

B

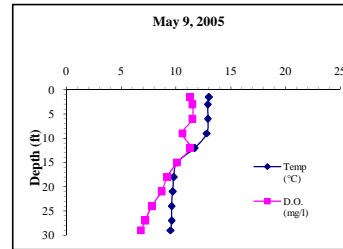
APPENDIX B

2005-2006 Water Quality Results

Yellow Birch Lake

Date: 05-09-05 Max Depth (ft): 29.7
 Time: 10:14 YLBLS Depth (ft): 3.0
 Weather: 62°F, Cloudy, Breezy YLBLB Depth (ft): 27.0
 Ent: EJH Verf: TAH Secchi Depth (ft): 4.4

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.5	13.0	11.3	8.6	769
3.0	12.9	11.5	8.7	772
6.0	12.9	11.5	8.7	770
9.0	12.8	10.6	8.7	770
12.0	11.7	11.3	8.4	768
15.0	10.1	10.1	7.9	780
18.0	9.8	9.2	7.7	781
21.0	9.7	8.7	7.7	786
24.0	9.6	7.8	7.6	791
27.0	9.6	7.2	7.5	794
29.0	9.5	6.8	7.5	797

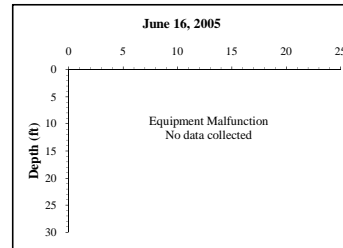


Parameter	YLBLS	YLBLB
Total P (µg/L)	26	45
Dissolved P (µg/L)	ND	ND
Chl a (µg/L)	14.40	8.87
TKN (µg/L)	260	910
NO3+NO2-N (µg/L)	ND	ND
NH3-N (µg/L)	ND	370
Total N (µg/L)	260	910
Lab Cond. (µS/cm)	81	84
Lab pH	7.79	7.40
Alkal (mg/l CaCO3)	31	32
Total Susp Sol (mg/l)	3	4
Calcium (mg/l)	9.7	

Yellow Birch Lake

Date: 06-16-05 Max Depth (ft): 30.2
 Time: 9:00 YLBLS Depth (ft): 3.0
 Weather: 65°F, Slight Breeze, Clear YLBLB Depth (ft): 27.0
 Ent: EJH Verf: TAH Secchi Depth (ft): 4.5

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.5	EQUIPMENT MALFUNCTION			
3.0				
6.0				
9.0				
12.0				
15.0				
18.0				
21.0				
24.0				
27.0				
29.0				



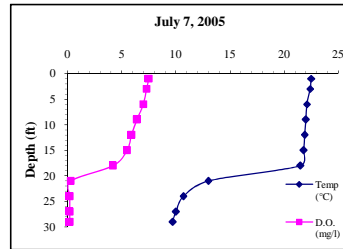
Parameter	YLBLS	YLBLB
Total P (µg/L)	30	54
Dissolved P (µg/L)		
Chl a (µg/L)	10.10	
TKN (µg/L)		
NO3+NO2-N (µg/L)		
NH3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkal (mg/l CaCO3)		
Total Susp Sol (mg/l)	3	4
Calcium (mg/l)		

Surveyor 4 did not turn on. Water samples were sent to SLOH for testing.

Yellow Birch Lake

Date: 07-07-05 Max Depth (ft): 31.4
 Time: 9:45 YLBLS Depth (ft): 3.0
 Weather: 75°F, Clear, Slight Breeze YLBLB Depth (ft): 27.0
 Ent: EJH Verf: TAH Secchi Depth (ft): 5.5

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.0	22.5	7.5	8.2	802
3.0	22.4	7.3	8.1	806
6.0	22.1	7.0	8.0	806
9.0	22.0	6.4	7.9	807
12.0	21.9	5.9	7.9	804
15.0	21.8	5.5	7.9	805
18.0	21.5	4.2	7.8	823
21.0	13.0	0.3	7.5	1070
24.0	10.7	0.2	7.6	1081
27.0	10.0	0.2	7.6	1217
29.0	9.7	0.2	7.7	1298



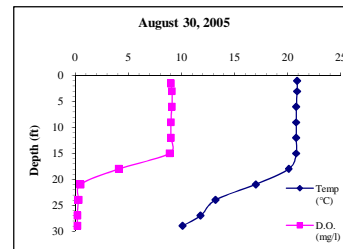
Parameter	YLBLS	YLBLB
Total P (µg/L)	36	32
Dissolved P (µg/L)	ND	7
Chl a (µg/L)		
TKN (µg/L)	370	1010
NO3+NO2-N (µg/L)	67	ND
NH3-N (µg/L)	ND	607
Total N (µg/L)	437	1010
Lab Cond. (µS/cm)	82	111
Lab pH	7.62	7.44
Alkal (mg/l CaCO3)	31	49
Total Susp Sol (mg/l)	3	4
Calcium (mg/l)		



Yellow Birch Lake

Date: 08-30-05 Max Depth (ft): 32.4
 Time: 15:20 YLBLS Depth (ft): 3.0
 Weather: YLBLB Depth (ft): 27.0
 Ent: EJH Verf: TAH Secchi Depth (ft): 3.2

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.0	20.9	9.0	9.3	875
3.0	20.9	9.1	9.2	876
6.0	20.8	9.1	9.2	872
9.0	20.8	9.0	9.3	876
12.0	20.8	9.0	9.4	879
15.0	20.8	8.9	9.4	877
18.0	20.1	4.1	8.3	904
21.0	17.0	0.5	7.9	1407
24.0	13.2	0.3	8.0	1517
27.0	11.8	0.2	8.0	1648
29.0	10.1	0.2	8.0	1869



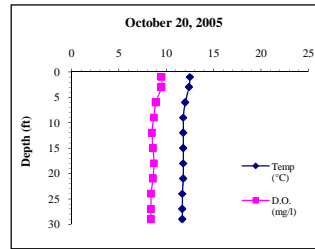
Parameter	YLBLS	YLBLB
Total P (µg/L)	43	49
Dissolved P (µg/L)		
Chl a (µg/L)	36.20	
TKN (µg/L)		
NO3+NO2-N (µg/L)		
NH3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkal (mg/l CaCO3)		
Total Susp Sol (mg/l)	8	4
Calcium (mg/l)		



Yellow Birch Lake

Date: 10-20-05
 Time: 14:10
 Weather: Ent: EJJH Verf: TAH
 Max Depth (ft): 32.0
 YLBLS Depth (ft): 3.0
 YLBLB Depth (ft): 27.0
 Secchi Depth (ft): 4.9

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
1.0	12.5	9.5	8.5	743
3.0	12.4	9.5	8.4	742
6.0	12.0	8.9	8.3	742
9.0	11.8	8.7	8.3	743
12.0	11.8	8.5	8.3	743
15.0	11.8	8.6	8.4	744
18.0	11.8	8.7	8.4	743
21.0	11.8	8.6	8.5	746
24.0	11.7	8.4	8.4	746
27.0	11.7	8.4	8.5	745
29.0	11.7	8.4	8.5	747



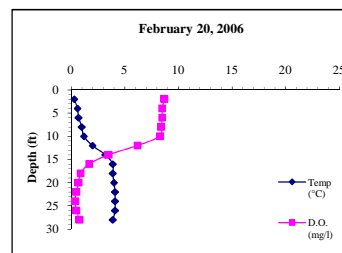
Parameter	YLBLS	YLBLB
Total P (µg/L)	53	52
Dissolved P (µg/L)		
Chl a (µg/L)	23.40	
TKN (µg/L)		
NO3+NO2-N (µg/L)		
NH3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkal (mg/l CaCO3)		
Total Susp Sol (mg/l)	5	9
Calcium (mg/l)		

Method blank exceeded LOD criteria for P.

Yellow Birch Lake

Date: 02-20-06
 Time: 13:00
 Weather: 10°F, clear, breezy
 Ent: EJJH Verf:
 Max Depth (ft): 29.2
 YLBLS Depth (ft): 3.0
 YLBLB Depth (ft): 27.0
 Secchi Depth (ft): 6.0

Depth (ft)	Temp (°C)	D.O. (mg/l)	pH	Sp. Cond (µS/cm)
2.0	0.3	8.7	5.5	77
4.0	0.6	8.5	5.6	77
6.0	0.7	8.5	5.6	78
8.0	1.0	8.4	5.7	79
10.0	1.2	8.3	5.7	78
12.0	2.0	6.2	5.7	86
14.0	3.2	3.5	5.8	84
16.0	3.9	1.7	5.8	85
18.0	3.9	0.9	5.9	85
20.0	4.0	0.7	5.9	85
22.0	4.1	0.5	5.9	86
24.0	4.1	0.4	6.0	87
26.0	4.1	0.5	6.0	88
28.0	3.9	0.8	6.0	90



Parameter	YLBLS	YLBLB
Total P (µg/L)	17	32
Dissolved P (µg/L)	5	10
Chl a (µg/L)		
TKN (µg/L)	430	580
NO3+NO2-N (µg/L)	106	145
NH3-N (µg/L)	35	140
Total N (µg/L)	536	
Lab Cond. (µS/cm)		
Lab pH		
Alkal (mg/l CaCO3)		
Total Susp Sol (mg/l)	ND	ND
Calcium (mg/l)		

Ice depth = 1.6 feet.

Water Quality Data

2005 Parameter	Surface		Bottom	
	Count	Mean	Count	Mean
Secchi Depth (feet)	6	4.8	0	
Total P (µg/L)	6	34	6	44
Dissolved P (µg/L)	1	5	2	8.5
Chl a (µg/L)	4	21.025	1	8.87
TKN (µg/L)	3	353	3	833
NO4+NO3-N (µg/L)	2	86.5	1	145
NH3-N (µg/L)	1	35	3	372
Total N (µg/L)	3	411	2	960
Lab Cond. (µS/cm)	2	81.5	2	97.5
Lab pH	2	7.705	2	7.42
Alkal (mg/l CaCO3)	2	31	2	40.5
Total Susp Sol (mg/l)	5	4.4	5	5
Calcium (µg/L)	1	9.7	0	

Wisconsin Trophic State Index (WTSI)

Year	TP	Chla	SD
1979	54.35	56.10	53.92
1992	52.54	52.02	53.57
1993			52.33
2005	56.10	58.33	55.77
All Years (weighted)	54.78	55.88	53.46
WI Natural Lakes	53.19	54.23	47.33
Northeast Region	51.05	51.49	45.61

Morphological / Geographical Data

Parameter	Value
Acreage	201.5
Volume (acre-feet)	2158
Perimeter (miles)	3.66
Shoreland Development	1.84
Maximum Depth (feet)	23
County	Vilas County
WBIC	1599600
Lillie Mason Region(1983)	Northeast Region
Nichols Ecoregion(1999)	NLFL

Watershed Data

WiLMS Class	Acreage	kg/yr	lbs/yr
Row Crop AG	0	0	0
Mixed AG	0	0	0
Pasture/Grass	6375	774	1706
HD Urban (1/8 Ac)	52	32	71
MD Urban (1/4 Ac)	368	74	163
Rural Res (>1 Ac)	0	0	0
Wetlands	31175	1262	2782
Forest	115815	4218	9299
Golf Course	143	262	578
Lake Surface	202	25	55

Year	Secchi (feet)				Chlorophyll a (µg/L)				Phosphorus (µg/L)				Nitrogen (µg/L)			
	Growing Season Count	Summer Mean	Count	Mean	Growing Season Count	Summer Mean	Count	Mean	Growing Season Count	Summer Mean	Count	Mean	Growing Season Count	Summer Mean	Count	Mean
1979	1	5.0	1	5.0	1	17.2	1	17.2	1	29.0	1	29.0				
1992	4	5.4	2	5.1	4	16.5	2	10.0	4	28.5	2	23.0	4	533	2	457
1993	8	6.0	6	5.6												
2005	5	4.5	3	4.4	4	21.03	2	23.15	5	37.600	3	36.333	2	348.50	1	437
All Years (weighted)		5.4		5.2		18.58		16.7		33.1		30.67		533		457
WI Natural Lakes				7.9				13.4				25				
Northeast Region				8.9				9.3				19				