

# B

## APPENDIX B

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Water Quality Data

Nelson Lake Data - East Sample Site

Date: 05-16-05 Max Depth (ft):  
Time: NELLS Depth (ft): 3.0  
Weather: NELLB Depth (ft): 10.0  
Ent: Verf: Secchi Depth (ft): 6.0

Parameter	NELLS	NELLB
DO (mg/L)	9.000	10.000
Total P (µg/l)	22.000	22.000
Dissolved P (µg/l)		
Chl a (µg/l)		
TKN (µg/l)	500.00	490.00
NO4+NO3-N (µg/l)	89.000	86.000
NH3-N (µg/l)		
Total N (µg/l)	589.00	576.00
Lab Cond. (µS/cm)	54	
Lab pH	7.33	
Alkal (mg/l CaCO3)	22	
Total Susp Sol (mg/l)	0	
Calcium (mg/l)		

Notes: Samples collected by Nelson Lake Association Volunteers

Nelson Lake Data - East Sample Site

Date: 06-21-05 Max Depth (ft):  
Time: NELLS Depth (ft): 3.0  
Weather: NELLB Depth (ft): 10.0  
Ent: Verf: Secchi Depth (ft): 6.5

Parameter	NELLS	NELLB
DO (mg/L)	6.000	6.000
Total P (µg/l)	23.000	30.000
Dissolved P (µg/l)		
Chl a (µg/l)	6.30	
TKN (µg/l)	510.00	630.00
NO4+NO3-N (µg/l)	0.000	20.000
NH3-N (µg/l)		
Total N (µg/l)	510.00	650.00
Lab Cond. (µS/cm)		
Lab pH		
Alkal (mg/l CaCO3)		
Total Susp Sol (mg/l)		
Calcium (mg/l)		

Notes: Samples collected by Nelson Lake Association Volunteers

Nelson Lake Data - East Sample Site

Date: 07-19-05 Max Depth (ft):  
Time: NELLS Depth (ft): 3.0  
Weather: NELLB Depth (ft): 10.0  
Ent: Verf: Secchi Depth (ft): 4.5

Parameter	NELLS	NELLB
DO (mg/L)	6.000	6.000
Total P (µg/l)	33.000	33.000
Dissolved P (µg/l)		
Chl a (µg/l)	6.38	
TKN (µg/l)	370.00	320.00
NO4+NO3-N (µg/l)	0.000	0.000
NH3-N (µg/l)		
Total N (µg/l)	370.00	320.00
Lab Cond. (µS/cm)	62	
Lab pH	7.65	
Alkal (mg/l CaCO3)	26	
Total Susp Sol (mg/l)	0	
Calcium (mg/l)		

Notes: Samples collected by Nelson Lake Association Volunteers



**Water Quality Data**

2005 Parameter	Surface		Bottom	
	Count	Mean	Count	Mean
Secchi Depth (feet)	5	5.40		
DO (mg/L)	5	7	5	6.00
Total P (µg/L)	5	27.2	5	29.67
Dissolved P (µg/L)	0		0	
Chl a (µg/L)	4	11.345	0	
TKN (µg/L)	5	492	5	490.00
NO4+NO3-N (µg/L)	5	17.8	5	17.67
NH3-N (µg/L)	0		0	
Total N (µg/L)	5	509.80	5	507.67
Lab Cond. (µS/cm)	3	59.67	0	
Lab pH	3	7.49	0	
Alkal (mg/l CaCO3)	3	25.20	0	
Total Susp Sol (mg/l)	3	1.67	0	
Calcium (mg/l)	1	27.6	0	

**Wisconsin Trophic State Index (WTSI)**

Year	TP	Chla	SD
2001			62.29
2002			57.88
2003			53.08
2004			57.51
2005	54.52	51.77	52.99
All Years (weighted)	54.52	51.77	55.62
WI Impoundments	60.51	58.05	56.10
Northwest Region	54.07	53.64	49.28

**Morphological / Geographical Data**

Parameter	Value
Acreage	2749
Volume (acre-feet)	24088
Perimeter (miles)	31.4
Shoreland Development	4.48
Maximum Depth (feet)	33
County	Sawyer County
WBIC	2704200
Lillie Mason Region(1983)	Northwest Region
Nichols Ecoregion(1999)	NLFF

**Watershed Data**

WILMS Class	Acreage	kg/yr	lbs/yr
Pasture/Grass	712	86	189.6
Medium Density Urban	39	8	17.6
Rural Residential	339	14	30.9
Wetlands	991	40	88.2
Forest	22234	810	1785.7
Lake Surface	2749	334	736.3
		1292	2848.4

Year	Secchi (feet)				Chlorophyll a (µg/L)				Phosphorus (µg/L)				Nitrogen (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
2001	3	3.4	1	2.8												
2002	6	4.2	3	3.8												
2003	6	4.5	3	5.3												
2004	6	5.0	3	3.9												
2005	5	5.40	3	5.33	4	11.345	3	9.66	5	27.20	3	29.67	5	509.80	3	500.00
All Years (weighted)		4.6		4.4		11.3		9.7		27.2		29.7		509.8		500.0
WI Impoundments				4.3				22.3				64				
Northwest Region				6.9				12.4				28				

**Water Quality Data**

Date	Parameter	NELL
5/3/05	Total P (µg/l)	67
05/16/05	Secchi Depth (ft):	6.0
6/21/05	Total P (µg/l)	21
6/21/05	Chl <i>a</i> (µg/l)	3.82
06/21/05	Secchi Depth (ft):	6.5
7/4/2005	Secchi Depth (ft):	5.5
7/19/05	Total P (µg/l)	29
7/19/05	Chl <i>a</i> (µg/l)	6.4
07/19/05	Secchi Depth (ft):	4.5
8/22/05	Total P (µg/l)	33
8/22/05	Secchi Depth (ft):	4.0
8/22/05	Chl <i>a</i> (µg/l)	24.8
10/18/05	Total P (µg/l)	13
10/18/05	Secchi Depth (ft):	12
10/18/05	Chl <i>a</i> (µg/l)	4.5

**Morphological / Geographical Data**

Parameter	Value
Acreage	2749
Volume (acre-feet)	24088
Perimeter (miles)	31.4
Shoreland Development	4.48
Maximum Depth (feet)	33
County	Sawyer County
WBIC	2704200
Lillie Mason Region(1983)	Northwest Region
Nichols Ecoregion(1999)	NLFF

**Wisconsin Trophic State Index (WTSI)**

Year	TP	Chla	SD
2001			53.92
2002			53.08
2003	53.70	56.04	61.29
2004	54.26	57.26	59.07
2005	53.98	53.19	53.57
All Years (weighted)	53.99	55.68	55.93
WI Impoundments	60.51	58.05	56.10
Northwest Region	54.07	53.64	49.28

Year	Secchi (feet)				Chlorophyll a (µg/L)				Phosphorus (µg/L)				Nitrogen (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
2001	3	3.3	1	5.0												
2002	6	4.6	3	5.3												
2003	5	4.8	3	3.0	4	20.6	3	17.1	5	27.4	3	26.7				
2004	5	5.3	3	3.5	4	15.6	3	20.1	5	26.8	3	28.7				
2005	6	6.90	4	5.13	4	9.88	3	11.67	5	32.60	3	27.67	0	0.00	0	0.00
All Years (weighted)		5.2		4.4		15.4		16.3		28.9		27.7				
WI Impoundments				4.3				22.3				64				
Northwest Region				6.9				12.4				28				

\* TAH verified TP from 5/3/05 with SLOH on June 07, 2006