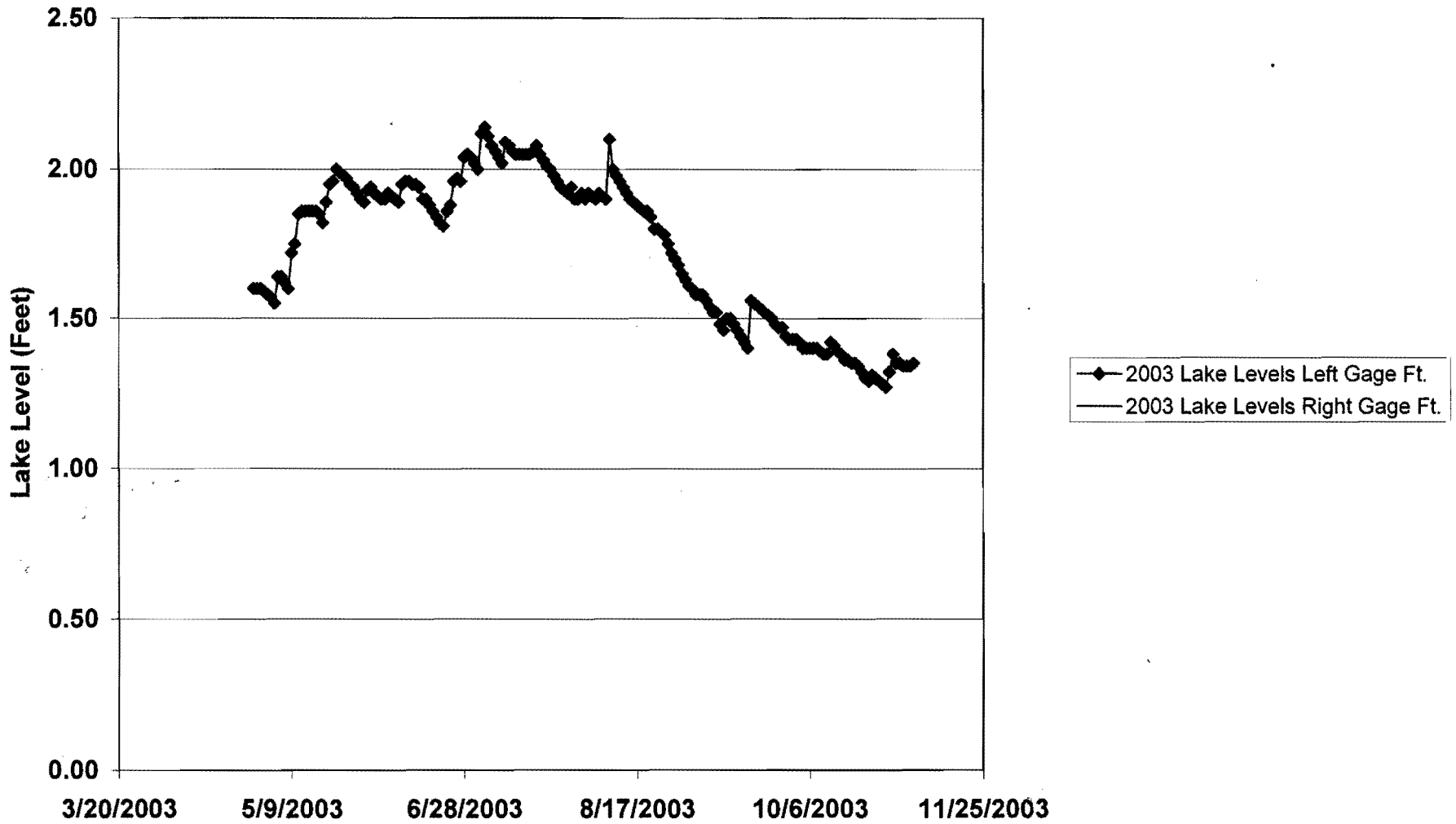
2003 Birch Island Lake Precipitation South Shore



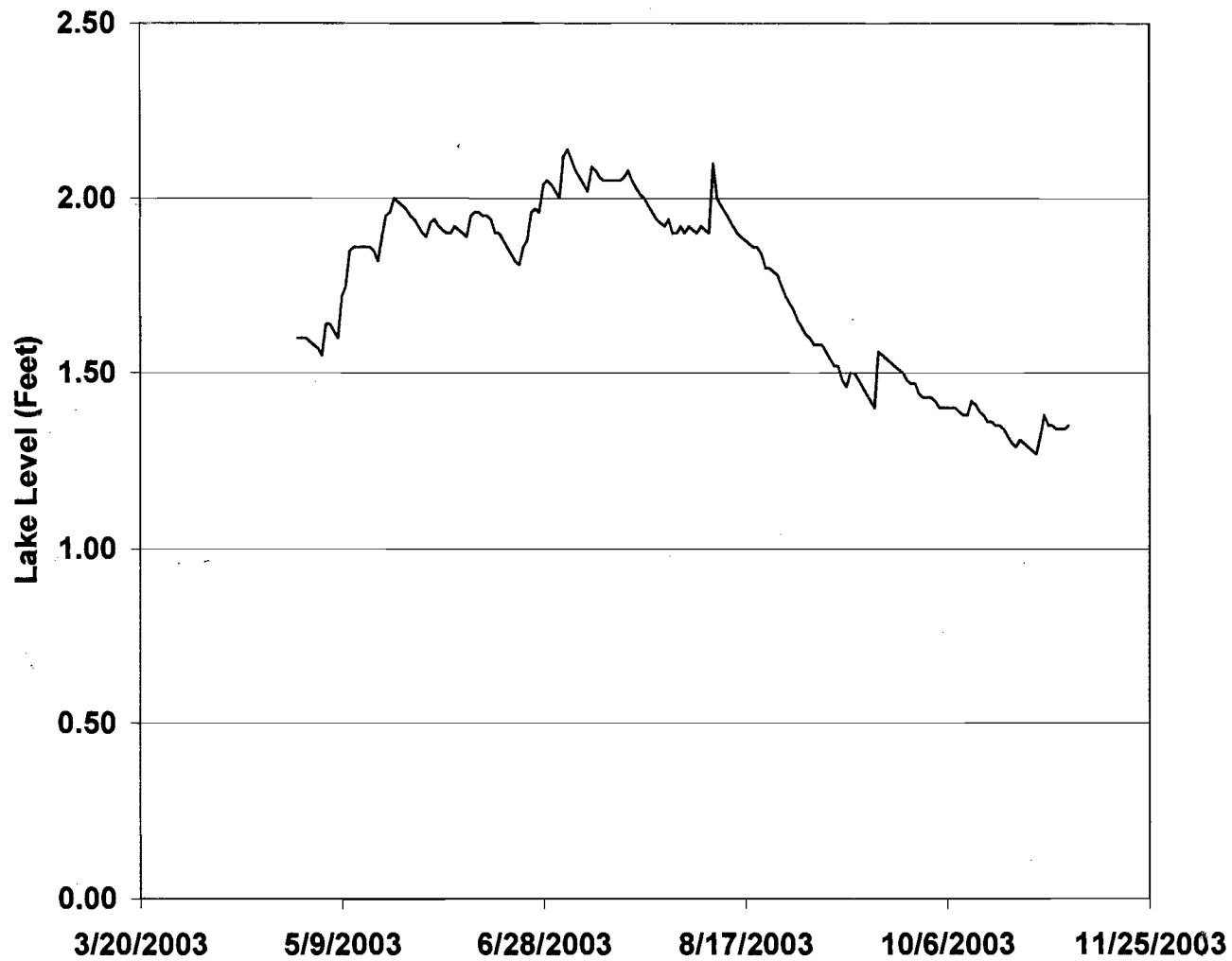
2003 Birch Island Lake Precipitation Southwest Shore



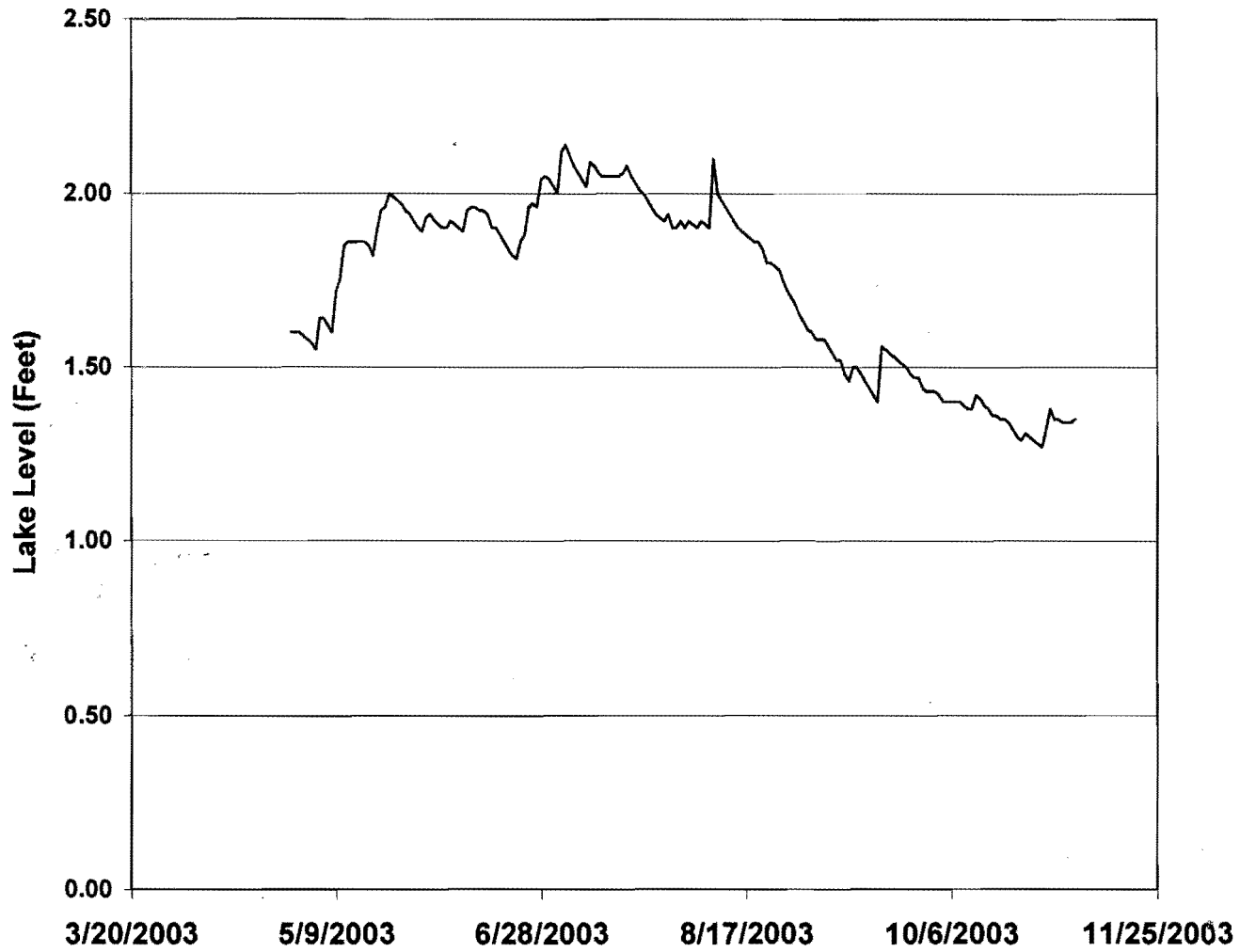
2003 Birch Island Lake Levels



2003 Lake Levels--Right Gage



2003 Lake Levels--Left Gage



**2003 LAKE LEVEL READINGS
BIRCH ISLAND LAKE WISCONSIN LAKE
MANAGEMENT PROJECT**

GAGE # 1 (left)

MONTH: April	
Day	Lake Level (Ft.)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	1.60
29	1.60
30	1.60

**2003 LAKE LEVEL READINGS
BIRCH ISLAND LAKE WISCONSIN LAKE
MANAGEMENT PROJECT**

GAGE # 1 (left)

MONTH: May	
Day	Lake Level (Ft.)
1	1.59
2	1.58
3	1.57
4	1.55
5	1.64
6	1.64
7	1.62
8	1.60
9	1.72
10	1.75
11	1.85
12	1.86
13	1.86
14	1.86
15	1.86
16	1.86
17	1.85
18	1.82
19	1.89
20	1.95
21	1.96
22	2.00
23	1.99
24	1.98
25	1.97
26	1.95
27	1.94
28	1.92
29	1.90
30	1.89
31	1.93

MONTH: June	
Day	Lake Level (Ft.)
1	1.94
2	1.92
3	1.91
4	1.90
5	1.90
6	1.92
7	1.91
8	1.90
9	1.89
10	1.95
11	1.96
12	1.96
13	1.95
14	1.95
15	1.94
16	1.90
17	1.90
18	1.88
19	1.86
20	1.84
21	1.82
22	1.81
23	1.86
24	1.88
25	1.96
26	1.97
27	1.96
28	2.04
29	2.05
30	2.04

MONTH: July	
Day	Lake Level (Ft.)
1	2.02
2	2.00
3	2.12
4	2.14
5	2.11
6	2.08
7	2.06
8	2.04
9	2.02
10	2.09
11	2.08
12	2.06
13	2.05
14	2.05
15	2.05
16	2.05
17	2.05
18	2.06
19	2.08
20	2.05
21	2.03
22	2.01
23	2.00
24	1.98
25	1.96
26	1.94
27	1.93
28	1.92
29	1.94
30	1.90
31	1.90

2003 LAKE LEVEL READINGS

**BIRCH ISLAND LAKE WISCONSIN LAKE
MANAGEMENT PROJECT**

GAGE # 1 (left)

MONTH: August	
Day	Lake Level (Ft.)
1	1.92
2	1.90
3	1.92
4	1.91
5	1.90
6	1.92
7	1.91
8	1.90
9	2.10
10	2.00
11	1.98
12	1.96
13	1.94
14	1.92
15	1.90
16	1.89
17	1.88
18	1.87
19	1.86
20	1.86
21	1.84
22	1.80
23	1.80
24	1.79
25	1.78
26	1.75
27	1.72
28	1.70
29	1.68
30	1.65
31	1.63

MONTH: September	
Day	Lake Level (Ft.)
1	1.61
2	1.60
3	1.58
4	1.58
5	1.58
6	1.56
7	1.54
8	1.52
9	1.52
10	1.48
11	1.46
12	1.50
13	1.50
14	1.48
15	1.46
16	1.44
17	1.42
18	1.40
19	1.56
20	1.55
21	1.54
22	1.53
23	1.52
24	1.51
25	1.50
26	1.48
27	1.47
28	1.47
29	1.44
30	1.43

MONTH: October	
Day	Lake Level (Ft.)
1	1.43
2	1.43
3	1.42
4	1.4
5	1.4
6	1.4
7	1.4
8	1.4
9	1.39
10	1.38
11	1.38
12	1.42
13	1.41
14	1.39
15	1.38
16	1.36
17	1.36
18	1.35
19	1.35
20	1.34
21	1.32
22	1.30
23	1.29
24	1.31
25	1.3
26	1.29
27	1.28
28	1.27
29	1.32
30	1.38
31	1.35

2003 LAKE LEVEL READINGS

BIRCH ISLAND LAKE WISCONSIN LAKE MANAGEMENT PROJECT

GAGE # 1 (left)

MONTH: November	
Day	Lake Level (Ft.)
1	1.35
2	1.34
3	1.34
4	1.34
5	1.35
6	ICE IN
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	

**2003 LAKE LEVEL READINGS
 BIRCH ISLAND LAKE WISCONSIN LAKE
 MANAGEMENT PROJECT**

GAGE # 2 (right)

MONTH: April	
Day	Lake Level (Ft.)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	1.60
29	1.60
30	1.60

**2003 LAKE LEVEL READINGS
BIRCH ISLAND LAKE WISCONSIN LAKE
MANAGEMENT PROJECT**

GAGE # 2 (right)

MONTH: May	
Day	Lake Level (Ft.)
1	1.59
2	1.58
3	1.57
4	1.55
5	1.64
6	1.64
7	1.62
8	1.60
9	1.72
10	1.75
11	1.85
12	1.86
13	1.86
14	1.86
15	1.86
16	1.86
17	1.85
18	1.82
19	1.89
20	1.95
21	1.96
22	2.00
23	1.99
24	1.98
25	1.97
26	1.95
27	1.94
28	1.92
29	1.90
30	1.89
31	1.93

MONTH: June	
Day	Lake Level (Ft.)
1	1.94
2	1.92
3	1.91
4	1.90
5	1.90
6	1.92
7	1.91
8	1.90
9	1.89
10	1.95
11	1.96
12	1.96
13	1.95
14	1.95
15	1.94
16	1.90
17	1.90
18	1.88
19	1.86
20	1.84
21	1.82
22	1.81
23	1.86
24	1.88
25	1.96
26	1.97
27	1.96
28	2.04
29	2.05
30	2.04

MONTH: July	
Day	Lake Level (Ft.)
1	2.02
2	2.00
3	2.12
4	2.14
5	2.11
6	2.08
7	2.06
8	2.04
9	2.02
10	2.09
11	2.08
12	2.06
13	2.05
14	2.05
15	2.05
16	2.05
17	2.05
18	2.06
19	2.08
20	2.05
21	2.03
22	2.01
23	2.00
24	1.98
25	1.96
26	1.94
27	1.93
28	1.92
29	1.94
30	1.90
31	1.90

2003 LAKE LEVEL READINGS

**BIRCH ISLAND LAKE WISCONSIN LAKE
MANAGEMENT PROJECT**

GAGE # 2 (right)

MONTH: August	
Day	Lake Level (Ft.)
1	1.92
2	1.90
3	1.92
4	1.91
5	1.90
6	1.92
7	1.91
8	1.90
9	2.10
10	2.00
11	1.98
12	1.96
13	1.94
14	1.92
15	1.90
16	1.89
17	1.88
18	1.87
19	1.86
20	1.86
21	1.84
22	1.80
23	1.80
24	1.79
25	1.78
26	1.75
27	1.72
28	1.70
29	1.68
30	1.65
31	1.63

MONTH: September	
Day	Lake Level (Ft.)
1	1.61
2	1.60
3	1.58
4	1.58
5	1.58
6	1.56
7	1.54
8	1.52
9	1.52
10	1.48
11	1.46
12	1.50
13	1.50
14	1.48
15	1.46
16	1.44
17	1.42
18	1.40
19	1.56
20	1.55
21	1.54
22	1.53
23	1.52
24	1.51
25	1.50
26	1.48
27	1.47
28	1.47
29	1.44
30	1.43

MONTH: October	
Day	Lake Level (Ft.)
1	1.43
2	1.43
3	1.42
4	1.4
5	1.4
6	1.4
7	1.4
8	1.4
9	1.39
10	1.38
11	1.38
12	1.42
13	1.41
14	1.39
15	1.38
16	1.36
17	1.36
18	1.35
19	1.35
20	1.34
21	1.32
22	1.30
23	1.29
24	1.31
25	1.3
26	1.29
27	1.28
28	1.27
29	1.32
30	1.38
31	1.35

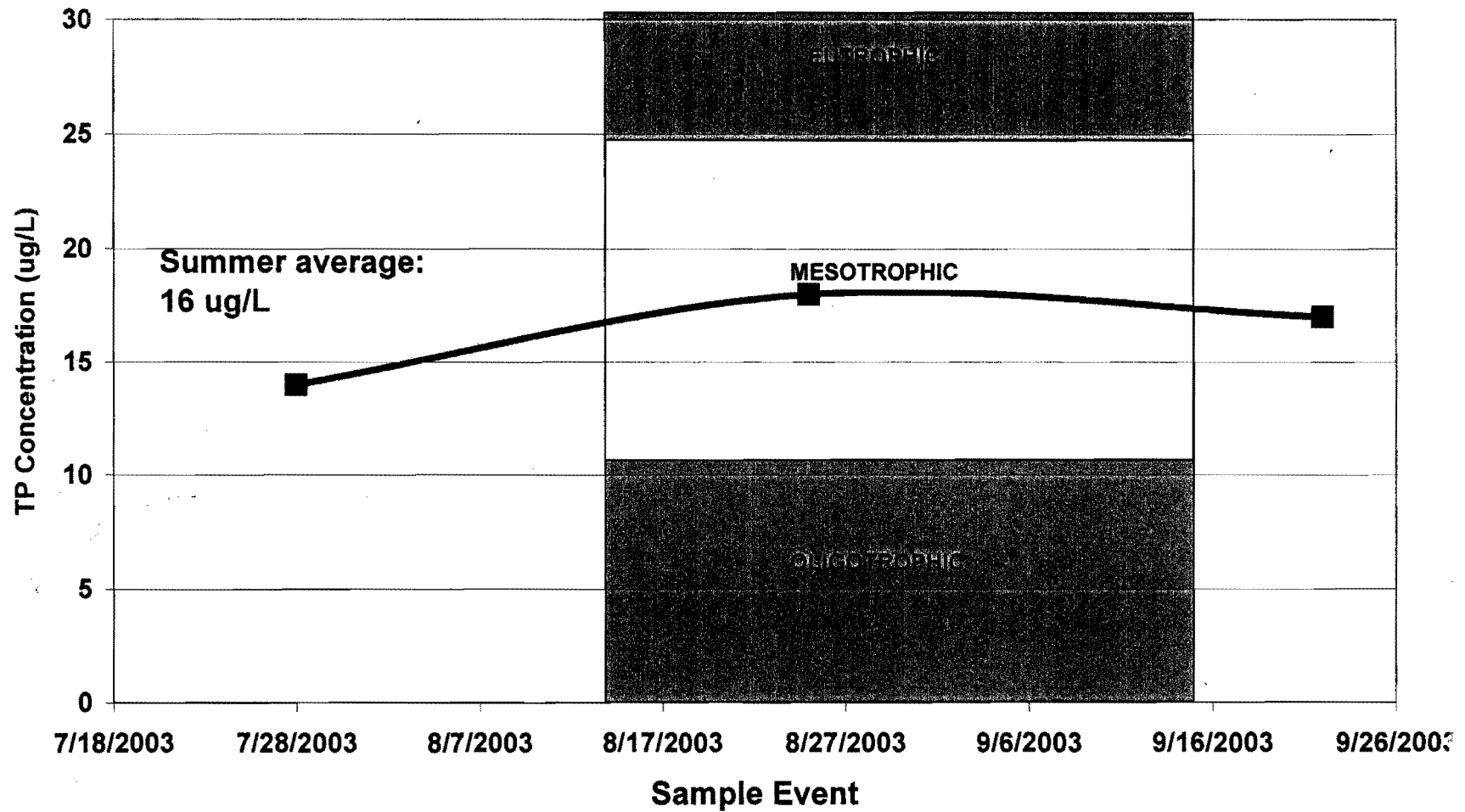
2003 LAKE LEVEL READINGS

BIRCH ISLAND LAKE WISCONSIN LAKE MANAGEMENT PROJECT

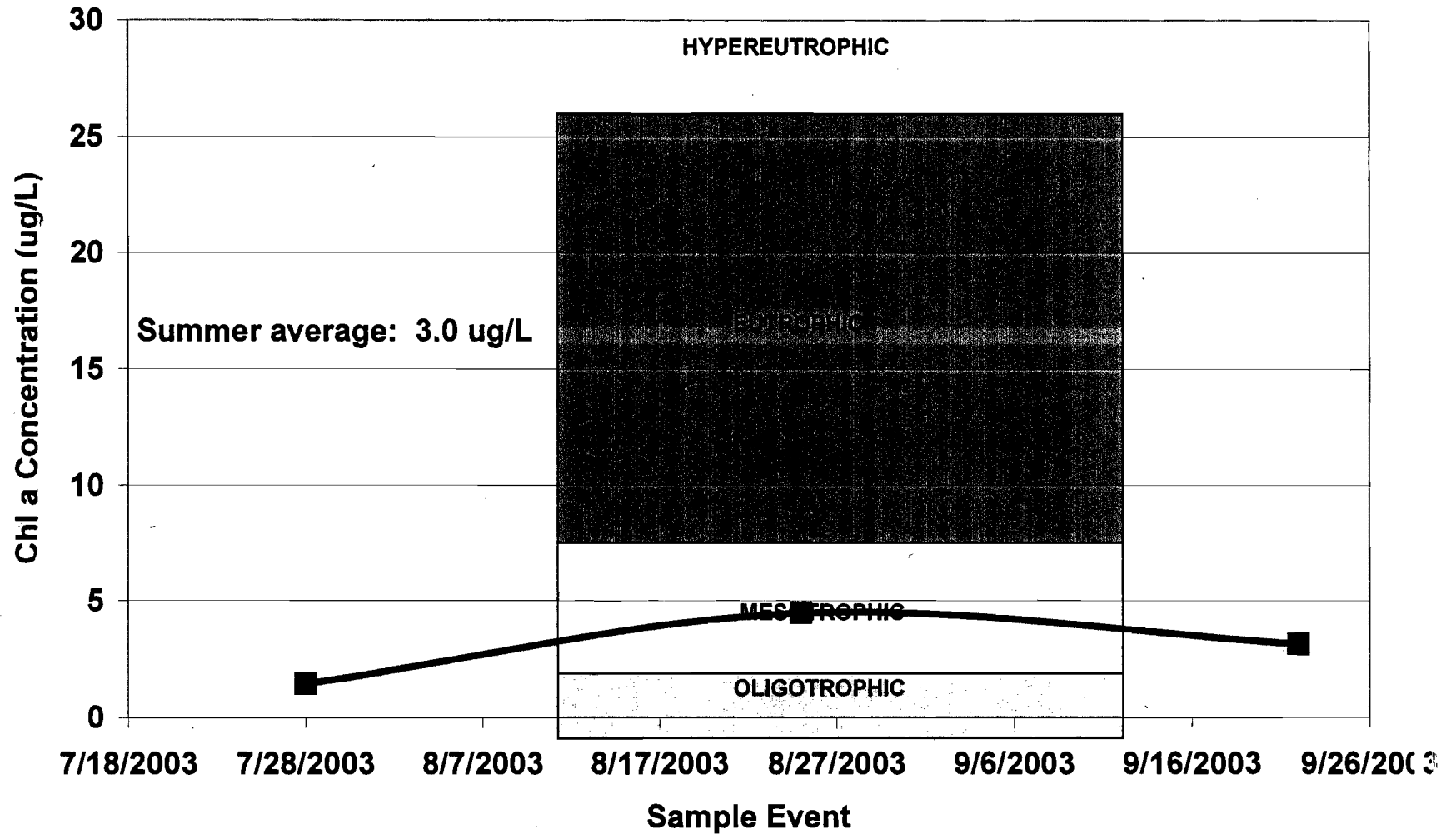
GAGE # 2 (right)

MONTH: November	
Day	Lake Level (Ft.)
1	1.35
2	1.34
3	1.34
4	1.34
5	1.35
6	ICE IN
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
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26	
27	
28	
29	
30	
31	

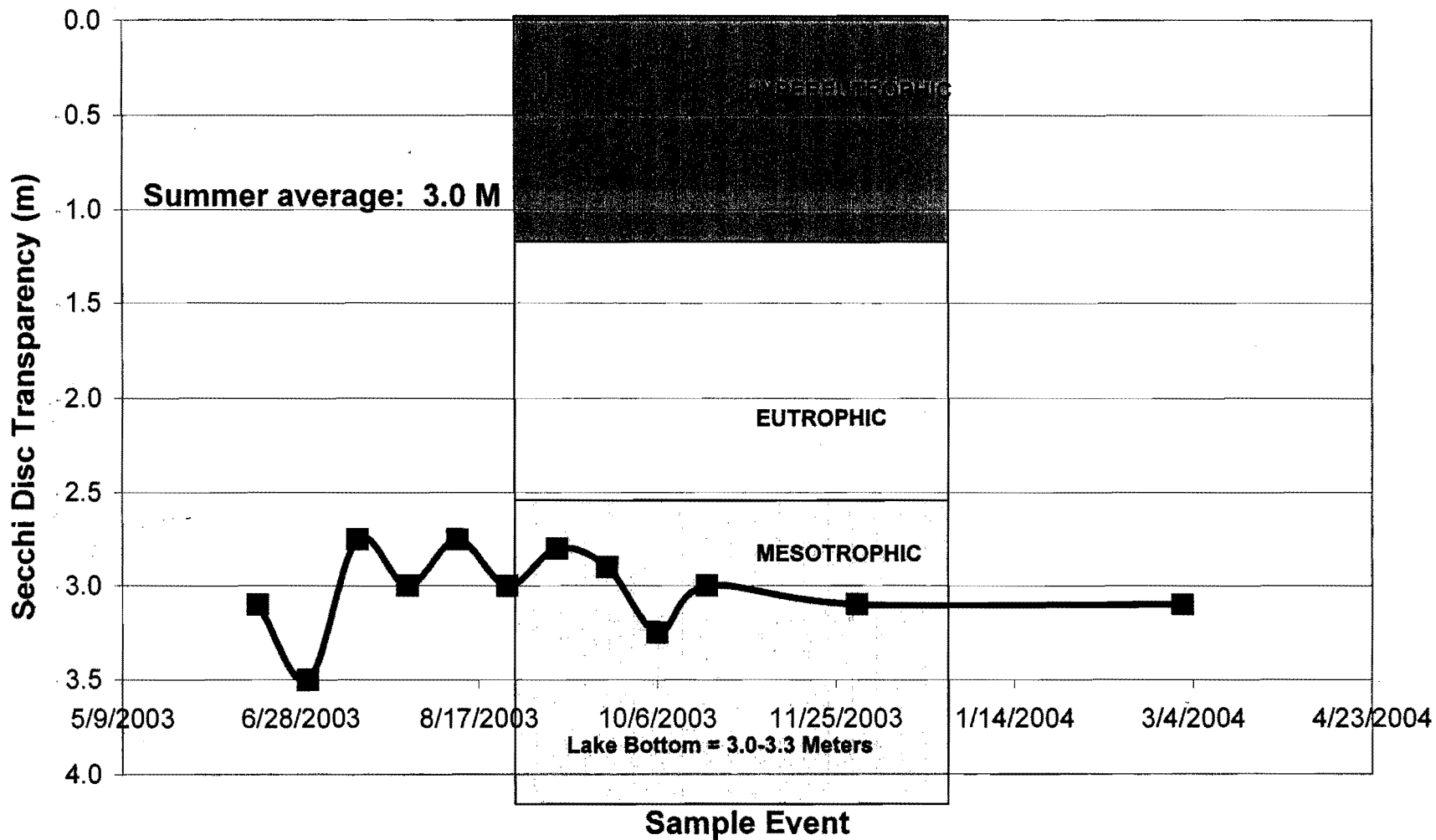
2003 Epilimnetic Total Phosphorus Concentration Birch Island Lake--North Basin



2003 Epilimnetic Chlorophyll a Concentration Birch Island Lake--North Basin



Secchi Disc Transparency Birch Island Lake--~~Main~~^{North} Basin



Birch Island Lake--North Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond. umho/cm @ 25 C	Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
6/16/2003	3.1	3.1	0-2		--	--	--	0.009						
			0.0	--	7.3	25.0	58	--	--	--	--	--	--	
			1.0	--	7.9	23.0	58	--	--	--	--	--		
			2.0	--	8.7	23.0	58	--	--	--	--	--		
			2.5	--		22.0	58	--	--	--	--	--		
			3.0	--		22.0	58	--	--	--	--	--		
6/30/2003	3.5	3.5	0-2											
			0.0		6.7	22.0	52							
			1.0		6.7	22.0	56							
			2.0		6.4	22.0	56							
			2.5		7.2	21.5	56							
			3.0		7.5	21.5	56							
7/14/2003	3.3	2.75	0-2											
			0.0		6.4	24.0	55							
			1.0		6.5	24.0	55							
			2.0		6.4	24.0	58							
			2.5		6.4	24.0	58							
			3.0		6.3	24.0	59							
7/28/2003	3.3	3.0	0-2	1.45	--	--	--	0.014	--					
			0.0	--	7.4	24.7		--	--	--	--	--		
			1.0	--	7.2	24.2		--	--	--	--	--		
			2.0	--	7.1	24.9		--	--	--	--	--		
			2.5	--	7.0	25.0		--	--	--	--	--		
			3.0	--	7.01	25.0		--	--	--	--	--		
8/11/2003	3.33	2.75	0-2											
			0.0		7.26	25.4	58							

Birch Island Lake--North Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a			Specific Cond.		Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
				(ug/L)	D.O. (mg/L)	Temp. (C)	umho/cm @ 25 C								
6/16/2003	3.1	3.1													
10/20/2003	3	3	0-2	--	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	9.5	12.4	45	--	--	--	--	--	--	--	--
			1.0	--	9.35	12.3	45	--	--	--	--	--	--	--	--
			2.0	--	9.35	12.3	45	--	--	--	--	--	--	--	--
			2.5	--	9.25	12.2	45	--	--	--	--	--	--	--	--
			3.0	--	8	12.2	45	--	--	--	--	--	--	--	--
12/15/2003	3.1	3.1	0-2	--	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	5.9	0	47	--	--	--	--	--	--	--	--
			1.0	--	5.98	3	49	--	--	--	--	--	--	--	--
			2.0	--	5.81	3	50	--	--	--	--	--	--	--	--
			2.5	--	5.3	3	50	--	--	--	--	--	--	--	--
			3.0	--	5.29	3	50	--	--	--	--	--	--	--	--
3/15/2004	3.1	3.1	0-2	--	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	5.4	10.2	48	--	--	--	--	--	--	--	--
			1.0	--	2.5	10.1	50	--	--	--	--	--	--	--	--
			2.0	--	0.71	10	55	--	--	--	--	--	--	--	--
			2.5	--	0.71	10	55	--	--	--	--	--	--	--	--
			3.0	--	0.7	10	55	--	--	--	--	--	--	--	--

Birch Island Lake--North Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond. umho/cm @ 25 C	Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (mg/L)	(As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
6/16/2003	3.1	3.1	1.0		7	25.4	59								
			2.0		6.8	25.5	60								
			2.5		6.87	25.5	60								
			3.0		6.55	25.5	60								
8/25/2003	3.25	3	0-2	4.48	--	--	--								
			0.0	--	6.78	25.4	58	0.018	--	--	--	--	--	--	--
			1.0	--	6.35	25.3	58	--	--	--	--	--	--	--	--
			2.0	--	6.6	25.2	59	--	--	--	--	--	--	--	--
			2.5	--	6.6	25.1	59	--	--	--	--	--	--	--	--
			3.0	--	6.2	25	59	--	--	--	--	--	--	--	--
9/8/2003	3.3	2.8	0-2	4.87	--	--	--								
			0.0	--	7.7	23.3	52	--	--	--	--	--	--	--	--
			1.0	--	7.48	22.8	54	--	--	--	--	--	--	--	--
			2.0	--	7.17	22.6	55	--	--	--	--	--	--	--	--
			2.5	--	7.27	22.5	55	--	--	--	--	--	--	--	--
			3.0	--	6.75	22.5	59	--	--	--	--	--	--	--	--
9/22/2003	3.1	2.9	0-2	3.16	--	--	--								
			0.0	--	7.8	17.5	48	0.017	--	--	--	--	--	--	--
			1.0	--	7.35	17.5	50	--	--	--	--	--	--	--	--
			2.0	--	7.44	17.5	50	--	--	--	--	--	--	--	--
			2.5	--	7.66	17.3	50	--	--	--	--	--	--	--	--
			3.0	--	7.35	17.4	50.1	--	--	--	--	--	--	--	--
10/6/2003	3.25	3.25	0-2		--	--	--								
			0.0		9.3	11	40								
			1.0	--	9.07	10.7	40	--	--	--	--	--	--	--	--
			2.0	--	8.8	10.6	40	--	--	--	--	--	--	--	--
			2.5	--	8.8	10.5	40	--	--	--	--	--	--	--	--
			3.0	--	8.6	10.5	40	--	--	--	--	--	--	--	--

Birch Island Lake--North Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond.		Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N (mg/L)	Diss N03+N02 (mg/L)	Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
							umho/cm @ 25 C									
6/16/2003	3.1	3.1														

Birch Island Lake--North Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a		D.O. (mg/L)	Temp. (C)	Specific Cond.		Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
				(ug/L)	(mg/L)			umho/cm @ 25 C								
6/16/2003	3.1	3.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			0-2	--	--	--	--	0.009	--	--	--	--	--	--	--	--
			0.0	--	7.3	25.0	58	--	--	--	--	--	--	--	--	--
			1.0	--	7.9	23.0	58	--	--	--	--	--	--	--	--	--
			2.0	--	8.7	23.0	58	--	--	--	--	--	--	--	--	--
			2.5	--	--	22.0	58	--	--	--	--	--	--	--	--	--
6/30/2003	3.5	3.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			0-2	--	--	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	6.7	22.0	52	--	--	--	--	--	--	--	--	
			1.0	--	6.7	22.0	56	--	--	--	--	--	--	--	--	
			2.0	--	6.4	22.0	56	--	--	--	--	--	--	--	--	
			2.5	--	7.2	21.5	56	--	--	--	--	--	--	--	--	
7/14/2003	3.3	2.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			0-2	--	--	--	--	--	--	--	--	--	--	--	--	
			0.0	--	6.4	24.0	55	--	--	--	--	--	--	--	--	
			1.0	--	6.5	24.0	55	--	--	--	--	--	--	--	--	
			2.0	--	6.4	24.0	58	--	--	--	--	--	--	--	--	
			2.5	--	6.4	24.0	58	--	--	--	--	--	--	--	--	
7/28/2003	3.3	3.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			0-2	1.45	--	--	--	0.014	--	--	--	--	--	--	--	
			0.0	--	7.4	24.7	--	--	--	--	--	--	--	--	--	
			1.0	--	7.2	24.2	--	--	--	--	--	--	--	--	--	
			2.0	--	7.1	24.9	--	--	--	--	--	--	--	--	--	
			2.5	--	7.0	25.0	--	--	--	--	--	--	--	--	--	
3.0	--	7.01	25.0	--	--	--	--	--	--	--	--	--				

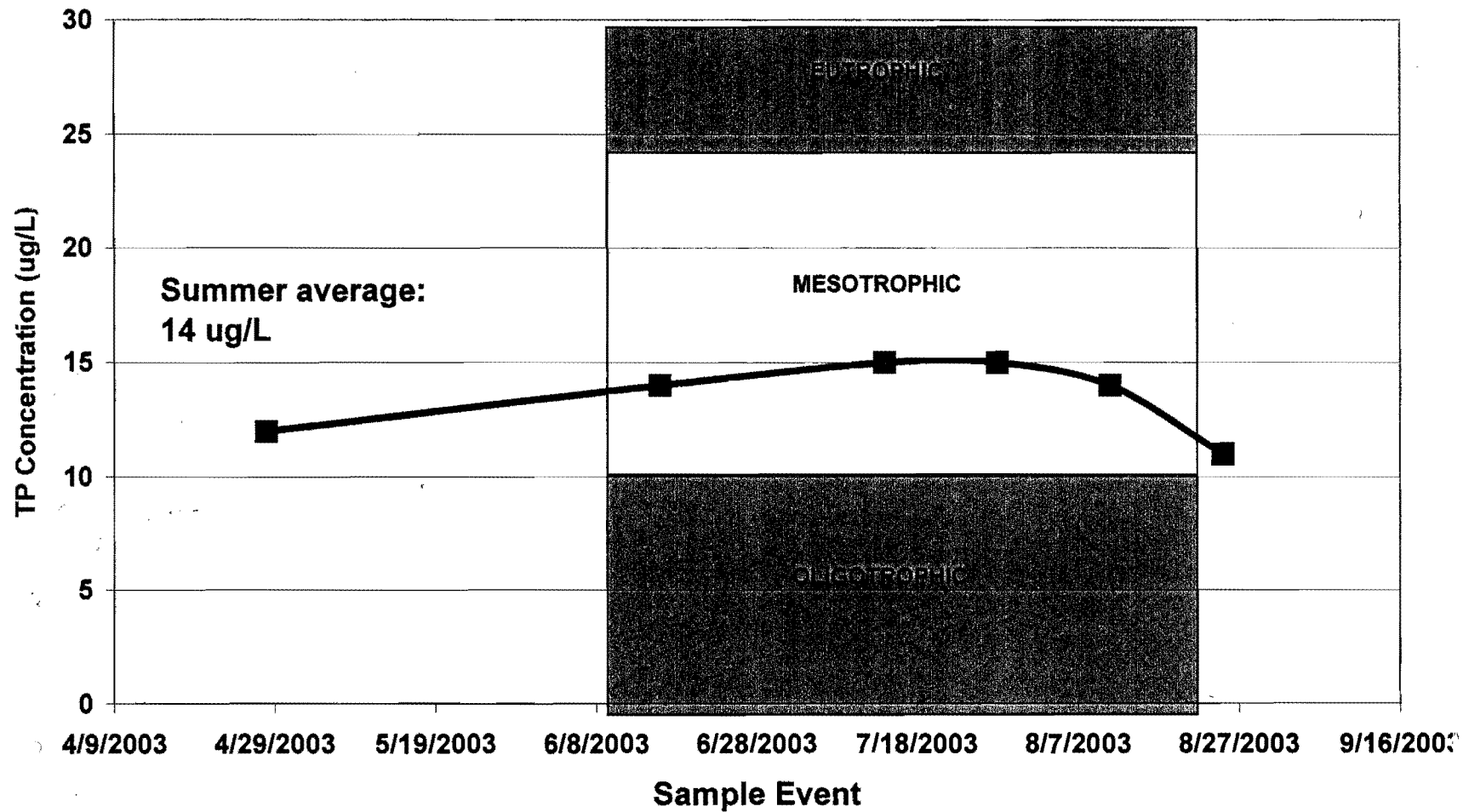
Birch Island Lake--North Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond.		Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (mg/L)	Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)		
							umho/cm @ 25 C											
8/11/2003	3.33	2.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
			0-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
			0.0	--	7.26	25.4	58	--	--	--	--	--	--	--	--	--	--	--
			1.0	--	7	25.4	59	--	--	--	--	--	--	--	--	--	--	--
			2.0	--	6.8	25.5	60	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	6.87	25.5	60	--	--	--	--	--	--	--	--	--	--	--
8/25/2003	3.25	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
			0-2	4.48	--	--	--	--	--	--	--	--	--	--	--	--	--	
			0.0	--	6.78	25.4	58	0.018	--	--	--	--	--	--	--	--	--	--
			1.0	--	6.35	25.3	58	--	--	--	--	--	--	--	--	--	--	--
			2.0	--	6.6	25.2	59	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	6.6	25.1	59	--	--	--	--	--	--	--	--	--	--	--
9/8/2003	3.3	2.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
			0-2	4.87	--	--	--	--	--	--	--	--	--	--	--	--	--	
			0.0	--	7.7	23.3	52	--	--	--	--	--	--	--	--	--	--	--
			1.0	--	7.48	22.8	54	--	--	--	--	--	--	--	--	--	--	--
			2.0	--	7.17	22.6	55	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	7.27	22.5	55	--	--	--	--	--	--	--	--	--	--	--
9/22/2003	3.1	2.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
			0-2	3.16	--	--	--	--	--	--	--	--	--	--	--	--	--	
			0.0	--	7.8	17.5	48	0.017	--	--	--	--	--	--	--	--	--	--
			1.0	--	7.35	17.5	50	--	--	--	--	--	--	--	--	--	--	--
			2.0	--	7.44	17.5	50	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	7.66	17.3	50	--	--	--	--	--	--	--	--	--	--	--
			3.0	--	7.35	17.4	50.1	--	--	--	--	--	--	--	--	--		

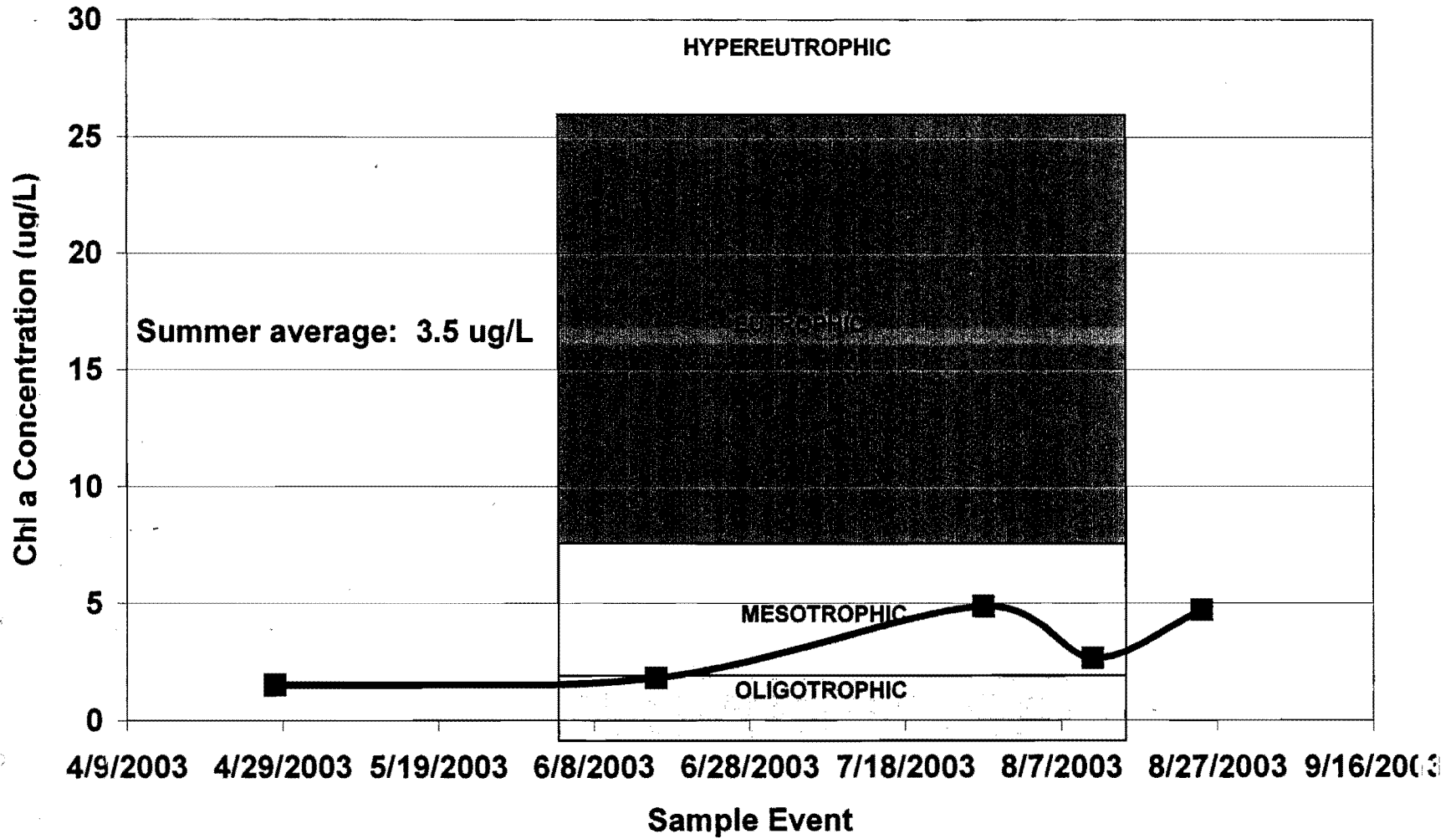
Birch Island Lake--North Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond. umho/cm @ 25 C	Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
10/6/2003	3.25	3.25	--	--	--	--	--	--	--	--	--	--	--	--
			0-2	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	9.3	11	40	--	--	--	--	--	--	--
			1.0	--	9.07	10.7	40	--	--	--	--	--	--	--
			2.0	--	8.8	10.6	40	--	--	--	--	--	--	--
			2.5	--	8.8	10.5	40	--	--	--	--	--	--	--
10/20/2003	3	3	--	--	--	--	--	--	--	--	--	--	--	--
			0-2	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	9.5	12.4	45	--	--	--	--	--	--	--
			1.0	--	9.35	12.3	45	--	--	--	--	--	--	--
			2.0	--	9.35	12.3	45	--	--	--	--	--	--	--
			2.5	--	9.25	12.2	45	--	--	--	--	--	--	--
12/15/2003	3.1	3.1	--	--	--	--	--	--	--	--	--	--	--	--
			0-2	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	5.9	0	47	--	--	--	--	--	--	--
			1.0	--	5.98	3	49	--	--	--	--	--	--	--
			2.0	--	5.81	3	50	--	--	--	--	--	--	--
			2.5	--	5.3	3	50	--	--	--	--	--	--	--
3/15/2004	3.1	3.1	--	--	--	--	--	--	--	--	--	--	--	--
			0-2	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	5.4	10.2	48	--	--	--	--	--	--	--
			1.0	--	2.5	10.1	50	--	--	--	--	--	--	--
			2.0	--	0.71	10	55	--	--	--	--	--	--	--
			2.5	--	0.71	10	55	--	--	--	--	--	--	--
			3.0	--	0.7	10	55	--	--	--	--	--	--	

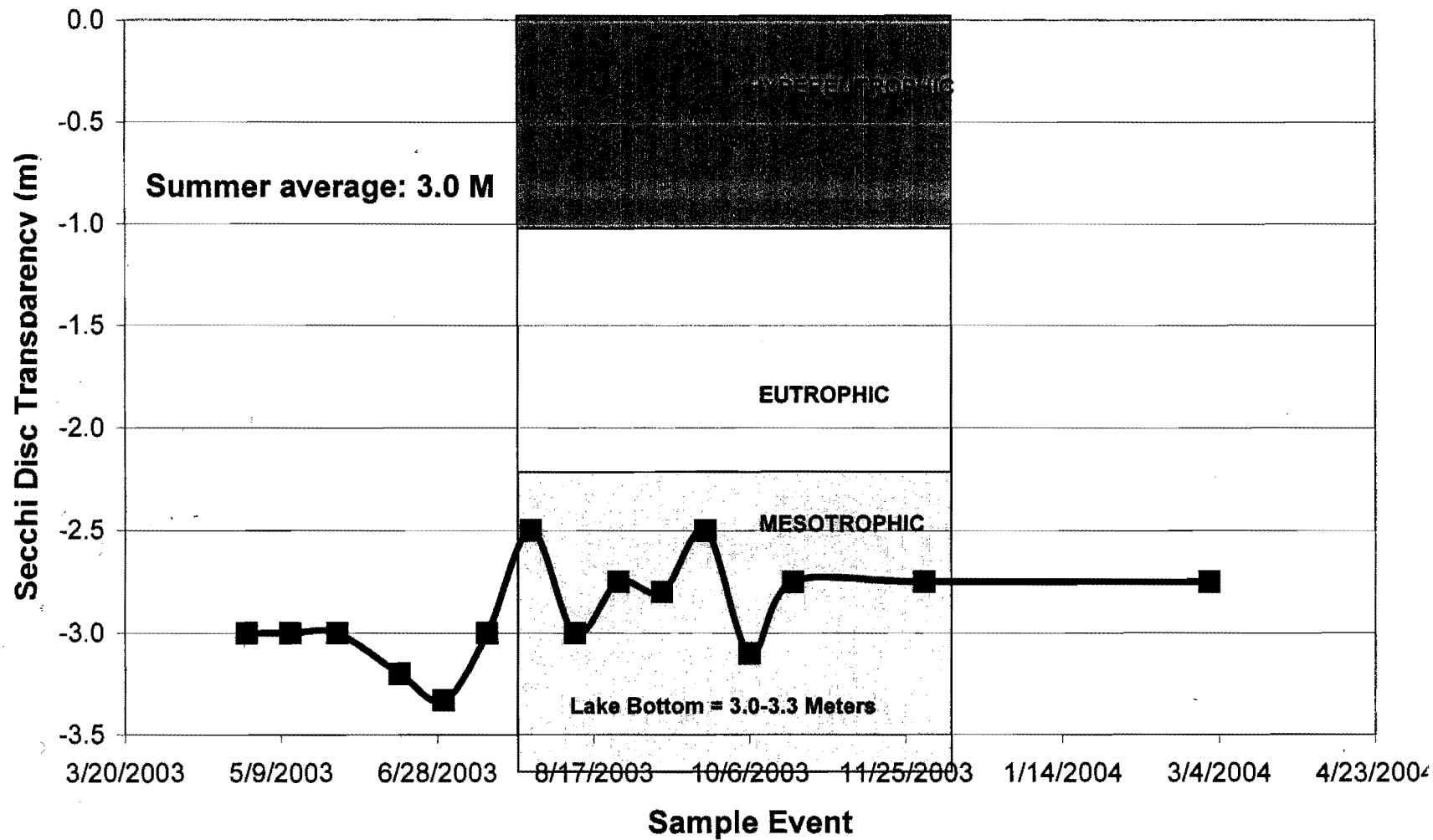
2003 Epilimnetic Total Phosphorus Concentration Birch Island Lake--Main Basin



2003 Epilimnetic Chlorophyll a Concentration Birch Island Lake--Main Basin



Secchi Disc Transparency Birch Island Lake--Main Basin



Birch Island Lake--Main Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond.		Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
							umho/cm @ 25 C								
4/28/2003	3.0	3.0	0-2	1.52	--	--	--		0.012	<0.002	<0.013	<0.022	0.3	7.71	27
			0.0	--	10.0	13.0	60	--	--	--	--	--	--	--	--
			1.0	--	10.0	13.0	48	--	--	--	--	--	--	--	--
			2.0	--	10.0	13.0	48	--	--	--	--	--	--	--	--
			2.5	--	10.0	13.0	49	0.011	--	--	--	--	--	--	--
			3.0	--	--	Bottom	--	--	--	--	--	--	--	--	--
5/12/2003	3	3	0-2		6.7	12.0	41								
			0.0		6.7	12.0	42								
			1.0		6.7	12.0	42								
			2.0		6.7	12.0	42								
			2.5		6.5	12.5	42								
			3.0		--	Bottom									
5/27/2003	3	3	0-2		6.8	19.8	48								
			0.0		6.8	18.1	45								
			1.0		6.8	17.8	48								
			2.0		6.8	17.8	48								
			2.5		6.8	17.8	48								
			3.0		--	Bottom									
6/16/2003	3.0	3.2	0-2	1.82	--	--	--	0.014	--	0.03	--	0.5	--	--	
			0.0	--	8.4	26.0	58.0	--	--	--	--	--	--	--	
			1.0	--	7.7	24.0	58.0	--	--	--	--	--	--	--	
			2.0	--	8.2	23.0	58.0	0.014	--	--	--	--	--	--	
			2.5	--	8.2	22.5	57.9	0.018	--	--	--	--	--	--	
			3.0	--	7.6	22.0	58.0	--	--	--	--	--	--	--	

Birch Island Lake--Main Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond. umho/cm @ 25 C	Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (mg/L)	(As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
6/30/2003	3.33	3.33	0-2		7.3										
			0.0		7.3	23.1	52								
			1.0		7.4	22.0	52								
			2.0		7.6	22.0	56								
			2.5		7.7	21.5	56								
			3.0		7.7	21.0	80								
7/14/2003	3.3	3	0-2		--	--	--								
			0.0	--	7.2	23.5	56	0.015	--	0.018	--	--	0.67	--	--
			1.0	--	7.2	23.5	58	--	--	--	--	--	--	--	--
			2.0	--	7.2	23.5	59	--	--	--	--	--	--	--	--
			2.5	--	7.2	23.5	59	0.021	--	--	--	--	--	--	--
			3.0	--	7.2	23.5	80	--	--	--	--	--	--	--	--
7/28/2003	3.1	2.5	0-2	4.87	--	--	--	0.015	--	--	--	--	0.68	--	--
			0.0	--	7.3	24.4	55	--	--	--	--	--	--	--	
			1.0	--	6.96	24.5	60	--	--	--	--	--	--	--	
			2.0	--	7.22	24.6	60	--	--	--	--	--	--	--	
			2.5	--	7.4	24.6	60	--	--	--	--	--	--	--	
			3.0	--	4.58	24.5	150	--	--	--	--	--	--	--	

Birch Island Lake--Main Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond. umho/cm @ 25 C	Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
8/11/2003	3.2	3	0-2	2.66	--	--	--	--	--	--	--	--	--	--
			0.0	--	7.01	25.3	58	0.014	--	0.026	--	0.56	7.83	26
			1.0	--	6.76	25.4	59	--	--	--	--	--	--	--
			2.0	--	6.81	25.4	60	--	--	--	--	--	--	--
			2.5	--	6.66	25.4	60	0.011	--	--	--	--	--	--
			3.0	--	6.84	25.4	275	--	--	--	--	--	--	--
8/25/2003	3.1	2.75	0-2	4.71	--	--	--	0.011	0.004	--	--	0.62	--	--
			0.0	--	6.73	25.4	55	--	--	--	--	--	--	
			1.0	--	6.45	25	56	--	--	--	--	--	--	
			2.0	--	6.95	24.8	57	--	--	--	--	--	--	
			2.5	--	6.65	24.7	57	0.017	--	--	--	--	--	
			3.0	--	6.1	24.6	99	--	--	--	--	--	--	
9/8/2003	3.02	2.8	0-2	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	7.43	23.6	59	--	--	--	--	--	--	
			1.0	--	7.74	22.6	59	--	--	--	--	--	--	
			2.0	--	7.81	22.2	60	--	--	--	--	--	--	
			2.5	--	8.01	22.3	61	--	--	--	--	--	--	
			3.0	--	8.14	22.2	89	--	--	--	--	--	--	
9/22/2003	3.1	2.5	0-2	--	--	--	--	--	--	--	--	--	--	--
			0.0	--	8.36	16.6	50	--	--	--	--	--	--	
			1.0	--	8.24	16.6	50	--	--	--	--	--	--	
			2.0	--	8	16.6	50	--	--	--	--	--	--	
			2.5	--	7.96	16.6	50	--	--	--	--	--	--	
			3.0	--	8.25	16.6	68	--	--	--	--	--	--	

Birch Island Lake--Main Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a		Temp. (C)	Specific Cond.		Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	NO3+N02 Diss (mg/L)	Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)		
				(ug/L)	(mg/L)		umho/cm @ 25 C											
10/6/2003	3.1	3.1	0-2	--	--	--	--	--	--	--	--	--	--	--	--	--		
			0.0	--	9.2	10.2	47	--	--	--	--	--	--	--	--	--	--	
			1.0	--	9.57	10.1	47	--	--	--	--	--	--	--	--	--	--	--
			2.0	--	9.63	10	48	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	9.48	10	58	--	--	--	--	--	--	--	--	--	--	--
			3.0	--	9.87	10	68	--	--	--	--	--	--	--	--	--	--	--
10/20/2003	2.75	2.75	0-2	--	--	--	--	--	--	--	--	--	--	--	--	--		
			0.0	--	9.2	10.2	47	--	--	--	--	--	--	--	--	--	--	
			1.0	--	9.57	10.1	47	--	--	--	--	--	--	--	--	--	--	--
			2.0	--	9.63	10	48	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	9.48	10	58	--	--	--	--	--	--	--	--	--	--	--
			3.0	--	9.87	10	68	--	--	--	--	--	--	--	--	--	--	--
12/15/2003	2.75	2.75	0-2	--	--	--	--	--	--	--	--	--	--	--	--	--		
			0.0	--	5.9	0	47	--	--	--	--	--	--	--	--	--	--	
			1.0	--	5.98	3	49	--	--	--	--	--	--	--	--	--	--	--
			2.0	--	5.81	3	50	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	5.3	3	50	--	--	--	--	--	--	--	--	--	--	--
			3.0	--	5.29	3	50	--	--	--	--	--	--	--	--	--	--	--
3/15/2004	2.75	2.75	0-2	--	--	--	--	--	--	--	--	--	--	--	--	--		
			0.0	--	1.2	10.2	50	--	--	--	--	--	--	--	--	--	--	
			1.0	--	2.1	10.1	51	--	--	--	--	--	--	--	--	--	--	--
			2.0	--	4	10	60	--	--	--	--	--	--	--	--	--	--	--
			2.5	--	4.3	10	65	--	--	--	--	--	--	--	--	--	--	--
			3.0	--	4.6	10	65	--	--	--	--	--	--	--	--	--	--	--

Birch Island Lake--Main Basin

Date	Sample Depth (M)	Total P (mg/L)
4/28/2003	0-2	0.012
4/28/2003	2.5	0.011
6/16/2003	3.0	0.018
6/16/2003	2.5	0.014
6/16/2003	0-2	0.014
7/14/2003	0-2	0.015
7/14/2003	3.0	0.021
7/28/2003	0-2	0.015
8/11/2003	3.0	0.011
8/11/2003	0-2	0.014
8/25/2003	0-2	0.011

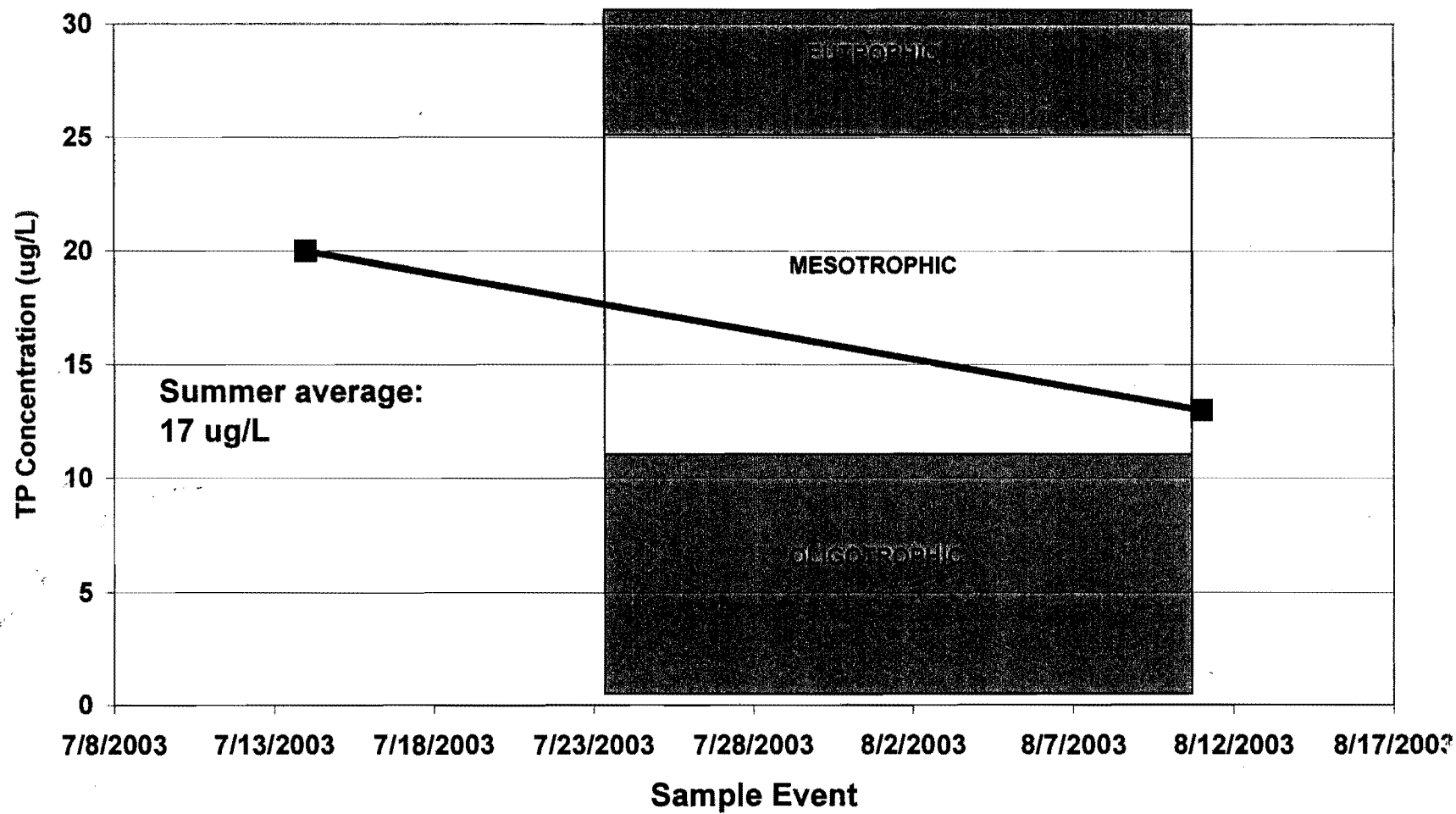
Birch Island Lake--Main Basin

Date	Sample Depth (M)	D.O. (mg/L)	Temp. (C)	Specific Cond. umho/cm @ 25 C)
4/28/2003	0.0	10.0	13.0	48
4/28/2003	1.0	10.0	13.0	48
4/28/2003	2.0	10.0	13.0	48
4/28/2003	2.5	10.0	13.0	49
4/28/2003	3.0	bottom		
5/12/2003	0.0	6.7	12.0	41.0
5/12/2003	1.0	6.7	12.0	42.0
5/12/2003	2.0	6.7	12.0	42.0
5/12/2003	2.5	6.5	12.5	42.0
5/12/2003	3.0	bottom		
5/27/2003	0.0	6.8	19.8	48.0
5/27/2003	1.0	6.8	18.1	45.0
5/27/2003	2.0	6.8	17.8	48.0
5/27/2003	2.5	6.8	17.8	48.0
5/27/2003	3.0	bottom		
6/16/2003	0.0	8.4	26.0	58.0
6/16/2003	1.0	7.7	24.0	58.0
6/16/2003	2.0	8.2	23.0	58.0
6/16/2003	2.5	8.2	22.5	57.9
6/16/2003	3.0	7.6	22.0	58.0
6/16/2003	3.3	bottom		
6/30/2003	0.0	7.3	23.1	52.0
6/30/2003	1.0	7.2	22.0	52.0
6/30/2003	2.0	7.4	22.0	56.0
6/30/2003	2.5	7.6	21.5	56.0
6/30/2003	3.0	7.7	21.0	80.0
6/30/2003	3.3	bottom		
7/14/2003	0.0	7.2	23.5	56.0
7/14/2003	1.0	7.2	23.5	58.0
7/14/2003	2.0	7.2	23.5	59.0
7/14/2003	2.5	7.2	23.5	59.0
7/14/2003	3.0	7.2	23.5	80.0
7/14/2003	3.3	bottom		
7/28/2003	0.0	7.3	24.4	55.0
7/28/2003	1.0	7.0	24.5	60.0
7/28/2003	2.0	7.2	24.6	60.0
7/28/2003	2.5	7.4	24.6	60.0

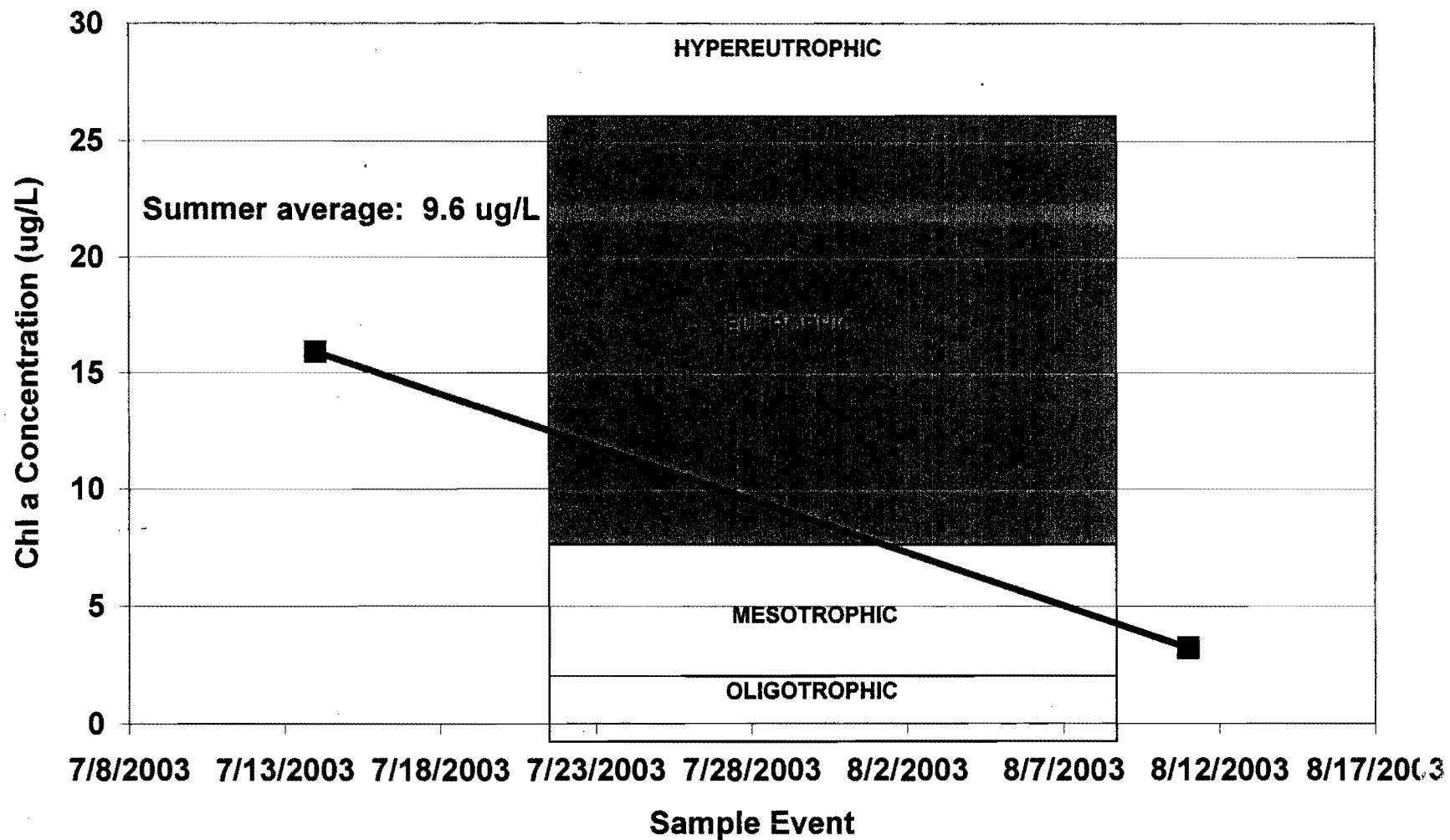
7/28/2003	3.0	4.6	24.5	150.0
7/28/2003	3.1	bottom		
8/11/2003	0.0	7.0	25.3	58.0
8/11/2003	1.0	6.8	25.4	59.0
8/11/2003	2.0	6.8	25.4	60.0
8/11/2003	2.5	6.7	25.4	60.0
8/11/2003	3.0	6.8	25.4	275.0
8/11/2003	3.2	bottom		
8/25/2003	0.0	6.7	25.4	55.0
8/25/2003	1.0	6.5	25.0	56.0
8/25/2003	2.0	7.0	24.8	57.0
8/25/2003	2.5	6.7	24.7	57.0
8/25/2003	3.0	6.1	24.6	99.0
8/25/2003	3.1	bottom		
9/8/2003	0.0	7.4	23.6	59.0
9/8/2003	1.0	7.7	22.7	59.0
9/8/2003	2.0	7.8	22.2	60.0
9/8/2003	2.5	8.0	22.3	61.0
9/8/2003	3.0	8.1	22.2	89.0
9/8/2003	3.02	bottom		
9/22/2003	0.0	8.4	16.6	50.0
9/22/2003	1.0	8.3	16.6	50.0
9/22/2003	2.0	8.0	16.6	50.0
9/22/2003	2.5	8.0	16.6	50.0
9/22/2003	3.0	8.3	16.6	68.0
9/22/2003	3.10	bottom		
10/6/2003	0.0	9.2	10.2	47.0
10/6/2003	1.0	9.6	10.1	47.0
10/6/2003	2.0	9.6	10.0	48.0
10/6/2003	2.5	8.5	10.0	58.0
10/6/2003	3.0	9.9	10.0	68.0
10/6/2003	3.10	bottom		
10/20/2003	0.0	10.0	12.3	45.0
10/20/2003	1.0	9.5	12.1	45.0
10/20/2003	2.0	9.3	12.0	45.0
10/20/2003	2.5	9.1	12.0	45.0
10/20/2003	2.65	9.1	11.9	87.0
10/20/2003	2.75	bottom		
12/15/2003	0.0	5.9	0.0	47.0
12/15/2003	1.0	5.98	3.0	49.0
12/15/2003	2.0	5.81	3	50.0
12/15/2003	2.5	5.3	3.0	50.0
12/15/2003	3.0	5.29	3.0	50.0

12/15/2003	3.10	bottom		
3/15/2004	0.0	3.2	1.2	50.0
3/15/2004	1.0	2.6	2.1	51.0
3/15/2004	2.0	0.3	4.0	60.0
3/15/2004	2.5	0.3	4.3	65.0
3/15/2004	3.0	0.3	4.6	65.0
3/15/2004	3.10	bottom		

2003 Epilimnetic Total Phosphorus Concentration Birch Island Lake--West Basin



2003 Epilimnetic Chlorophyll a Concentration Birch Island Lake--West Basin



Birch Island Lake--West Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond. umho/cm @ 25 C	Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (mg/L)	(As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
7/14/2003			0-2		--	--	--								
			0.0	15.9				0.02	--	--	--	--	--	--	--
			1.0	--				--	--	--	--	--	--	--	--
			2.0	--				--	--	--	--	--	--	--	--
			2.5	--				--	--	--	--	--	--	--	--
			3.0	--	--			--	--	--	--	--	--	--	--
8/11/2003			0-2		--	--	--								
			0.0	3.21				0.013	--	--	--	--	--	--	--
			1.0	--				--	--	--	--	--	--	--	--
			2.0	--				--	--	--	--	--	--	--	--
			2.5	--				--	--	--	--	--	--	--	--
			3.0	--	--			--	--	--	--	--	--	--	--
		0-2	--	--	--	--	--	--	--	--	--	--	--	--	--
		0.0	--				--	--	--	--	--	--	--	--	--
		1.0	--				--	--	--	--	--	--	--	--	--
		2.0	--				--	--	--	--	--	--	--	--	--
		2.5	--				--	--	--	--	--	--	--	--	--
		3.0	--	--			--	--	--	--	--	--	--	--	--

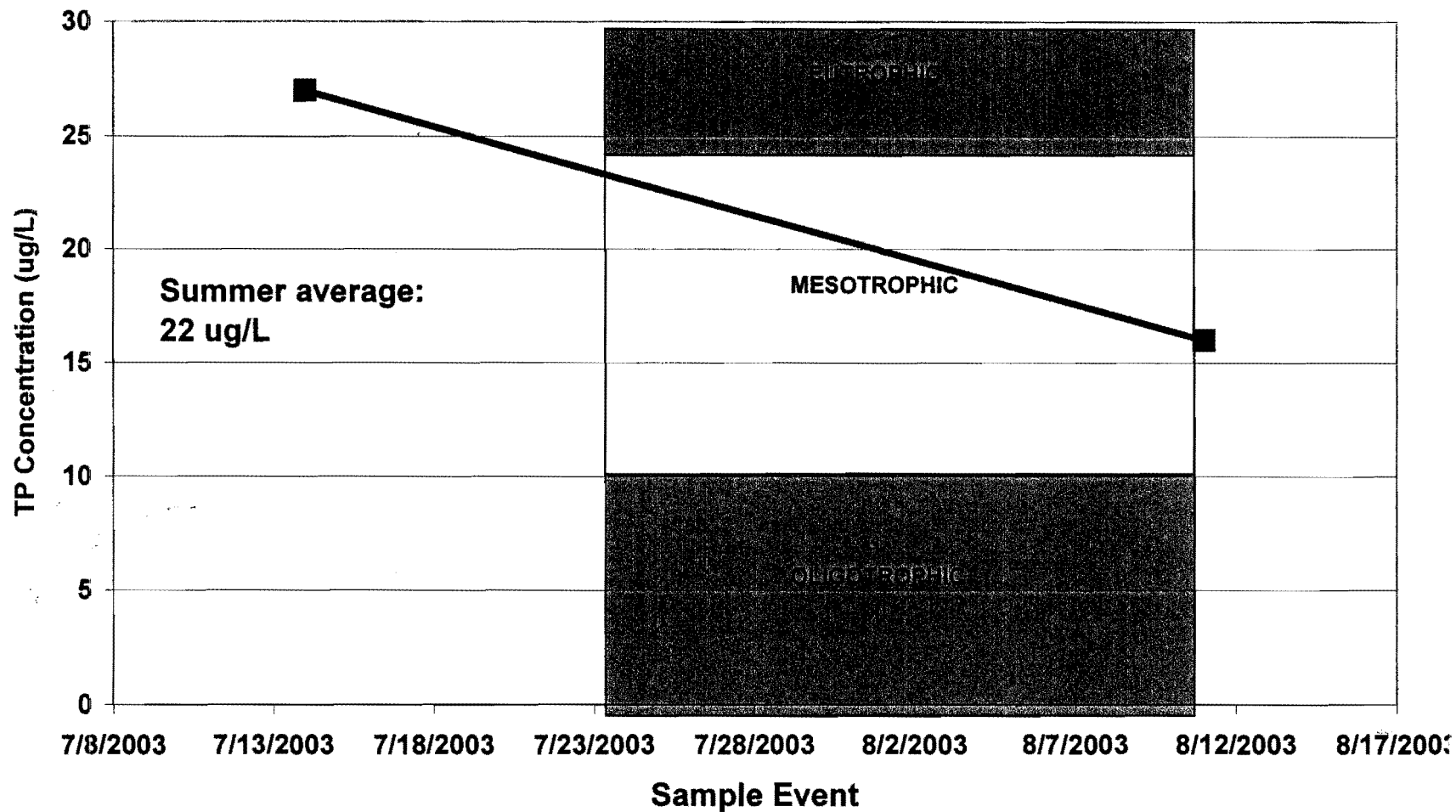
Birch Island Lake--West Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a			Specific Cond.		Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (mg/L)	Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
				(ug/L)	(mg/L)	(C)	umho/cm @ 25 C									
--	--	--	0-2	--	--	--	--	--	--	--	--	--	--	--	--	
			0.0	--	--	--	--	--	--	--	--	--	--	--	--	
			1.0	--	--	--	--	--	--	--	--	--	--	--	--	
			1.5	--	--	--	--	--	--	--	--	--	--	--	--	
			2.0	--	--	--	--	--	--	--	--	--	--	--	--	
			2.5	--	--	--	--	--	--	--	--	--	--	--	--	
			3.0	--	--	--	--	--	--	--	--	--	--	--	--	
--	--	--	0-2	--	--	--	--	--	--	--	--	--	--	--	--	
			0.0	--	--	--	--	--	--	--	--	--	--	--	--	
			1.0	--	--	--	--	--	--	--	--	--	--	--	--	
			2.0	--	--	--	--	--	--	--	--	--	--	--	--	
			2.5	--	--	--	--	--	--	--	--	--	--	--	--	
			3.0	--	--	--	--	--	--	--	--	--	--	--	--	
--	--	--	0-2	--	--	--	--	--	--	--	--	--	--	--	--	
			0.0	--	--	--	--	--	--	--	--	--	--	--	--	
			1.0	--	--	--	--	--	--	--	--	--	--	--	--	
			2.0	--	--	--	--	--	--	--	--	--	--	--	--	
			2.5	--	--	--	--	--	--	--	--	--	--	--	--	
			3.0	--	--	--	--	--	--	--	--	--	--	--	--	

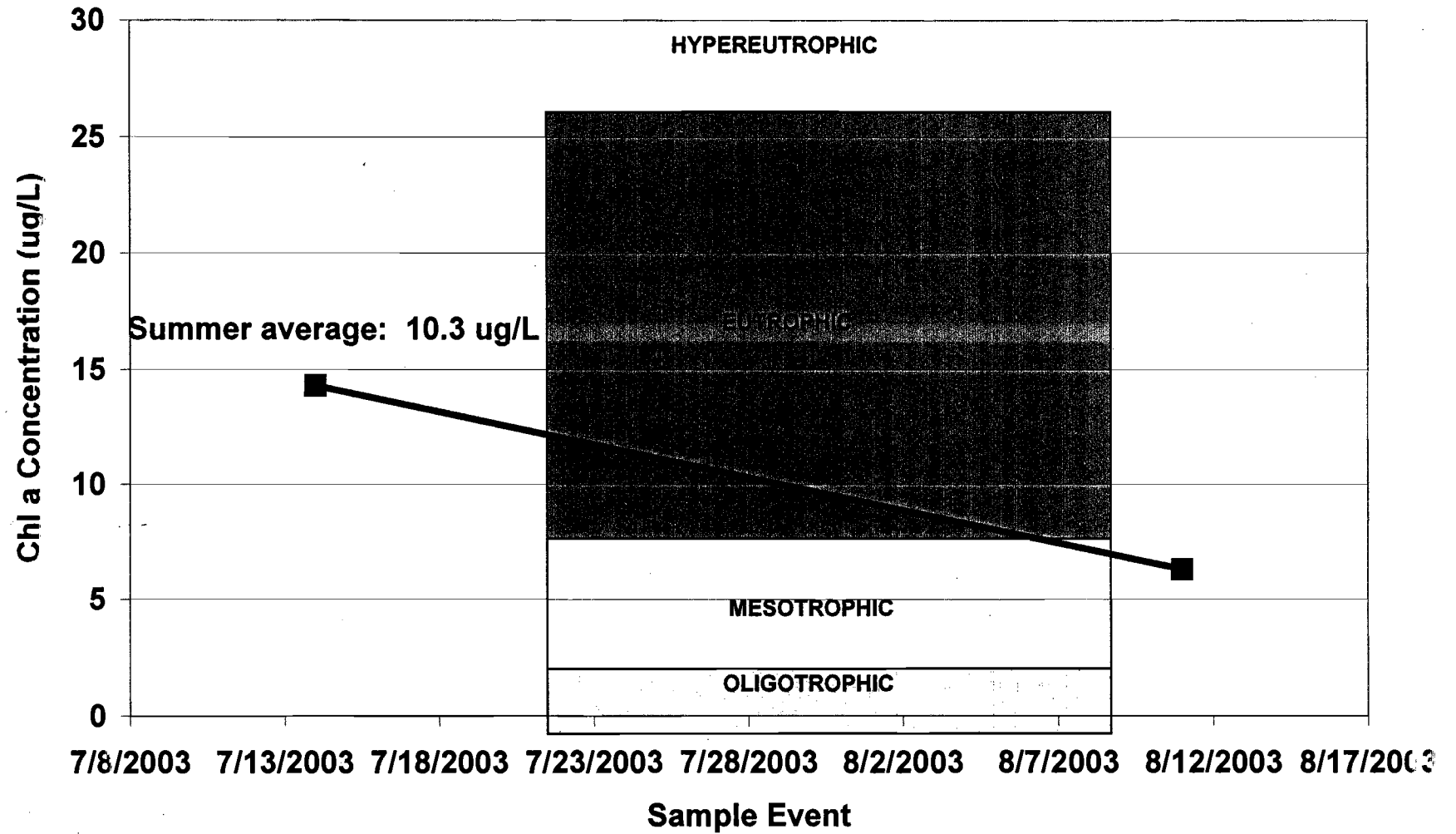
Birch Island Lake--West Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond. umho/cm @ 25 C	Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	NO3+N02 Diss (mg/L)	Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
7/14/2003			0-2		--	--	--								
			0.0	15.9				0.02	--	--	--	--	--	--	--
			1.0	--				--	--	--	--	--	--	--	--
			2.0	--				--	--	--	--	--	--	--	--
			2.5	--				--	--	--	--	--	--	--	--
			3.0	--	--			--	--	--	--	--	--	--	--
8/11/2003			0-2		--	--	--								
			0.0	3.21				0.013	--	--	--	--	--	--	--
			1.0	--				--	--	--	--	--	--	--	--
			2.0	--				--	--	--	--	--	--	--	--
			2.5	--				--	--	--	--	--	--	--	--
			3.0	--	--			--	--	--	--	--	--	--	--

2003 Epilimnetic Total Phosphorus Concentration Birch Island Lake--East Basin



2003 Epilimnetic Chlorophyll a Concentration Birch Island Lake--East Basin



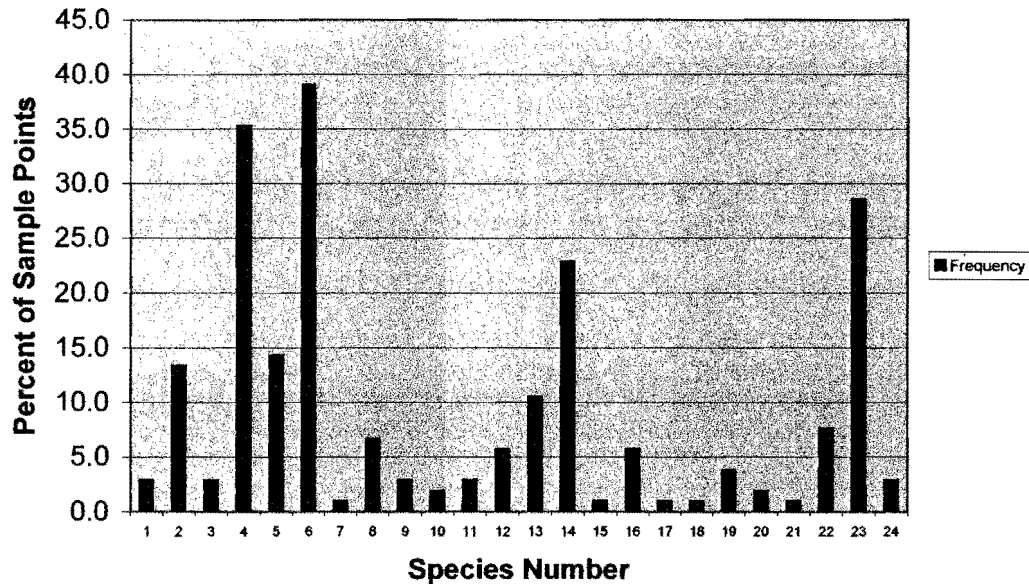
Birch Island Lake--East Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a			Specific Cond.		Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N Diss (mg/L)	N03+N02 Diss (mg/L)	Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
				(ug/L)	(mg/L)	(C)	umho/cm @ 25 C									
7/14/2003			0-2		--	--	--									
			0.0	14.3				0.027	--	--	--	--	--	--	--	
			1.0	--				--	--	--	--	--	--	--	--	
			2.0	--				--	--	--	--	--	--	--	--	
			2.5	--				--	--	--	--	--	--	--	--	
			3.0	--	--		--	--	--	--	--	--	--	--	--	
8/11/2003			0-2	--	--	--	--									
			0.0	6.3				0.016	--	--	--	--	--	--	--	
			1.0	--				--	--	--	--	--	--	--	--	
			2.0	--				--	--	--	--	--	--	--	--	
			2.5	--				--	--	--	--	--	--	--	--	
			3.0	--	--		--	--	--	--	--	--	--	--	--	
		0-2	--	--	--	--	--	--	--	--	--	--	--	--	--	
		0.0	--				--	--	--	--	--	--	--	--	--	
		1.0	--				--	--	--	--	--	--	--	--	--	
		2.0	--				--	--	--	--	--	--	--	--	--	
		2.5	--				--	--	--	--	--	--	--	--	--	
		3.0	--	--		--	--	--	--	--	--	--	--	--	--	

Birch Island Lake--East Basin

Date	Max. Depth (M)	Secchi Disc (M)	Sample Depth (M)	Chl a (ug/L)	D.O. (mg/L)	Temp. (C)	Specific Cond.	Total P (mg/L)	Diss Reactive P (mg/L)	NH3-N (mg/L)	Diss N03+N02 (mg/L)	Diss (As N) (mg/L)	TKN (mg/L)	pH (Std. Units)	Total Alk. (mg/L)
							umho/cm @ 25 C								
7/14/2003															
			0-2		--	--	--								
			0.0	14.3				0.027	--	--	--	--	--	--	--
			1.0	--				--	--	--	--	--	--	--	--
			2.0	--				--	--	--	--	--	--	--	--
			2.5	--				--	--	--	--	--	--	--	--
			3.0	--	--			--	--	--	--	--	--	--	--
8/11/2003															
			0-2	--	--	--	--								
			0.0	6.3				0.016	--	--	--	--	--	--	--
			1.0	--				--	--	--	--	--	--	--	--
			2.0	--				--	--	--	--	--	--	--	--
			2.5	--				--	--	--	--	--	--	--	--
			3.0	--	--			--	--	--	--	--	--	--	--

Example Lake Macrophyte Survey Frequency of Occurrence (Percent of Sample Points)



Species Number	Scientific Name	Common Name	Frequency (% of samples)
1	<i>Brasenia schreberi</i>	watershield	2.9
2	<i>Ceratophyllum demersum</i>	coonlail	13.3
3	<i>Chara sp.</i>	muskrass	2.9
4	<i>Elodea canadensis</i>	Canada waterweed	35.2
5	<i>Eleocharis spp.</i>	spikerush	14.3
6	<i>Lobelia dortmanna</i>	water lobelia	39.0
7	<i>Lemna minor</i>	lesser duckweed	1.0
8	<i>Myriophyllum sibiricum</i>	northern watermilfoil	6.7
9	<i>Myriophyllum verticillatum</i>	whorled watermilfoil	2.9
10	<i>Najas flexilis</i>	bushy naiad	1.9
11	<i>Nuphar advena</i>	yellow pond lily (heart)	2.9
12	<i>Nuphar variegata</i>	spatterdock (winged stock)	5.7
13	<i>Nymphaea tuberosa</i>	white water lily	10.5
14	<i>Potamogeton amplifolius</i>	largeleaf pondweed	22.9
15	<i>Potamogeton crispus</i>	curtyleaf pondweed	1.0
16	<i>Potamogeton epihydrus</i>	ribbonleaf pondweed	5.7
17	<i>Potamogeton illinoensis</i>	Illinois pondweed	1.0
18	<i>Potamogeton natans</i>	floatingleaf pondweed	1.0
19	<i>Poa spp.</i>	narrow leaf pondweed	3.8
20	<i>Potamogeton zosteriformis</i>	flatstem pondweed	1.9
21	<i>Typha. sp.</i>	cattail	1.0
22	<i>Utricularia sp.</i>	bladderwort	7.6
23	<i>Vallisneria americana</i>	wild celery	28.6
24	<i>Zosterella dubia</i>	mud plantian	2.9

Birch Island Lake

June 19, 20, and 21, 2003

Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
1	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	1	2	1	1	1.25	N/A
				SCSP	<i>Scirpus sp.</i>	bulrush	1	2	1	1	1.25	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	0	1	0.25	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	0	0	0	1	0.25	3
1	1.5-5.0	4.5	Sand	Total	Total Density at Station	N/A	1	1	2	2	1.50	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	1	2	2	1.50	3
1	5.0-10.0	8.0	Muck	Total	Total Density at Station	N/A	3	4	3	3	3.25	N/A
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	2	1	1	1	1.25	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	4	2	3	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	0	0	1	0.25	1
1	5.0-10.0	8.0	Muck	Total	Total Density at Station	N/A	2	2	1	2	1.75	N/A
				VAAM	<i>Vallisneria americana</i>	wild celery	1	1	0	0	0.50	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	2	1	0	1.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	0	1	0.75	1
				POIL	<i>Potamogeton illinoensis</i>	Illinois pondweed	0	1	0	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	1	1	0.50	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	0	1	0.25	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	0	1	0.25	1
2	5.0-10.0	8.0	Muck	Total	Total Density at Station	N/A	1	2	3	4	2.50	N/A
				NAFL	<i>Najas flexilis</i>	bushy naiad	1	1	3	4	2.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	1	1.00	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	1	1.00	1
2	5.0-10.0	6.5	Muck	Total	Total Density at Station	N/A	2	2	2	1	1.75	N/A
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	0	1	0.75	1
				NAFL	<i>Najas flexilis</i>	bushy naiad	1	0	0	0	0.25	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	2	2	1	1.75	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	0	0.75	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	1	0	1	0.50	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	1	0	0.25	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	1	0	0.25	1
2	5.0-10.0	7.5	Muck	Total	Total Density at Station	N/A	2	2	2	2	2.00	N/A
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	1	1	0.75	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	1	1.00	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	1	1	1.00	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	0	0	0.25	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	1	1	1	1.00	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	0	0	1	0	0.25	3

¹Type (plant community): 1=submerged, 2=floating-leaf, 3=emergent

Birch Island Lake

June 19, 20, and 21, 2003

Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
2	0.0-1.5	1.5	Sand	Total	<i>Total Density at Station</i>	N/A	2	1	1	1	1.25	N/A
				SCSP	<i>Scirpus sp.</i>	bulrush	1	1	0	1	0.75	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	0	0.75	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	0	0	0	0.25	3
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	0	0	0	0.25	3
				POAM2	<i>Polygonum amphibium</i>	water smartweed	0	1	0	0	0.25	2
				BRSC	<i>Brasenia schreberi</i>	watershield	0	0	1	0	0.25	2
3	1.5-5.0	5.0	Muck	Total	<i>Total Density at Station</i>	N/A	3	1	1	2	1.75	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	3	1	1	2	1.75	1
				ZODU	<i>Zosterella dubia</i>	mud plantian	1	0	0	0	0.25	1
				NISP	<i>Nitella sp.</i>	stonewort	0	1	0	1	0.50	1
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	0	1	0	0	0.25	2
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	1	0	1	0.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0	1	1	0.50	1
3	1.5-5.0	4.5	Muck	Total	<i>Total Density at Station</i>	N/A	2	1	1	2	1.50	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	2	1	1	1	1.25	2
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	0	1	0.75	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	0	1	1	0.50	1
				PONA	<i>Potamogeton natans</i>	floatingleaf pondweed	0	0	0	1	0.25	1
3	0-1.5	1.5	Silt	Total	<i>Total Density at Station</i>	N/A	1	1	2	2	1.50	N/A
				SCSP	<i>Scirpus sp.</i>	bulrush	1	1	2	1	1.25	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	0	1	1	0.75	3
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	1	1.00	2
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	1	0	0	0.50	3
				ZODU	<i>Zosterella dubia</i>	mud plantian	0	1	0	0	0.25	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	0	1	0.50	1
				DRSP	<i>Drepanocladus sp.</i>	water moss	0	1	0	0	0.25	1
POSP	<i>Poa spp.</i>	narrow leaf pondweed	0	0	0	1	0.25	1				

¹Type (plant community): 1=submerged, 2=floating-leaf, 3=emergent

Birch Island Lake

June 19, 20, and 21, 2003

Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
4	1.5-5.0	4.5	Muck	Total	Total Density at Station	N/A	4	4	2	1	2.75	N/A
				VAAM	<i>Vallisneria americana</i>	wild celery	1	1	1	0	0.75	1
				BRSC	<i>Brasenia schreberi</i>	watershield	1	0	1	1	0.75	2
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	1	1.00	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	4	4	2	0	2.50	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	1	1	0	0.50	1
				SCSP	<i>Scirpus sp.</i>	bulrush	0	0	1	1	0.50	3
4	1.5-5.0	5.0	Muck	Total	Total Density at Station	N/A	1	1	2	1	1.25	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	0	0.75	2
				PONA	<i>Potamogeton natans</i>	floatingleaf pondweed	1	1	1	1	1.00	1
				NISP	<i>Nitella sp.</i>	stonewort	0	1	2	1	1.00	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	0	0	0.25	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	0	0	1	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
4	0-1.5	1.8	Silt	Total	Total Density at Station	N/A	3	4	3	2	3.00	N/A
				SCSP	<i>Scirpus sp.</i>	bulrush	3	4	3	2	3.00	3
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	0	0.75	2
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	1	1	0.75	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	1	0	1	0.50	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	0	0	1	0	0.25	3
5	1.5-5.0	5.0	Muck	Total	Total Density at Station	N/A	2	2	3	2	2.25	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	1	1	1	1.00	3
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	0	1	0	0.50	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	1	1	1	1.00	1
				NISP	<i>Nitella sp.</i>	stonewort	1	0	0	0	0.25	1
				CHSP	<i>Chara sp.</i>	muskgrass	1	2	0	0	0.75	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	0	3	1	1.00	1
				SCSP	<i>Scirpus sp.</i>	bulrush	0	0	0	1	0.25	3
5	1.5-5.0	5.0(A)	Muck	Total	Total Density at Station	N/A	3	4	3	2	3.00	N/A
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	0	1	0	0.50	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	3	3	3	2	2.75	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	1	1.00	1
				BRSC	<i>Brasenia schreberi</i>	watershield	0	1	0	0	0.25	2
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	1	0	1	0.50	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	0	0	0.25	1
	PONA	<i>Potamogeton natans</i>	floatingleaf pondweed	0	0	1	1	0.50	1			

¹Type (plant community): 1=submerged, 2=floating-leaf, 3=emergent

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Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹				
5	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	2	2	2	1	1.75	N/A				
				POCO	<i>Pontederia cordata</i>	pickerelweed	2	1	0	0	0.75	3				
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	1	1.00	1				
				VAAM	<i>Vallisneria americana</i>	wild celery	0	1	0	0	0.25	1				
				SCSP	<i>Scirpus sp.</i>	bulrush	0	1	2	1	1.00	3				
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	0	0	1	0	0.25	2				
				BRSC	<i>Brasenia schreberi</i>	watershield	0	0	1	0	0.25	2				
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	0	1	0	0.25	1				
				SASP	<i>Sagittaria sp.</i>	arrowhead species	0	0	0	1	0.25	3				
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0	0	1	0.25	1				
6	5.0-10.0	6.0	Muck	DRSP	<i>Drepanocladus sp.</i>	water moss	0	0	0	1	0.25	1				
				Total	Total Density at Station	N/A	3	4	3	3	3.25	N/A				
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	0	0	1	0.50	1				
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	4	3	3	3.00	1				
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1				
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	2	1	1	1.25	1				
				VAAM	<i>Vallisneria americana</i>	wild celery	0	1	0	0	0.25	1				
				6	5.0-10.0	5.5	Muck	Total	Total Density at Station	N/A	1	2	2	3	2.00	N/A
								NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	2	1	1	0	1.00	2
								UTSP	<i>Utricularia sp.</i>	bladderwort	1	2	2	1	1.50	1
NITE	<i>Nitella sp.</i>	stonewort	1					1	1	0	0.75	1				
BRSC	<i>Brasenia schreberi</i>	watershield	1					1	1	0	0.75	2				
PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0					1	0	0	0.25	1				
POCO	<i>Pontederia cordata</i>	pickerelweed	0					0	1	0	0.25	3				
PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0					0	0	1	0.25	1				
POZO	<i>Potamogeton zosteriformis</i>	flatstem pondweed	0					0	0	1	0.25	1				
NYTU	<i>Nymphaea tuberosa</i>	white water lily	0					0	0	1	0.25	2				
6	1.5-5.0	3.0	Muck	POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0	0	1	0.25	1				
				BIBE	<i>Bidens beckii</i>	water marigold	1	1	0	0	0.50	3				
				Total	Total Density at Station	N/A	2	1	1	3	1.75	N/A				
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	1	0	1	0	0.50	2				
				BRSC	<i>Brasenia schreberi</i>	watershield	1	0	0	1	0.50	2				
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	0	0	1	0.50	3				
				POSP	<i>Poa spp.</i>	narrow leaf pondweed	1	0	0	0	0.25	1				
				DRSP	<i>Drepanocladus sp.</i>	water moss	2	1	1	0	1.00	1				
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	1	0	2	1.00	1				
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	0	1	0	0	0.25	2				
????????	???????	????	Missing	?DONA?	#N/A	#N/A	0	0	0	1	0.25	#N/A				

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Birch Island Lake

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Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
7	5.0-10.0	6.5	Muck	Total	Total Density at Station	N/A	4	2	2	1	2.25	N/A
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	2	1	0	1	1.00	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	0	0	0.25	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	2	2	1	1.75	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0	1	1	0.50	1
7	5.0-10.0	6.0	Muck	Total	Total Density at Station	N/A	2	1	2	4	2.25	N/A
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	2	2	1	1	1.50	2
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	1	1	0	0.75	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	1	2	4	2.25	1
				POIL	<i>Potamogeton illinoensis</i>	Illinois pondweed	1	0	0	0	0.25	1
				BRSC	<i>Brasenia schreberi</i>	watershield	0	1	1	0	0.50	2
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0	1	0	0.25	1
7	1.5-5.0	3.5	Silty-Sand	Total	Total Density at Station	N/A	1	2	1	2	1.50	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	2	1	2	0	1.25	2
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	1	2	1	2	1.50	2
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	0	1	1	0.75	3
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	2	0	0	0.75	1
				NISP	<i>Nitella sp.</i>	stonewort	1	0	0	0	0.25	1
				DRSP	<i>Drepanocladus sp.</i>	water moss	0	1	1	0	0.50	1
				Total	Total Density at Station	N/A	2	3	1	1	1.75	N/A
8	5.0-10.0	7.0	Muck	Total	Total Density at Station	N/A	2	3	1	1	1.75	N/A
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	2	0	0	0.75	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	0	1	0.50	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	1	1.00	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	2	1	1	1.00	1
8	5.0-10.0	6.0	Muck	Total	Total Density at Station	N/A	4	2	2	3	2.75	N/A
				NAFL	<i>Najas flexilis</i>	bushy naiad	2	1	1	3	1.75	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	1	1.00	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	3	2	2	1	2.00	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	0	0	0	0.25	1
8	1.5-5.0	1.5	Sand	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
				SASP	<i>Sagittaria sp.</i>	arrowhead species	1	0	0	0	0.25	3
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	1	0	0	0	0.25	1
				SCSP	<i>Scirpus sp.</i>	bulrush	2	1	1	1	1.25	3
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	1	1	0	0.75	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	1	1	1	0.75	1
				IRVE	<i>Iris versicolor</i>	northern blue flag	0	1	0	0	0.25	3
				NAFL	<i>Najas flexilis</i>	bushy naiad	0	0	1	0	0.25	1
				POCO	<i>Pontederia cordata</i>	pickerelweed	0	0	0	1	0.25	3

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Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
9	5.0-10.0	7.0	Muck	Total	Total Density at Station	N/A	3	2	1	1	1.75	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	3	2	1	1	1.75	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	2	1	1	1	1.25	1
?????????	???????	????	??Missing??	BAAM	<i>Baptisia alba</i>	white wild indigo	0	1	0	0	0.25	0
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	1	1	0.50	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
9	5.0-10.0	5.0	Sand	Total	Total Density at Station	N/A	2	1	3	3	2.25	N/A
				CHSP	<i>Chara sp.</i>	muskgrass	1	1	1	0	0.75	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	1	1	1	1.00	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	2	1	3	3	2.25	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1
?????????	???????	????	??Missing??	NASL	<i>Najas marina</i>	spiny naiad	1	0	1	0	0.50	0
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	0	1	1	0	0.50	1
				MYAL	<i>Myriophyllum alterniflorum</i>	alternateflower watermilfoil	0	1	1	0	0.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0	1	1	0.50	1
				NISP	<i>Nitella sp.</i>	stonewort	0	0	1	1	0.50	1
				SASP	<i>Sagittaria sp.</i>	arrowhead species	0	0	0	1	0.25	3
9	1.5-5.0	1.5	Gravel, and	Total	Total Density at Station	N/A	1	0	0	1	0.50	N/A
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1
				CHSP	<i>Chara sp.</i>	muskgrass	1	0	0	0	0.25	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	0	0	0	0.25	3
10	5.0-10.0	7.0	Muck	Total	Total Density at Station	N/A	1	2	2	1	1.50	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	1	1	1.00	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	1	1.00	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	0	0	0	0.25	1
				NISP	<i>Nitella sp.</i>	stonewort	0	0	2	1	0.75	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	0	0	1	0.25	1
10	5.0-10.0	5.0	Silty Sand	Total	Total Density at Station	N/A	2	2	1	1	1.50	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	1	0	1	1	0.75	2
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	2	0	0	0.75	3
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	0	1	0	0.50	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	0	0	0.25	1
				POIL	<i>Potamogeton illinoensis</i>	Illinois pondweed	0	1	0	0	0.25	1
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	0	0	1	1	0.50	2
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	1	1	0.50	1
				ZODU	<i>Zosterella dubia</i>	mud plantian	0	0	0	1	0.25	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	0	0	1	0.25	1
10	0-1.5	1.0	Sand	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
				SCSP	<i>Scirpus sp.</i>	bulrush	1	1	1	0	0.75	3
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	1	1	0	0.75	3

¹Type (plant community): 1=submerged, 2=floating-leaf, 3=emergent

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				ELSP	<i>Eleocharis spp.</i>	spikerush	1	0	0	0	0.25	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	1	1.00	1
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	0	0	0	1	0.25	1
11	5.0-10.0	7.5	Muck	Total	Total Density at Station	N/A	1	3	2	3	2.25	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	3	2	3	2.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	2	1	1.25	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	1	0	1	0.75	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	1	1.00	1
11	1.5-5.0	4.5	Sand	Total	Total Density at Station	N/A	1	2	1	1	1.25	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	1	1.00	2
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	1	1	0.75	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	1	0	1	0.75	3
				CHSP	<i>Chara sp.</i>	muskgrass	1	1	0	1	0.75	1
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	0	0	0	1	0.25	2
				VAAM	<i>Vallisneria americana</i>	wild celery	0	0	0	1	0.25	1
11	1.5-5.0	1.5	Sand	Total	Total Density at Station	N/A	1	1	2	1	1.25	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	1	0	1	1	0.75	2
				SCSP	<i>Scirpus sp.</i>	bulrush	1	2	1	1	1.25	3
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	1	0	0	0.50	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	0	0.75	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	0	0	0.25	1
12	5.0-10.0	4.5	Muck	Total	Total Density at Station	N/A	1	3	2	3	2.25	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	2	2	1	1.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	2	1	0	1.00	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	0	1	0.50	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	1	0	0	0.25	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	1	3	1.00	1
12	1.5-5.0	4.5	Sand	Total	Total Density at Station	N/A	2	3	1	3	2.25	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	2	3	1	3	2.25	3
				CHSP	<i>Chara sp.</i>	muskgrass	1	1	0	0	0.50	1
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	1	1	0	0	0.50	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	1	0	0.25	1
				SCSP	<i>Scirpus sp.</i>	bulrush	0	0	0	1	0.25	3
12	1.5-5.0	1.5	Silty Sand	Total	Total Density at Station	N/A	4	2	3	3	3.00	N/A
				EQFL	<i>Equisetum fluviatile</i>	water horsetail	1	1	0	1	0.75	0
				DRCL	<i>Drepano cladus</i>	water moss	1	0	1	2	1.00	0
				SCSP	<i>Scirpus sp.</i>	bulrush	1	1	0	1	0.75	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	2	3	1.75	1
				SCPN	<i>Scirpus pungens</i>	three square bulrush	1	0	0	0	0.25	0
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	0	0	0.25	1

¹Type (plant community): 1=submerged, 2=floating-leaf, 3=emergent

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Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
				CASP5	Callitriche spp	mud sedge	0	1	0	1	0.50	0
				IRVE	<i>Iris versicolor</i>	northern blue flag	0	0	1	0	0.25	3
Point D	1.5-5.0	4.0	Silty Muck	Total	Total Density at Station	N/A	4	2	4	3	3.25	N/A
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	1	1	1	1	1.00	2
				BRSC	<i>Brasenia schreberi</i>	watershield	4	4	4	3	3.75	2
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	1	1	1	1	1.00	2
				UTSP	<i>Utricularia sp.</i>	bladderwort	4	2	4	3	3.25	1
				POCO	<i>Pontederia cordata</i>	pickerelweed	0	0	0	1	0.25	3
13	5.0-10.0	10.0	Muck	Total	Total Density at Station	N/A	1	2	1	1	1.25	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	0	1	0.75	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	2	0	0	0.50	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	1	0	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	1	0	0.25	1
13	5.0-10.0	8.0	Muck	Total	Total Density at Station	N/A	1	2	2	3	2.00	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	2	2	1	1.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	0	1	0	0.50	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	1	1	3	1.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
13	1.5-5.0	4.5	Silty Sand	Total	Total Density at Station	N/A	1	1	4	4	2.50	N/A
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	1	1	0	0	0.50	2
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	1	1.00	2
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	0	4	4	2.25	3
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	1	0	0	0	0.25	1
				POCO	<i>Pontederia cordata</i>	pickerelweed	0	1	1	0	0.50	3
				SCSP	<i>Scirpus sp.</i>	bulrush	0	0	1	0	0.25	3
13	1.5-5.0	1.5	Sand	Total	Total Density at Station	N/A	0	1	0	4	1.25	N/A
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	0	0	0	0.25	3
				SCSP	<i>Scirpus sp.</i>	bulrush	1	1	0	0	0.50	3
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	1	0	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	1	0	0	0.25	1
					Grass	#N/A	0	0	0	2	0.50	#N/A
				SASP	<i>Sagittaria sp.</i>	arrowhead species	0	0	0	1	0.25	3
14	5.0-10.0	9.0	Muck	Total	Total Density at Station	N/A	1	2	1	2	1.50	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	1	1	1.00	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	0	0.75	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	2	1	2	1.50	1
				VAAN	<i>Vaccinium angustifolium</i>	lowbush blueberry	0	0	1	0	0.25	0
14	5.0-10.0	9.0A	Muck	Total	Total Density at Station	N/A	3	5	4	3	3.75	N/A
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	3	1	2	1	1.75	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	5	2	3	2.75	1

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Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	0	0.75	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	1	1	0	0.50	1
14	1.5-5.0	4.0	Sand	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
				SCSP	<i>Scirpus sp.</i>	bulrush	1	1	1	1	1.00	3
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	1	1	1	1.00	3
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	0	1	0.25	1
14	0-1.5	1.0	Sand	Total	Total Density at Station	N/A	1	1	0	1	0.75	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	0	0	0	0.25	3
				SCSP	<i>Scirpus sp.</i>	bulrush	0	1	0	0	0.25	3
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	0	0	0	1	0.25	1
				NAFL	<i>Najas flexilis</i>	bushy naiad	0	0	0	1	0.25	1
15	5.0-10.0	9.0	Muck	Total	Total Density at Station	N/A	3	1	4	3	2.75	N/A
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	2	1	3	3	2.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	0	1	1	0.75	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	2	2	1.50	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	0	0	1	0.25	1
15	5.0-10.0	5.5	Sand	Total	Total Density at Station	N/A	3	4	2	2	2.75	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	3	4	2	2	2.75	3
				SCSP	<i>Scirpus sp.</i>	bulrush	1	1	0	1	0.75	3
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	0	1	0	0	0.25	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	1	1	1	0.75	1
15	5.0-10.0	5.0	Silty Sand	Total	Total Density at Station	N/A	4	4	3	5	4.00	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	4	4	3	5	4.00	3
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	1	0	0.50	1
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	3	1	1.50	2
15	0-1.5	1.5	Gravel/Rock	Total	Total Density at Station	N/A	1	1	0	1	0.75	N/A
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	0	1	0.75	1
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	0	0	0	0.25	3
16	5.0-10.0	8.5	Muck	Total	Total Density at Station	N/A	2	2	1	3	2.00	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	1	2	1.25	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	2	2	1	1	1.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	1	1.00	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	0	0	1	0.25	1
16	5.0-10.0	8.5	Muck	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	0	0	0	0.25	1
				NAFL	<i>Najas flexilis</i>	bushy naiad	1	1	1	1	1.00	1
16	0-1.5	5.0	Silty Sand	Total	Total Density at Station	N/A	5	4	2	3	3.50	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	5	4	2	1	3.00	3
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	1	1.00	2
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	0	0	0.25	1

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Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	1	0	1	0.50	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	1	0	1	0.50	1
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	0	0	1	1	0.50	2
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	0	1	1	0.50	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	1	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
				SASP	<i>Sagittaria sp.</i>	arrowhead species	0	1	0	1	0.50	3
16	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	2	1	2	2	1.75	N/A
				SEOGE	<i>Setaria italica</i>	foxtail bristlegrass	2	2	2	2	2.00	0
				DRCL	<i>Drepano cladus</i>	water moss	0	1	0	0	0.25	0
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
17	5.0-10.0	10.0	Muck	Total	Total Density at Station	N/A	3	4	3	4	3.50	N/A
				BAAM	<i>Baptisia alba</i>	white wild indigo	1	0	0	0	0.25	0
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	1	1	0	1.00	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	2	4	3	4	3.25	1
				NAFL	<i>Najas flexilis</i>	bushy naiad	1	0	0	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	1	1	0.50	1
				POZO	<i>Potamogeton zosteriformis</i>	flatstem pondweed	0	0	0	1	0.25	1
17	5.0-10.0	8.5	Muck	Total	Total Density at Station	N/A	5	5	4	5	4.75	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	5	4	1	2.75	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	4	1	2	2	2.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	5	2.00	1
17	0-1.5	5.0	Sand	Total	Total Density at Station	N/A	4	5	4	4	4.25	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	4	5	4	4	4.25	3
17	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	4	5	4	4	4.25	N/A
				SEOGE	<i>Setaria italica</i>	foxtail bristlegrass	4	5	4	4	4.25	0
				POAM2	<i>Polygonum amphibium</i>	water smartweed	0	1	1	1	0.75	2
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	1	0	0.25	1
18	5.0-10.0	10.0	Muck	Total	Total Density at Station	N/A	2	4	5	2	3.25	N/A
				VAAM	<i>Vallisneria americana</i>	wild celery	1	1	0	1	0.75	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	2	0	1.00	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	4	2	2.00	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	2	3	2	1	2.00	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	1	0	0	0.25	1
18	0-1.5	5.0	Sand	Total	Total Density at Station	N/A	5	4	3	3	3.75	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	5	4	3	3	3.75	3
				CHSP	<i>Chara sp.</i>	muskgrass	1	1	0	0	0.50	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	0	0	0.25	1
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	1	0	0	0	0.25	1
18	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	4	5	2	5	4.00	N/A

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Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
				SCPN	<i>Scirpus pungens</i>	three square bulrush	4	5	2	5	4.00	0
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	1	1.00	1
				DRCL	<i>Drepano cladus</i>	water moss	1	0	0	0	0.25	0
				ELSP	<i>Eleocharis spp.</i>	spikerush	0	0	0	1	0.25	3
				Total	Total Density at Station	N/A	4	5	2	5	4.00	N/A
19	5.0-10.0	11.0	Muck	POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	0	1	0.75	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	3	5	1	5	3.50	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	2	1	2	2	1.75	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	1	0	0	0.25	1
19	1.5-5.0	4.5	Sand	Total	Total Density at Station	N/A	3	3	2	4	3.00	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	3	3	4	1	2.75	3
19	0-1.5	1.0	Sand	Total	Total Density at Station	N/A	3	2	4	1	2.50	N/A
Point E		10	Muck	SCPN	<i>Scirpus pungens</i>	three square bulrush	3	2	4	1	2.50	0
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	1	0	0.50	1
				DRCL	<i>Drepano cladus</i>	water moss	0	0	1	0	0.25	0
				Total	Total Density at Station	N/A	5	5	5	5	5.00	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	5	5	5	5	5.00	1
20	5.0-10.0	8.0	Muck	Total	Total Density at Station	N/A	3	5	5	2	3.75	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	5	5	1	3.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	2	0	0	0	0.50	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	0	1	0.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	1	1.00	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	0	0	0	0.25	1
20	1.5-5.0	4.5	Muck	Total	Total Density at Station	N/A	5	4	5	5	4.75	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	5	4	5	5	4.75	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	0	0	0	0.25	1
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	1	1	0	0	0.50	2
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	1	1.00	2
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	1	0	0.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	1	1	0	0.50	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	0	0	0.25	1
20	0-1.5	2.0	Silty Sand	Total	Total Density at Station	N/A	2	2	3	2	2.25	N/A
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	0	0	0	0.25	3
				BRSC	<i>Brasenia schreberi</i>	watershield	1	0	1	0	0.50	2
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	1	0	0	0	0.25	2
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	2	2	3	2	2.25	0
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	0	1	1	0.75	1
				DRCL	<i>Drepano cladus</i>	water moss	1	2	0	0	0.75	0
				POAM2	<i>Polygonum amphibium</i>	water smartweed	0	1	1	1	0.75	2
21	5.0-10.0	8.0	Muck	Total	Total Density at Station	N/A	5	2	5	5	4.25	N/A *

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Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	5	2	5	2	3.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	2	1.25	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	1	1	0.50	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	0	0	1	0.25	1
21	1.5-5.0	4.5	Silty Sand	Total	Total Density at Station	N/A	2	4	3	1	2.50	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	2	1	1	1.25	3
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	1	0	0	1	0.50	2
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	0	0	0	0.25	3
				SASP	<i>Sagittaria sp.</i>	arrowhead species	1	1	1	0	0.75	3
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	1	1.00	2
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	0	0.75	1
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	0	1	0	0	0.25	2
				CHSP	<i>Chara sp.</i>	muskgrass	0	0	1	1	0.50	1
21	0-1.5	1.0	Sand	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	1	1	1	1	1.00	0
				DRCL	<i>Drepano cladus</i>	water moss	0	1	0	0	0.25	0
				BRSC	<i>Brasenia schreberi</i>	watershield	0	0	1	1	0.50	2
				POAM2	<i>Polygonum amphibium</i>	water smartweed	0	0	1	1	0.50	2
				DASO5	<i>Dalea purpurea</i>	purple prairieclover	0	1	0	1	0.50	0
22	5.0-10.0	10.0	Muck	Total	Total Density at Station	N/A	2	4	3	4	3.25	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	4	3	4	3.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0	0	1	0.25	1
22	5.0-10.0	9.0	Muck	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	1	0	0	0.50	3
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	0	0	1	0.50	1
				NAFL	<i>Najas flexilis</i>	bushy naiad	0	1	1	1	0.75	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0	0	1	0.25	1
22	1.5-5.0	4.5	Sand	Total	Total Density at Station	N/A	5	5	5	4	4.75	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	5	5	5	4	4.75	3
				CHSP	<i>Chara sp.</i>	muskgrass	1	0	0	4	1.25	1
				SASP	<i>Sagittaria sp.</i>	arrowhead species	1	0	0	0	0.25	3
				VAAM	<i>Vallisneria americana</i>	wild celery	0	0	1	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	1	0	0.25	1
22	0-1.5	1.5	Rock Sand	Total	Total Density at Station	N/A	1	0	1	1	0.75	N/A
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	1	0	0	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	1	0	0.25	1
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	0	0	0	1	0.25	1
23	5.0-10.0	8.5	Muck	Total	Total Density at Station	N/A	2	5	5	5	4.25	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	5	5	2	3.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	1	2	1.25	1

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Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
23	5.0-10.0	8.0	Muck	PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	0	1	1	0.75	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1
				Total	Total Density at Station	N/A	3	3	5	5	4.00	N/A
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	3	2	1	1	1.75	1
23	1.5-5.0	4.5	Sand	PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	4	4	2.50	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	1	1	1	1.00	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	0	1	1	0.50	1
				Total	Total Density at Station	N/A	2	2	3	3	2.50	N/A
23	0-1.5	1.5	Sand	ELSP	<i>Eleocharis spp.</i>	spikerush	2	2	3	3	2.50	3
				CHSP	<i>Chara sp.</i>	muskgrass	1	0	1	1	0.75	1
				Total	Total Density at Station	N/A	0	1	0	1	0.50	N/A
Point F	10			DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	0	1	0	1	0.50	0
				BRSC	<i>Brasenia schreberi</i>	watershield					0.00	2
24	5.0-10.0	10.0	Muck	Total	Total Density at Station	N/A	3	3	3	3	3.00	N/A
24	1.5-5.0	4.5	Sand	PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	1	1	1	1.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	0	0	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	3	1	2	1.75	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	0	1	1	2	1.00	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	1	2	1.00	1
				Total	Total Density at Station	N/A	2	5	4	4	3.75	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	2	5	4	4	3.75	3
24	0-1.5	1.5	Sand	SCSP	<i>Scirpus sp.</i>	bulrush	1	1	0	0	0.50	3
				NAFL	<i>Najas flexilis</i>	bushy naiad	0	1	0	0	0.25	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	1	0	0	0.25	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	0	1	4	1.25	1
				Total	Total Density at Station	N/A	1	3	3	3	2.50	N/A
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	0	0	1	0.50	1
25	5.0-10.0	10.0	Muck	BRSC	<i>Brasenia schreberi</i>	watershield	1	0	1	0	0.50	2
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	0	0	0	0.25	3
				CAST4	<i>Carex stricta</i>	hummock sedge	3	3	3	3	3.00	0
				POGR4	0	Tussock Sedge	0	0	1	0	0.25	0
				Total	Total Density at Station	N/A	0	0	0	0	0.00	N/A
25	5.0-10.0	9.5	Muck	Total	Total Density at Station	N/A	0	0	0	0	0.00	N/A
25	0-1.5	4.0	Sand	Total	Total Density at Station	N/A	1	1	3	2	1.75	N/A
25	0-1.5	1.5	Sand	ELSP	<i>Eleocharis spp.</i>	spikerush	1	1	3	2	1.75	3
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	1	1	0	0	0.50	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	0	1	1	0.50	1
Total	Total Density at Station	N/A	2	2	1	2	1.75	N/A				
Z				Z	<i>Xyris torta</i>	slender yelloweyed grass	0	0	0	2	0.50	0
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	2	2	1	0	1.25	0

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26	5.0-10.0	7.0	Silt	ELSP	<i>Eleocharis spp.</i>	spikerush	0	1	0	0	0.25	3
				Total	<i>Total Density at Station</i>	N/A	1	1	1	1	1.00	N/A
				NAFL	<i>Najas flexilis</i>	bushy naiad	1	0	1	0	0.50	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	1	0	1	0.50	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	0	0	0	1	0.25	3
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	0	0	0	1	0.25	1
26	1.5-5.0	4.5	Silt Muck	Total	<i>Total Density at Station</i>	N/A	1	1	1	1	1.00	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	0	1	0.75	2
				CHSP	<i>Chara sp.</i>	muskgrass	1	0	1	0	0.50	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	0	0	1	0	0.25	3
				VAAM	<i>Vallisneria americana</i>	wild celery	0	0	1	0	0.25	1
				Total	<i>Total Density at Station</i>	N/A	3	3	2	4	3.00	N/A
26	1.5-5.0	3.5	Silt Muck	BRSC	<i>Brasenia schreberi</i>	watershield	2	2	2	2	2.00	2
				UTSP	<i>Utricularia sp.</i>	bladderwort	3	3	2	4	3.00	1
				SCSP	<i>Scirpus sp.</i>	bulrush	0	1	0	0	0.25	3
				POCO	<i>Pontederia cordata</i>	pickereelweed	0	1	0	0	0.25	3
				ELSP	<i>Eleocharis spp.</i>	spikerush	0	0	1	1	0.50	3
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	1	0	0	0	0.25	2
				Total	<i>Total Density at Station</i>	N/A	2	1	3	3	2.25	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	2	0	3	3	2.00	1
Point G	5.0-10.0	8.0	Muck	POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	0	1	0.75	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	1	0	0	0.25	1
				TORO	<i>Toxicodendron radicans</i>	eastern poison ivy	0	1	0	0	0.25	0
				Total	<i>Total Density at Station</i>	N/A	4	4	4	5	4.25	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	4	4	4	5	4.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	1	0	2	1.00	1
				VAAM	<i>Vallisneria americana</i>	wild celery	1	0	1	0	0.50	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	0	0	1	0	0.25	3
27	5.0-10.0	5.0	Muck	ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
				Total	<i>Total Density at Station</i>	N/A	1	2	1	4	2.00	N/A
				SASP	<i>Sagittaria sp.</i>	arrowhead species	1	1	1	3	1.50	3
				BRSP	<i>Brachyelytrum septentrionale</i>	northern shorthusk	1	1	1	0	0.75	0
				POZO	<i>Potamogeton zosteriformis</i>	flatstem pondweed	1	1	1	0	0.75	1
				SCSP	<i>Scirpus sp.</i>	bulrush	1	1	0	0	0.50	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
				Z	<i>Xyris torta</i>	slender yelloweyed grass	1	1	1	1	1.00	0
27	1.5-5.0	2.0	Sand	Total	<i>Total Density at Station</i>	N/A	1	2	1	4	2.00	N/A
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	2	1	0	1	1.00	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	1	2	1.25	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	1	0	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	0	0.25	1
28	5.0-10.0	7.0	Muck	Total	<i>Total Density at Station</i>	N/A	2	1	1	2	1.50	N/A
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	2	1	0	1	1.00	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	1	1	2	1.25	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	1	0	0	0.25	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	0	0.25	1

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				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	0	1	1	0	0.50	1
				ELSP	<i>Eleocharis spp.</i>	spikerush	0	1	0	1	0.50	3
				VAAM	<i>Vallisneria americana</i>	wild celery	0	0	1	0	0.25	1
				NITTELLA	<i>Nitella sp.</i>	stonewort	0	0	0	1	0.25	1
28	1.5-5.0	4.5	Sand	Total	Total Density at Station	N/A	2	5	2	5	3.50	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	2	5	2	5	3.50	3
				BRSC	<i>Brasenia schreberi</i>	watershield	2	1	0	1	1.00	2
				CHSP	<i>Chara sp.</i>	muskgrass	1	1	0	0	0.50	1
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	0	0	1	0	0.25	1
28	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	2	1	1	1	1.25	N/A
				POCO	<i>Pontederia cordata</i>	pickerelweed	2	1	0	1	1.00	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	1	1	1.00	1
				POGO	<i>Poa glauca</i>	glaucous bluegrass	0	0	1	0	0.25	0
				BRSC	<i>Brasenia schreberi</i>	watershield	0	0	1	0	0.25	2
29	5.0-10.0	7.5	Muck	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	0	0	0	0.25	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	1	1	0	0.50	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	0	0	1	0.25	1
28	1.5-5.0	4.0	Sand	Total	Total Density at Station	N/A	3	5	4	4	4.00	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	2	4	4	3	3.25	3
				NITTELLA	<i>Nitella sp.</i>	stonewort	2	1	1	2	1.50	1
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	1	0	0	0	0.25	2
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	1	0	0	0	0.25	2
				CHSP	<i>Chara sp.</i>	muskgrass	0	1	1	0	0.50	1
29	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	1	1	3	1	1.50	N/A
				SCSP	<i>Scirpus sp.</i>	bulrush	1	1	3	1	1.50	3
				BRSC	<i>Brasenia schreberi</i>	watershield	1	0	0	0	0.25	2
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	1	0	0	0	0.25	2
				POZO	<i>Potamogeton zosteriformis</i>	flatstem pondweed	0	0	1	0	0.25	1
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	1	0	1	0	0.50	0
30	5.0-10.0	8.0	Muck	Total	Total Density at Station	N/A	0	1	1	0	0.50	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	1	1	0	0.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	1	0	0	0.25	1
30	5.0-10.0	7.5	Muck	Total	Total Density at Station	N/A	3	0	0	0	0.75	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	3	1	5	5	3.50	1
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	1	1	0	0	0.50	2
				BRSC	<i>Brasenia schreberi</i>	watershield	3	2	2	2	2.25	2
30	1.5-5.0	4.0	Sand	Total	Total Density at Station	N/A	4	3	3	3	3.25	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	4	3	2	2	2.75	3

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				CHSP	<i>Chara sp.</i>	muskgrass	1	0	2	1	1.00	1
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	0	0	0	0.25	1
				BRSC	<i>Brasenia schreberi</i>	watershield	0	1	1	0	0.50	2
30	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	2	2	3	3	2.50	N/A
				Z	<i>Xyris torta</i>	slender yelloweyed grass	2	2	0	0	1.00	0
				BRSC	<i>Brasenia schreberi</i>	watershield	0	0	1	1	0.50	2
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	0	0	1	1	0.50	0
31	5.0-10.0	8.0	Muck	Total	Total Density at Station	N/A	4	3	3	4	3.50	N/A
				VAAM	<i>Vallisneria americana</i>	wild celery	1	1	1	1	1.00	1
				PORI	<i>Potamogeton richardsonii</i>	Richardson's pondweed	3	1	0	0	1.00	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	2	1	2	0	1.25	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	0	1	4	1.25	1
31	1.5-5.0	4.0	Sand	Total	Total Density at Station	N/A	3	2	2	3	2.50	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	3	2	2	3	0.75	3
				CHSP	<i>Chara sp.</i>	muskgrass	0	1	1	1	1.00	1
31	0-1.5	1.0	Sand	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	0	0	0	0.25	1
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	1	1	1	1	1.00	0
				Stonewart	<i>Stellaria media</i>	common chickweed	1	0	0	0	0.25	0
				SCSP	<i>Scirpus sp.</i>	bulrush	0	0	1	0	0.25	3
32	5.0-10.0	7.0	Muck	Total	Total Density at Station	N/A	1	1	1	0	0.75	N/A
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	1	0	0	0.25	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	0	1	0	0.25	1
32	5.0-10.0	6.5	Silty Muck	Total	Total Density at Station	N/A	2	2	4	4	3.00	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	2	2	2	2	2.00	2
				UTSP	<i>Utricularia sp.</i>	bladderwort	2	2	2	1	1.75	1
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	0	4	4	2.00	1
32	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	3	4	3	2	3.00	N/A
				Z	<i>Xyris torta</i>	slender yelloweyed grass	3	4	3	2	0.25	0
				ELEA	<i>Eleocharis compressa</i>	flatstem spikerush	1	0	0	0	0.75	0
				PRSP	<i>Prunus spp.</i>	plum, wild	1	0	0	2	0.25	0
				POAM2	<i>Polygonum amphibium</i>	water smartweed	0	1	0	0	0.25	2
				SCSP	<i>Scirpus sp.</i>	bulrush	0	0	1	0	0.25	3
				POCO	<i>Pontederia cordata</i>	pickerelweed	0	0	0	1	0.25	3
33	5.0-10.0	8.5	Muck	Total	Total Density at Station	N/A	1	4	4	5	3.50	N/A
				PLAM	<i>Pinguicula vulgaris</i>	common butterwort	1	0	0	0	0.25	0
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	0	0	0.50	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	1	1	1	0.75	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	0	2	1	1	1.00	1

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33	5.0-10.0	5.0	Sand	PORO	<i>Potamogeton robbinsii</i>	fern pondweed	0	1	4	5	2.50	1
				Total	Total Density at Station	N/A	4	2	3	3	3.00	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	0	0.75	2
				SASP	<i>Sagittaria sp.</i>	arrowhead species	1	0	1	1	0.75	3
				ELSP	<i>Eleocharis spp.</i>	spikerush	1	2	3	1	1.75	3
				CHSP	<i>Chara sp.</i>	muskgrass	1	1	1	1	1.00	1
				NITTELLA	<i>Nitella sp.</i>	stonewort	0	0	0	1	0.25	1
33	1.5-5.0	2.0	Sand Rock	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
34	5.0-10.0	7.5	Muck	POCO	<i>Pontederia cordata</i>	pickerelweed	1	0	1	1	0.75	3
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	1	0	1	0.75	1
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	1	0	0	0	0.25	1
				POAM2	<i>Polygonum amphibium</i>	water smartweed	0	0	1	0	0.25	2
				BRSC	<i>Brasenia schreberi</i>	watershield	0	0	0	1	0.25	2
				Total	Total Density at Station	N/A	1	0	0	1	0.50	N/A
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1
34	1.5-5.0	4.5	Sand	NAFL	<i>Najas flexilis</i>	bushy naiad	0	0	0	1	0.25	1
34	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	2	1	1	2	1.50	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	2	1	1	2	1.50	3
				CHSP	<i>Chara sp.</i>	muskgrass	0	1	1	0	0.50	1
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	0	0	1	1	0.50	1
35	5.0-10.0	7.0	Muck	Total	Total Density at Station	N/A	1	1	1	1	1.00	N/A
				Z	<i>Xyris torta</i>	slender yelloweyed grass	1	1	1	1	1.00	0
				POGR	<i>Potamogeton gramineus</i>	grass-leaved pondweed	1	1	0	0	0.50	1
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	1	0	1	0	0.50	0
35	1.5-5.0	5.0	Sand	PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	0	1	0	0.50	1
35	0-1.5	1.5	Sand	Total	Total Density at Station	N/A	3	3	3	2	2.75	N/A
				ELSP	<i>Eleocharis spp.</i>	spikerush	3	3	3	2	2.75	3
				CHSP	<i>Chara sp.</i>	muskgrass	1	1	1	1	1.00	1
Point H	5.0-10.0	7.0	Muck	Total	Total Density at Station	N/A	1	2	2	2	1.75	N/A
				Z	<i>Xyris torta</i>	slender yelloweyed grass	0	2	2	2	1.50	0
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	2	0	0	0	0.50	0
				POAM2	<i>Polygonum amphibium</i>	water smartweed	0	1	0	0	0.25	2
				ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1
Point H	5.0-10.0	7.0	Muck	Total	Total Density at Station	N/A	1	0	2	1	1.00	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	1	0	1	0	0.50	1
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	0	1	1	0.75	1
				VAAM	<i>Vallisneria americana</i>	wild celery	0	0	1	0	0.25	1
				CHSP	<i>Chara sp.</i>	muskgrass	0	0	1	0	0.25	1
				ELST	<i>Eleocharis spp.</i>	spikerush	0	0	1	1	0.50	3

¹Type (plant community): 1=submerged, 2=floating-leaf, 3=emergent

Birch Island Lake

June 19, 20, and 21, 2003

Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹	
36	5.0-10.0	9.0	Muck	ELCA	<i>Elodea canadensis</i>	Canada waterweed	0	0	0	1	0.25	1	
				Total	Total Density at Station		N/A	5	5	5	5	5.00	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	5	5	5	5	5.00	1	
36	5.0-10.0	5.0	Sand Silt	UTSP	<i>Utricularia sp.</i>	bladderwort	5	1	5	5	4.00	1	
				Total	Total Density at Station		N/A	2	4	3	4	3.25	N/A
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	0	2	1.00	2	
36	0-1.5	1.5	Sand Silt	UTSP	<i>Utricularia sp.</i>	bladderwort	2	4	3	4	3.25	1	
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	0	0	1	0	0.25	2	
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	0	0	1	0	0.25	2	
				Total	Total Density at Station		N/A	3	3	4	3	3.25	N/A
37	5.0-10.0	8.0	Muck	Z	<i>Xyris torta</i>	slender yelloweyed grass	3	3	4	3	3.25	0	
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	1	0	1	1	0.75	2	
				POAM2	<i>Polygonum amphibium</i>	water smartweed	0	1	0	0	0.25	2	
				BRSC	<i>Brasenia schreberi</i>	watershield	0	0	0	1	0.25	2	
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	0	0	0	1	0.25	0	
				POCO	<i>Pontederia cordata</i>	pickerelweed	0	0	0	1	4.00	3	
				Total	Total Density at Station		N/A	5	5	5	4	4.75	1
37	5.0-10.0	5.0	Silty Muck	PORO	<i>Potamogeton robbinsii</i>	fern pondweed	5	5	5	4	1.25	1	
				POAM	<i>Potamogeton amplifolius</i>	largeleaf pondweed	1	0	0	1	0.75	1	
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	1	1	#REF!	1	
				Total	Total Density at Station		N/A	4	2	2	3	2.75	N/A
36	0-1.5	1.5	Sand	Y	<i>Xyris torta</i>	slender yelloweyed grass	4	1	2	1	2.00	0	
				BRSC	<i>Brasenia schreberi</i>	watershield	2	4	0	0	1.50	2	
				NUVA	<i>Nuphar variegata</i>	spatterdock (winged stock)	0	0	1	1	0.50	2	
				NYTU	<i>Nymphaea tuberosa</i>	white water lily	1	0	2	1	1.00	2	
				POSP	<i>Poa spp.</i>	narrow leaf pondweed	0	0	0	1	0.25	1	
Total	Total Density at Station		N/A	5	5	4	5	4.75	N/A				
38	5.0-10.0	9.0	Muck	Z	<i>Xyris torta</i>	slender yelloweyed grass	5	5	4	5	4.75	0	
				DOAR	<i>Dolichism arundinaceum</i>	Three way sedge	0	1	0	0	0.25	0	
				Total	Total Density at Station		N/A	3	5	4	5	4.25	N/A
				PORO	<i>Potamogeton robbinsii</i>	fern pondweed	3	5	4	5	4.25	1	
38	1.5-5.0	4.5	Sand	ELCA	<i>Elodea canadensis</i>	Canada waterweed	1	0	0	0	0.25	1	
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	0	0	0	0.25	1	
				Total	Total Density at Station		N/A	2	2	2	2	2.00	N/A
38	0-1.5	1.5	Sand	NYTU	<i>Nymphaea tuberosa</i>	white water lily	1	0	0	0	0.25	2	
				BRSC	<i>Brasenia schreberi</i>	watershield	1	1	1	1	1.00	2	
				POCO	<i>Pontederia cordata</i>	pickerelweed	1	1	1	1	1.00	3	
				UTSP	<i>Utricularia sp.</i>	bladderwort	1	1	1	1	1.00	1	
				CHSP	<i>Chara sp.</i>	muskgrass	1	1	1	1	1.00	1	
Total	Total Density at Station		N/A	4	3	5	5	4.25	N/A				

¹Type (plant community): 1=submerged, 2=floating-leaf, 3=emergent

Birch Island Lake

June 19, 20, and 21, 2003

Transect	Depth Code	Depth (ft)	Substrate	Species Code	Species (Scientific Name)	Species (Common name)	Density Rating	Density Rating	Density Rating	Density Rating	Average Density	Type ¹
				Z	<i>Xyris torta</i>	slender yelloweyed grass	4	3	5	3	3.75	0
				UTSP	<i>Utricularia sp.</i>	bladderwort	0	1	0	0	0.25	1
				POAM2	<i>Polygonum amphibium</i>	water smartweed	0	1	0	0	0.25	2
				POSP4	<i>Potentilla sp.</i>	marsh cinquefoil	1	1	1	1	1.00	0
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A
					#N/A	#N/A					0.00	#N/A

¹Type (plant community): 1=submerged, 2=floating-leaf, 3=emergent