

# B

## APPENDIX B

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Water Quality Data

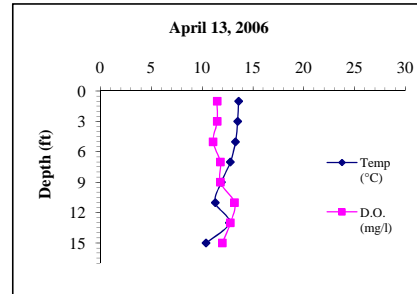


Porters Lake

Date: 04-13-06  
Time: 10:50  
Weather: 100% Clouds, 62°F, No Breeze  
Ent: EJH Verf:

Max Depth (ft): 15.5  
PorLS Depth (ft): 3.0  
PorLB Depth (ft): 13.0  
Secchi Depth (ft): 15.2

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.0	13.6	11.5	9.1	286
3.0	13.5	11.5	9.1	286
5.0	13.3	11.1	8.9	288
7.0	12.8	11.8	9.0	287
9.0	11.9	11.8	8.8	288
11.0	11.3	13.2	8.8	286
13.0	12.7	12.8	8.8	287
15.0	10.4	12.0	8.9	287



Parameter	PorLS	PorLB
Total P (µg/L)	12.000	10.000
Dissolved P (µg/L)	2.000	3.000
Chl a (µg/L)	1.85	
TKN (µg/L)	780.00	840.00
NO3+NO2-N (µg/L)	84.000	74.000
NH3-N (µg/L)	238.000	241.000
Total N (µg/L)	864.00	914.00
Lab Cond. (µS/cm)	293	295
Lab pH	8.43	8.43
Alkal (mg/l CaCO3)	144	145
Total Susp Sol (mg/l)	ND	ND
Calcium (mg/l)	28.4	

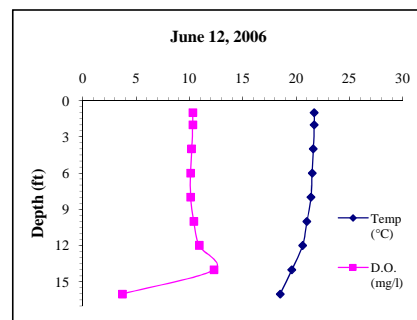
TAH & EJH Conducted Fieldwork

Porters Lake

Date: 06-12-06  
Time: 12:41  
Weather: 10% Clouds, 68°F, Breezy  
Ent: EJH Verf:

Max Depth (ft): 17.7  
PorLS Depth (ft): 3.0  
PorLB Depth (ft): 15.0  
Secchi Depth (ft): 8.6

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.0	21.7	10.3	9.2	248
2.0	21.7	10.3	9.3	249
4.0	21.6	10.2	9.3	249
6.0	21.5	10.1	9.3	249
8.0	21.4	10.1	9.4	249
10.0	21.0	10.4	9.4	247
12.0	20.6	10.9	9.3	281
14.0	19.6	12.3	9.1	264
16.0	18.5	3.7	7.4	341



Parameter	PorLS	PorLB
Total P (µg/L)	16.000	24.000
Dissolved P (µg/L)		
Chl a (µg/L)	3.12	
TKN (µg/L)	800.00	920.00
NO3+NO2-N (µg/L)	ND	ND
NH3-N (µg/L)	45.000	79.000
Total N (µg/L)	800.00	920.00
Lab Cond. (µS/cm)		
Lab pH		
Alkal (mg/l CaCO3)		
Total Susp Sol (mg/l)	ND	ND
Calcium (mg/l)		

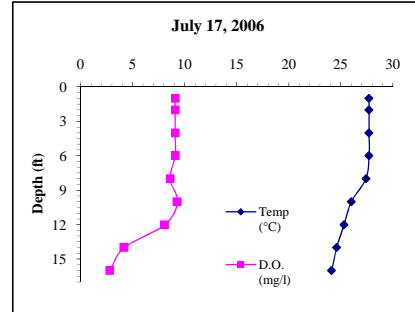
EJH & TAH Conducted Fieldwork

Porters Lake

Date: 07-17-06  
Time: 10:45  
Weather: 80% Clouds, 80°F  
Ent: EJH Verf:

Max Depth (ft): 16.4  
PorLS Depth (ft): 3.0  
PorLB Depth (ft): 15.0  
Secchi Depth (ft): 9.8

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.0	27.7	9.1	9.7	238
2.0	27.7	9.1	9.7	238
4.0	27.7	9.1	9.7	238
6.0	27.7	9.1	9.7	238
8.0	27.4	8.6	9.7	238
10.0	26.0	9.3	9.7	237
12.0	25.3	8.1	9.6	242
14.0	24.6	4.2	9.0	259
16.0	24.1	2.8	8.2	297



Parameter	PorLS	PorLB
Total P (µg/L)	28.000	26.000
Dissolved P (µg/L)	2.000	ND
Chl a (µg/L)	2.31	
TKN (µg/L)	1040.00	1160.00
NO3+NO2-N (µg/L)	ND	ND
NH3-N (µg/L)	50.000	92.000
Total N (µg/L)	1040.00	1160.00
Lab Cond. (µS/cm)	237	255
Lab pH	9.10	8.50
Alkal (mg/l CaCO3)	117	124
Total Susp Sol (mg/l)	ND	3
Calcium (mg/l)		

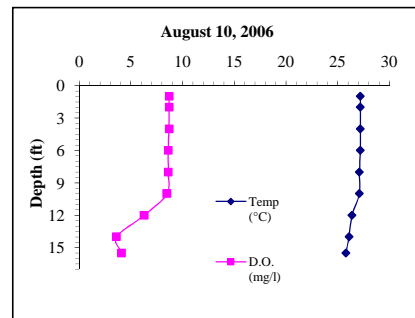
TAH & EJH Conducted Fieldwork

Porters Lake

Date: 08-10-06  
Time: 13:00  
Weather: 90% Clouds, 80°F, Breezy  
Ent: EJH Verf:

Max Depth (ft): 16.7  
PorLS Depth (ft): 3.0  
PorLB Depth (ft): 15.0  
Secchi Depth (ft): 11.6

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.0	27.2	8.7	9.3	243.0
2.0	27.2	8.7	9.3	243.0
4.0	27.2	8.7	9.3	243.0
6.0	27.2	8.6	9.3	243.0
8.0	27.1	8.6	9.4	243.0
10.0	27.1	8.5	9.4	244.0
12.0	26.4	6.3	9.2	250.0
14.0	26.1	3.6	9.3	248.0
15.5	25.8	4.1	8.9	252.0



Parameter	PorLS	PorLB
Total P (µg/L)	17.00	16.00
Dissolved P (µg/L)		
Chl a (µg/L)	1.92	
TKN (µg/L)	1100.00	1210.00
NO3+NO2-N (µg/L)	ND	ND
NH3-N (µg/L)	53.000	130.000
Total N (µg/L)	1100.00	1210.00
Lab Cond. (µS/cm)		
Lab pH		
Alkal (mg/l CaCO3)		
Total Susp Sol (mg/l)	ND	2
Calcium (mg/l)		

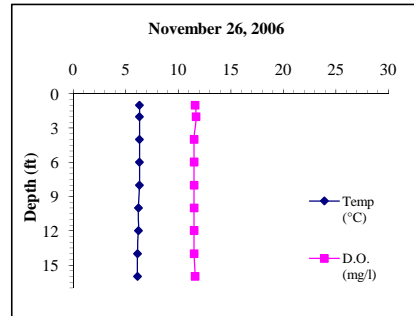
SLOH received sample with ice melted, TAH & AAH conducted fieldwork

Porters Lake

Date: 10-26-06  
Time: 12:55  
Weather: 100% Clouds, 48°F, Light Breeze  
Ent: EJH Vert:

Max Depth (ft): 17.0  
PorLS Depth (ft): 3.0  
PorLB Depth (ft): 15.0  
Secchi Depth (ft): 13.8

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.0	6.3	11.6	8.8	268.0
2.0	6.3	11.7	8.9	268.0
4.0	6.3	11.5	8.9	268.0
6.0	6.3	11.5	9.0	268.0
8.0	6.3	11.5	9.0	269.0
10.0	6.2	11.5	9.0	269.0
12.0	6.2	11.5	9.0	269.0
14.0	6.1	11.5	9.1	267.0
16.0	6.1	11.6	9.1	268.0



Parameter	PorLS	PorLB
Total P (µg/L)	15.000	
Dissolved P (µg/L)		
Chl a (µg/L)	3.53	
TKN (µg/L)		
NO3+NO2-N (µg/L)		
NH3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkal (mg/l CaCO3)		
Total Susp Sol (mg/l)	ND	4
Calcium (mg/l)		

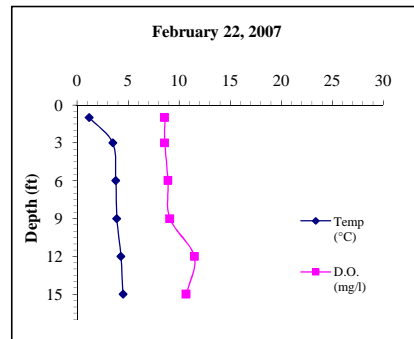
TSS had low sample volume at lab. TAH & AAH Conducted Fieldwork.

Porters Lake

Date: 02-22-07  
Time: 10:15  
Weather: Windy, 95% Clouds, 20°F  
Ent: EJH Vert:

Max Depth (ft): 17.9  
PorLS Depth (ft): 3.0  
PorLB Depth (ft): 17.5  
Secchi Depth (ft): 15.4

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.0	1.2	8.6	8.1	317
3.0	3.5	8.6	8.2	330
6.0	3.8	8.9	8.2	332
9.0	3.9	9.1	8.3	331
12.0	4.3	11.5	8.6	334
15.0	4.5	10.7	8.4	342



Parameter	PorLS	PorLB
Total P (µg/L)	21.000	11.000
Dissolved P (µg/L)	0.000	5.000
Chl a (µg/L)		
TKN (µg/L)	1210.00	1170.00
NO3+NO2-N (µg/L)	84.000	75.000
NH3-N (µg/L)	492.000	424.000
Total N (µg/L)	1294.00	1245.00
Lab Cond. (µS/cm)		
Lab pH		
Alkal (mg/l CaCO3)		
Total Susp Sol (mg/l)	ND	ND
Calcium (mg/l)		

Samples Collected by EJH, TAH. Ice Depth: 8 inches

**Water Quality Data**

2006-2007 Parameter	Surface		Bottom	
	Count	Mean	Count	Mean
Secchi Depth (feet)	6	12.4		
Total P (µg/L)	6	18.167	5	17.400
Dissolved P (µg/L)	3	1.333	2	4.000
Chl a (µg/L)	5	2.546	0	
TKN (µg/L)	5	986.000	5	1060.000
NO3+NO2-N (µg/L)	2	84.000	2	74.500
NH3-N (µg/L)	5	175.600	5	193.200
Total N (µg/L)	5	1019.600	5	1089.800
Lab Cond. (µS/cm)	2	265.000	2	275.000
Lab pH	2	8.765	2	8.465
Alkal (mg/l CaCO3)	2	130.500	2	134.500
Total Susp Sol (mg/l)	0		3	3.000
Calcium (µg/L)	1	28.4	0	

**Wisconsin Trophic State Index (WTSI)**

Year	TP	Chla	SD
1976	51.45		48.31
1986			44.84
1987			45.05
1988			45.65
1989			43.46
1990			41.25
1991			42.89
1992			40.86
1993			41.30
1994			41.61
1995			42.16
1996			40.06
1997			44.86
1998			44.15
1999			42.56
2000			40.18
2001			42.42
2002			41.26
2003			44.20
2004			41.76
2005			43.88
2006	51.58	41.49	43.93
All Years (weighted)	51.22	41.49	42.60
WI Natural Lakes	53.19	54.23	47.33
Central Region	51.45	49.88	47.33

**Morphological / Geographical Data**

Parameter	Value
Acreage	75.6
Volume (acre-feet)	488
Perimeter (miles)	1.8
Shoreland Development	1.48
Maximum Depth (feet)	17
County	Waushara County
WBIC	246900
Lillie Mason Region(1983)	Central Region
Nichols Ecoregion(1999)	NCSE

**Watershed Data**

WILMS Class	Acreage	kg/yr	lbs/yr
Forest	39.9	1	2.2
Open Water	75.6	9	19.8
Pasture/Grass	17.8	2	4.4
Row Crops	1.5	1	2.2
Urban - Rural Residential	16.6	1	2.2
Wetland	1.1	0	0.0

Watershed to Lake Area 1:1

Year	Secchi (feet)				Chlorophyll a (µg/L)				Phosphorus (µg/L)				Nitrogen (µg/L)			
	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
1976	2	8.20	1	7.38			2	18.500	1	20						
1986	15	10.22	9	9.39												
1987	9	10.64	2	9.25												
1988	5	8.80	4	8.89												
1989	8	11.16	3	10.33												
1990	7	12.50	6	12.04												
1991	8	11.91	4	10.75												
1992	5	13.00	4	12.38												
1993	7	12.21	5	12.00												
1994	4	11.75	4	11.75												
1995	11	11.66	9	11.31												
1996	8	13.00	6	13.08												
1997	8	9.53	6	9.38												
1998	7	10.11	5	9.85												
1999	5	11.60	3	11.00			1	16.00	1	16.00	1	16.0	1	11.0	1	1000.0
2000	18	12.96	10	12.98												
2001	10	12.45	7	11.11												
2002	10	12.43	8	12.03												
2003	13	9.77	11	9.82												
2004	12	10.67	6	11.63												
2005	8	10.38	7	10.04												
2006	5	11.8	3	10.0	5	2.55	2	2.45	5	17.60	3	20.33	1	12.00	1	15.00
All Years (weighted)		11.3		11.0				2.5		17.6		19.4				
WI Natural Lakes				7.9				13.4				25				
Central Region				7.9				7.5				20				