Lochness Lake (2-0585) *Rice Creek Watershed District*

Lochness Lake is located in the City of Blaine (Anoka County). It has a surface area of 5.3 acres. There is little known morphological data available for the lake other than it has a maximum depth of 4.9 m (16 ft). Because of the shallowness of the lake, the entire area is considered littoral zone, which is the 0-15 feet depth zone of aquatic plant dominance. Also the lake does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the lake's water column.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

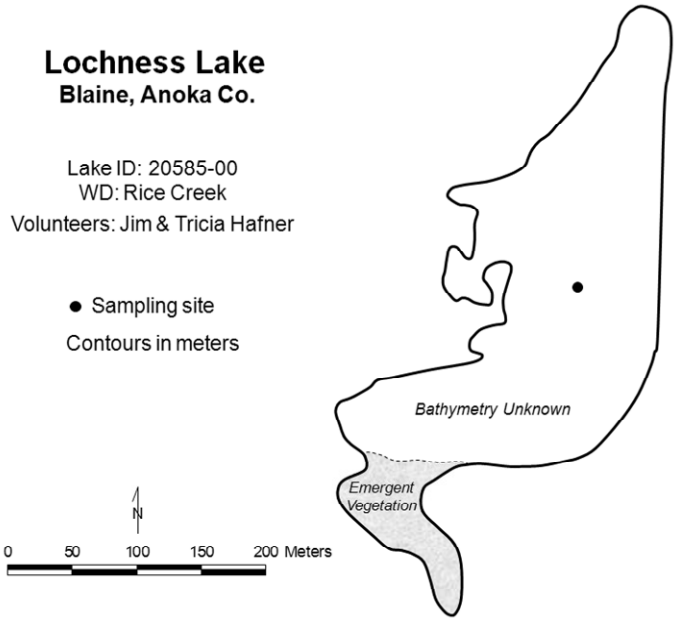
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	36.3	16.0	70.0	C
CLA (µg/l)	18.6	4.0	35.0	B
Secchi (m)	1.6	0.9	2.6	C
TKN (mg/l)	1.39	1.20	1.80	
			Lake Grade	C

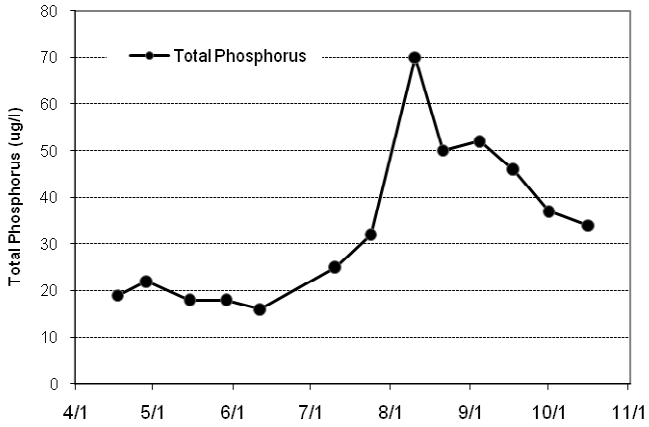
The lake received a lake grade of C for 2009, which is a reduction in water quality compared to last year's lake grade of B. Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

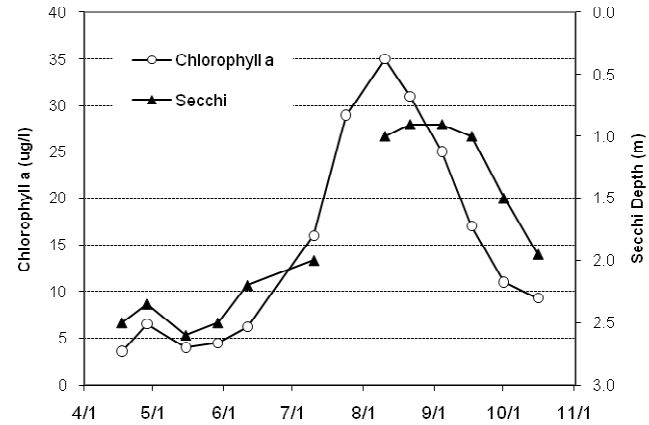
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) conducted a fisheries survey on the lake in 2005. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

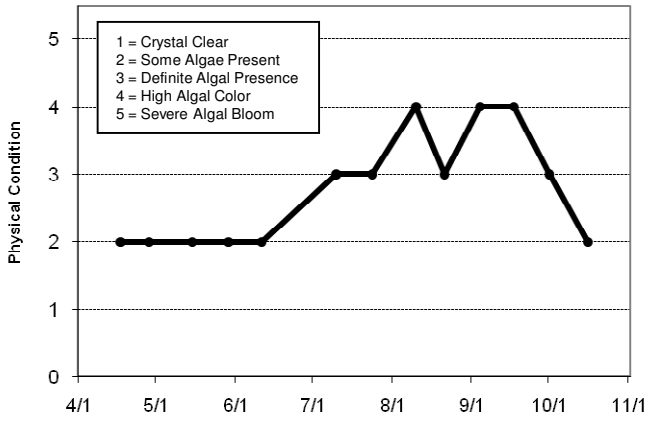






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/17	13.8				3.6	19		2.5	2	4
4/28	12.6				6.5	22		2.4	2	4
5/15	16.6				4	18		2.6	2	4
5/29	18.9				4.5	18		2.5	2	4
6/11	17.8				6.2	16		2.2	2	4
7/10	24.1				16	25		2.0	3	4
7/24	23.6				29	32			3	4
8/10	24.8				35	70		1.0	4	4
8/21	21.2				31	50		0.9	3	4
9/4	20.8				25	52		0.9	4	4
9/17	22.2				17	46		1.0	4	4
10/1					11	37		1.5	3	5
10/16	7.3				9.3	34		2.0	2	4



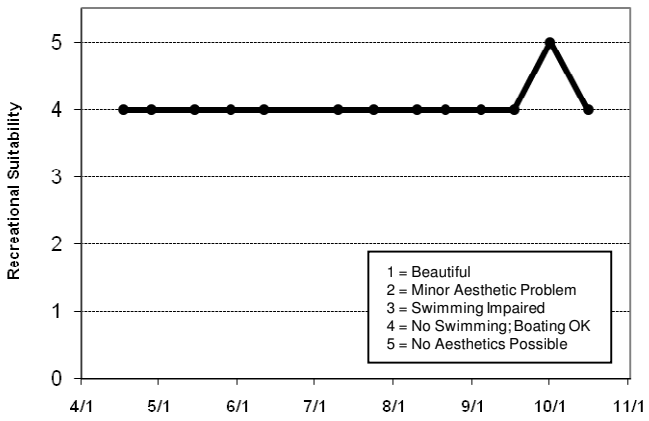
Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus				A	B	C
Chlorophyll a				A	A	B
Secchi Depth				B	B	C
Lake Grade				**A**	**B**	**C**

Source: Metropolitan Council and STORET data



Lone Lake (27-0094) *City of Minnetonka*

Lone Lake is located within the City of Minnetonka (Hennepin County). The maximum depth of the lake is 8.2 m (27 feet). The lake is characterized by two distinct basins, of which only one was monitored in 2009. This was the first year that the lake was part of the CAMP.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	31.3	19.0	43.0	B
CLA (µg/l)	5.1	2.6	12.0	A
Secchi (m)	2.6	2.0	3.2	B
TKN (mg/l)	0.60	0.34	0.72	
			Lake Grade	B

The lake received a lake grade of B for 2009. Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

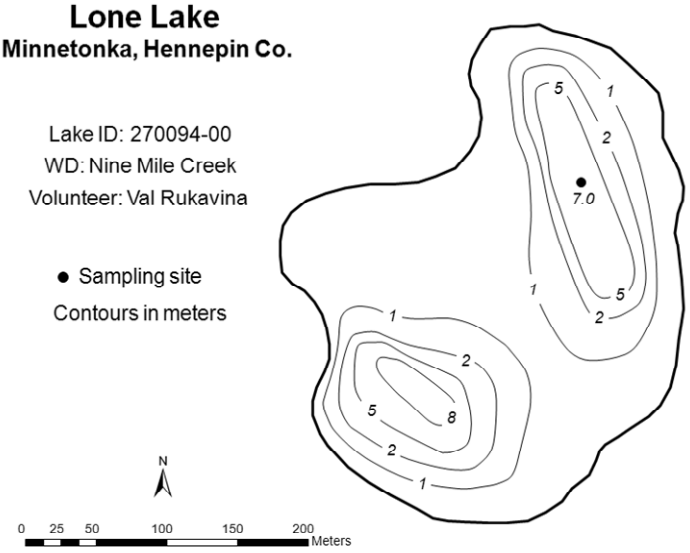
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 297-4916 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

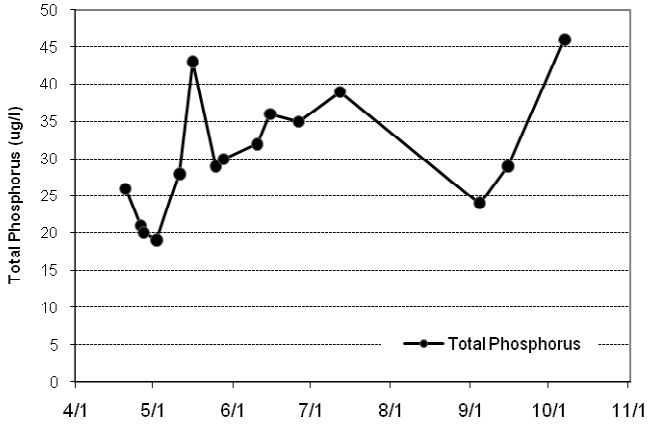
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

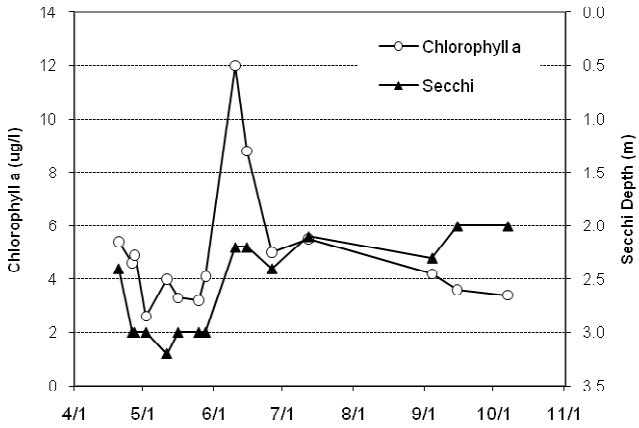
Lone Lake
Minnetonka, Hennepin Co.

Lake ID: 270094-00
WD: Nine Mile Creek
Volunteer: Val Rukavina

● Sampling site
Contours in meters

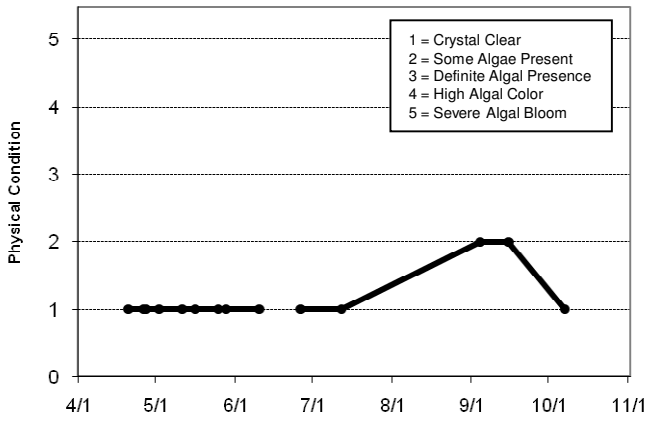






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/20	12.5				5.4	26		2.4	1	1
4/26	11.9				4.6	21		3.0	1	4
4/27	12.3				4.9	20		3.0	1	1
5/2	15.5				2.6	19		3.0	1	
5/11	16.2				4	28		3.2	1	2
5/16	24.8				3.3	43		3.0	1	1
5/25	24.3				3.2	29		3.0	1	1
5/28	22.6				4.1	30		3.0	1	1
6/10	26.6				12	32		2.2	1	
6/15	21.6				8.8	36		2.2		2
6/26	29				5	35		2.4	1	2
7/12	26.2				5.5	39		2.1	1	5
9/4	24.8				4.2	24		2.3	2	
9/15	26.7				3.6	29		2.0	2	1
10/7	18.2				3.4	46		2.0	1	1

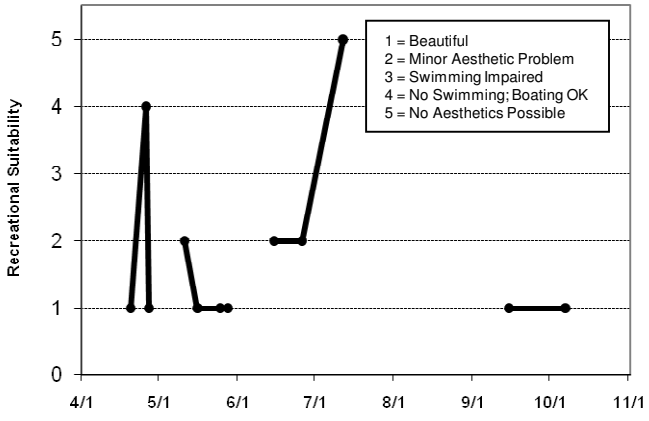


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus						B
Chlorophyll a						A
Secchi Depth						B
Lake Grade						**B**



Source: Metropolitan Council and STORET data

Long Lake [Apple Valley] (19-0022) *City of Apple Valley*

Long Lake, which has a surface area of roughly 36 acres, is located within the City of Apple Valley (Dakota County). The maximum depth of the lake is approximately 3.5 m (10 feet). TThe entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	216.3	105.0	345.0	F
CLA (µg/l)	114.3	38.0	280.0	F
Secchi (m)	0.4	0.3	0.7	F
TKN (mg/l)	3.33	1.90	4.70	
			Lake Grade	F

The lake received a lake grade of F for 2009, which is similar to those recorded in 2002-2008, and worse than the lake grade of D recorded in 1997. On the basis of the lake's historical water quality database, the water quality of the lake appears represented by a lake grade of F.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

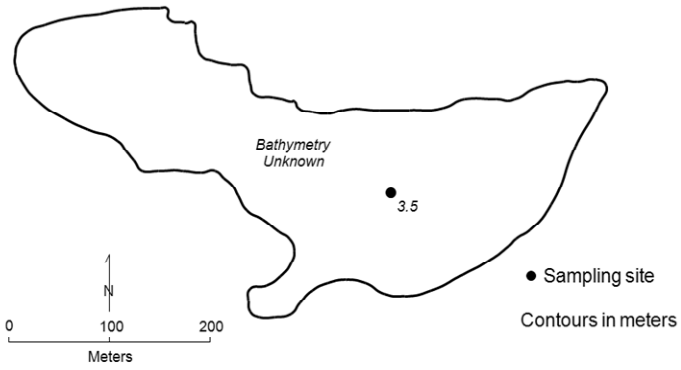
Long Lake

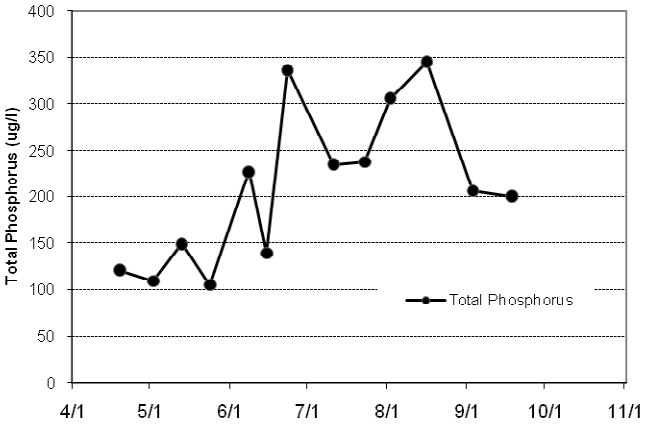
Apple Valley, Dakota Co.

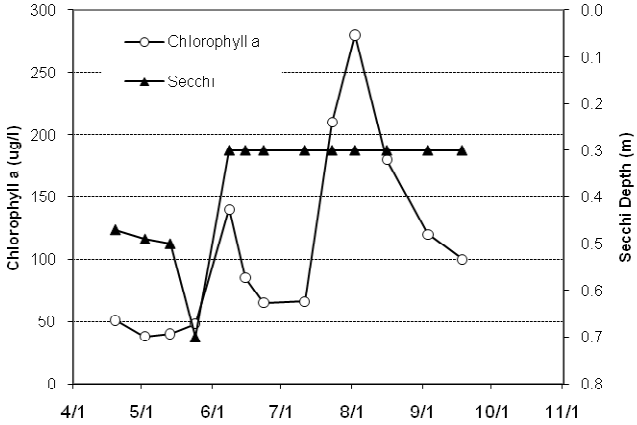
Lake ID: 190022-00

WMO: Vermillion River

Volunteers: Christy & Jake McGlocklin , Al Kettlekamp

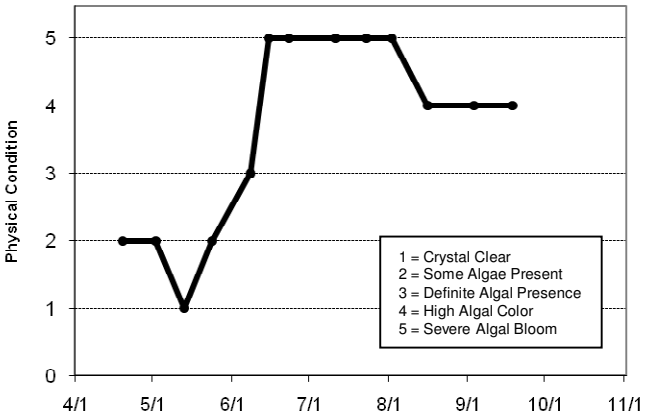






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/19	14.9				51	121		0.5	2	4
5/2	14.6				38	109		0.5	2	4
5/13	17				40	149		0.5	1	4
5/24	25.5				48	105		0.7	2	4
6/8	14.5				140	227		0.3	3	4
6/15	23.2				85	139		0.3	5	5
6/23	29				65	336		0.3	5	5
7/11	26.3				66	235		0.3	5	5
7/23	24				210	238		0.3	5	
8/2	24				280	306		0.3	5	5
8/16	23.9				180	345		0.3	4	5
9/3	23.9				120	206		0.3	4	5
9/18	26.2				100	200		0.3	4	5

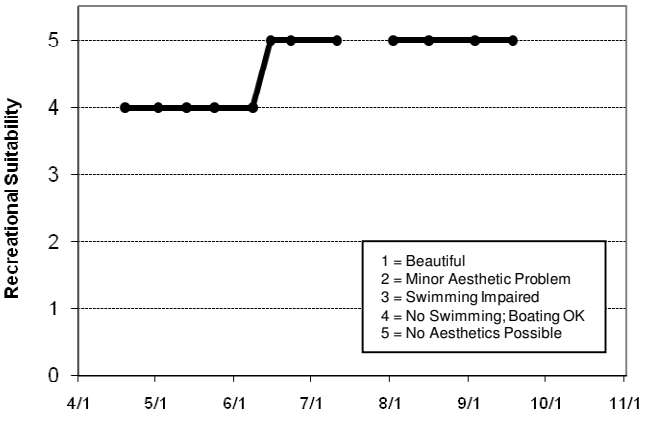


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus						D					F	F
Chlorophyll a						D					F	F
Secchi Depth						F					F	F
Lake Grade						**D**					**F**	**F**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	F	F	F	F	F	F
Chlorophyll a	F	F	F	F	F	F
Secchi Depth	F	F	F	F	F	F
Lake Grade	**F**	**F**	**F**	**F**	**F**	**F**



Source: Metropolitan Council and STORET data

Long Lake [Mahtomedi] (82-0130) *Rice Creek Watershed District*

Long Lake is located within the City of Mahtomedi (Washington County). It has a surface area of 48 acres and a maximum depth of 7.7 m (25 feet). The MN DNR has designated the lake as being infested with Eurasion water milfoil (*Myriophyllum spicatum*).

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

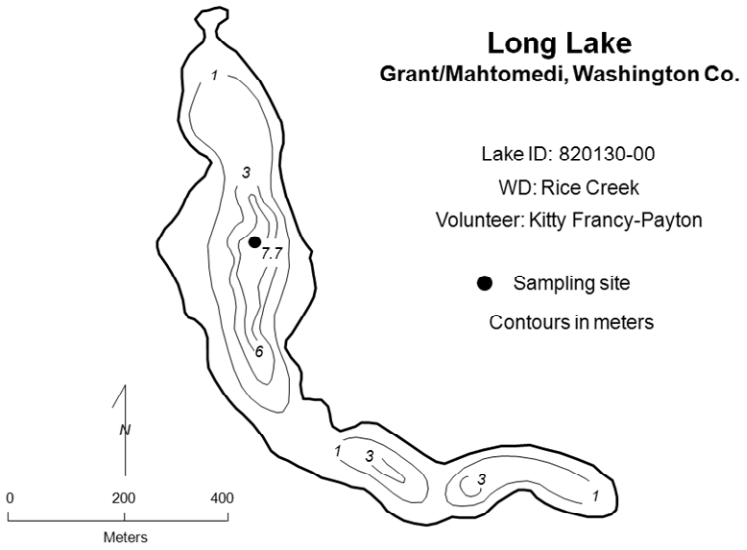
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	17.6	13.0	24.0	A
CLA (µg/l)	3.7	1.8	6.9	A
Secchi (m)	3.1	2.6	3.7	A
TKN (mg/l)	0.58	0.33	0.68	
			Lake Grade	A

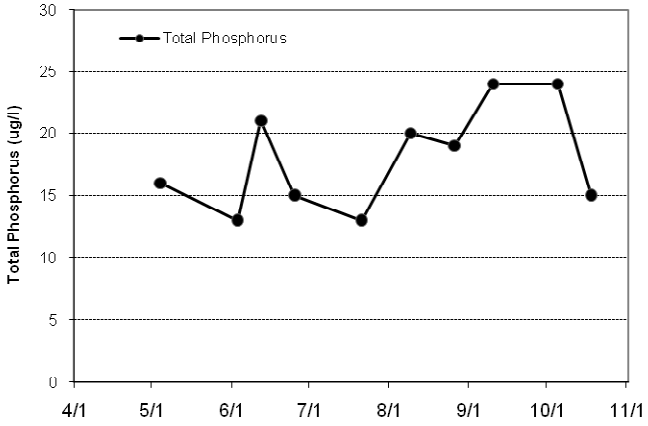
The lake received a lake grade of A for 2009, which is consistent with its historical database. Note that the Secchi depth grade of A was the best Secchi grade received according to the lake's water quality database. Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

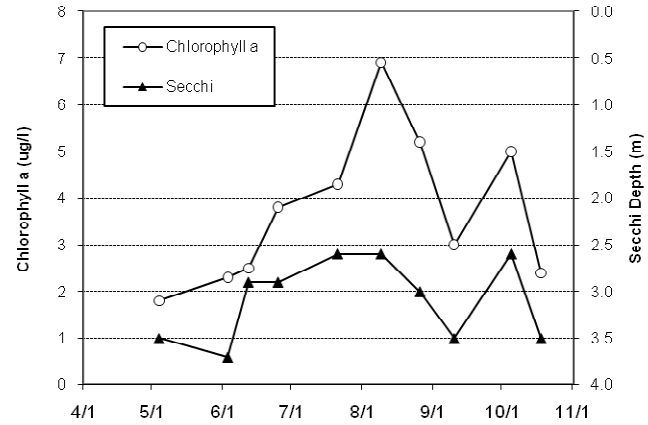
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) conducted a fisheries survey on the lake in 2005. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

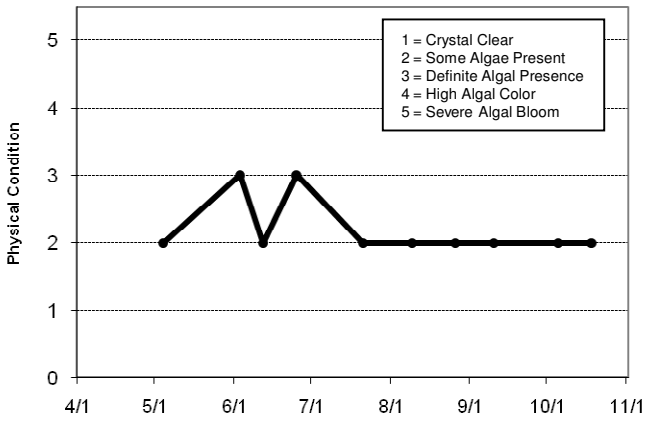






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/4	16				1.8	16		3.5	2	1
6/3	20.9				2.3	13		3.7	3	3
6/12	17.9				2.5	21		2.9	2	3
6/25	26.2				3.8	15		2.9	3	3
7/21	21.9				4.3	13		2.6	2	3
8/9	24.2				6.9	20		2.6	2	3
8/26	23.4				5.2	19		3.0	2	2
9/10	22.6				3	24		3.5	2	2
10/5	12.4				5	24		2.6	2	3
10/18	7.2				2.4	15		3.5	2	2



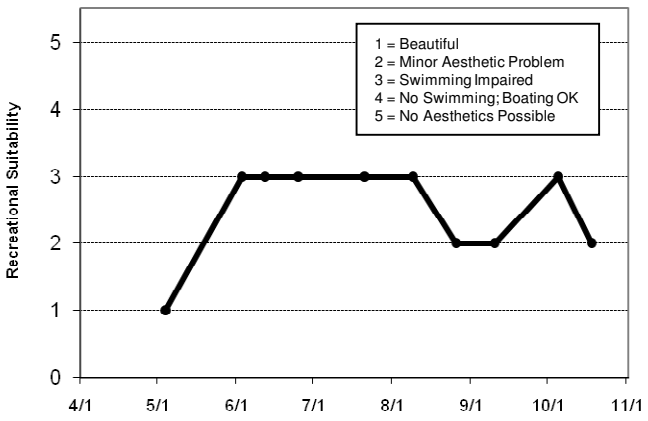
Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												B
Chlorophyll a												A
Secchi Depth												B
Lake Grade												**B**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	A	C	B	C	A	A
Chlorophyll a	A	A	A	A	A	A
Secchi Depth	B	B	B	B	B	A
Lake Grade	**A**	**B**	**B**	**B**	**A**	**A**

Source: Metropolitan Council and STORET data



Long Lake [May Township] (82-0030) *Marine on St. Croix WMO*

Long Lake is located in May Township (Washington County). It has a surface area of 88 acres. The maximum depth is 3.7 m (12 feet). The entire lake area is considered littoral zone, which is the 0-15 feet depth zone of aquatic plant dominance. The lake does not maintain a thermocline which is a density gradient caused by changing water temperatures throughout the lake's water column.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

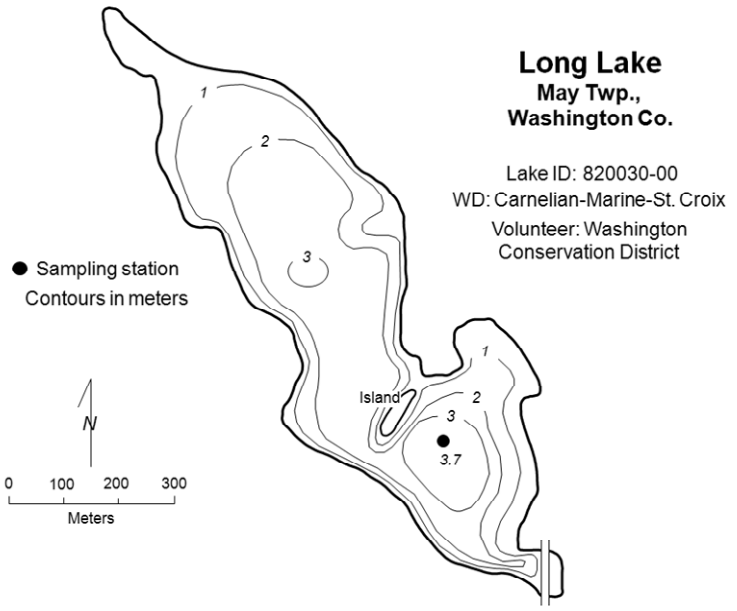
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	31.7	25.0	39.0	B
CLA (µg/l)	6.6	3.3	12.0	A
Secchi (m)	2.4	1.8	2.7	B
TKN (mg/l)	0.83	0.75	1.00	
			Lake Grade	B

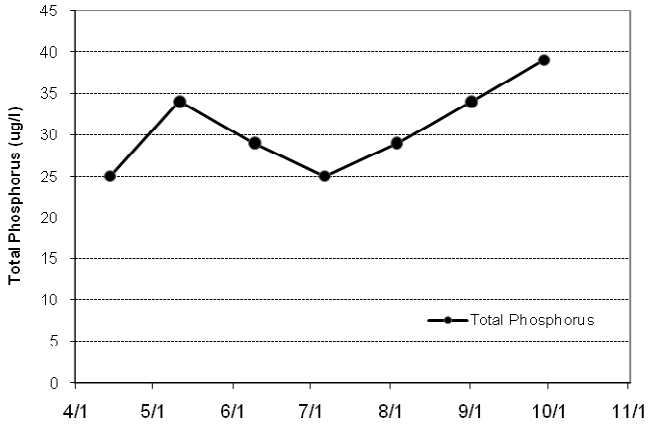
The lake received a lake grade of B for 2009, which is consistent with the lake grades the lake has received over the past eight years. The lake's water quality is representative of a C+/B lake grade for the past decade.

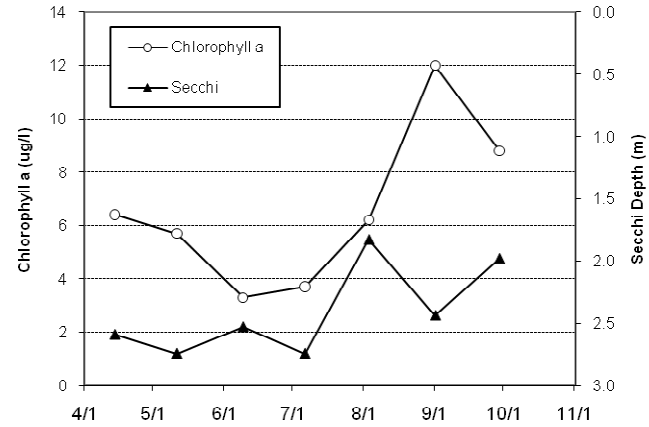
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

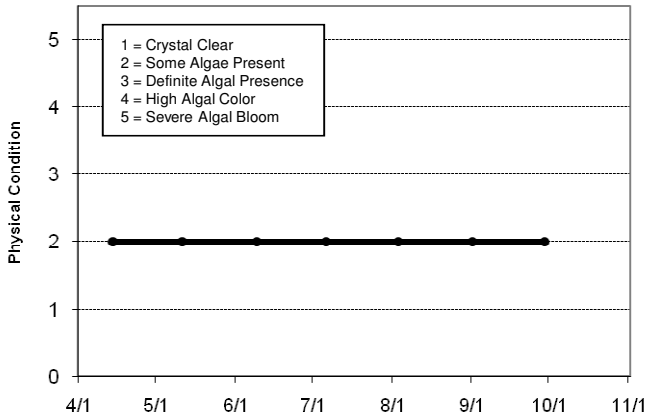
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

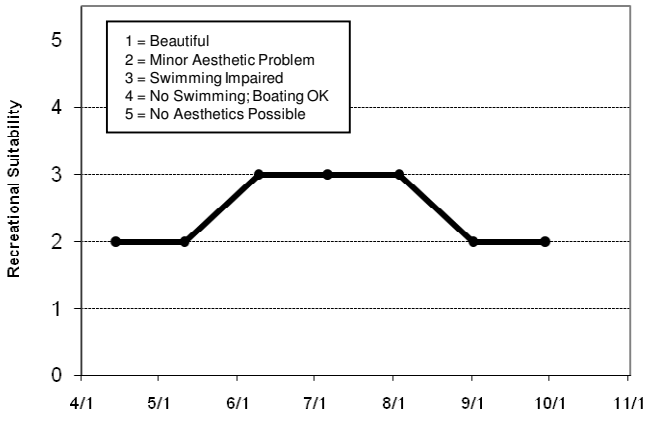
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.











2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/14	10.8	9.5	10.75	8.87	6.4	25		2.6	2	2
5/11	16.6	14.5	8.91	0.14	5.7	34		2.7	2	2
6/9	17.6	16.8	7.87	0.09	3.3	29		2.5	2	3
7/6	25.7	20.4	10.63	0.16	3.7	25		2.7	2	3
8/3	22.4	21	7.25	0.37	6.2	29		1.8	2	3
9/1	20.3	19.2	5.12	0.04	12	34		2.4	2	2
9/29	15.7	15.9	5.1	0.04	8.8	39		2.0	2	2

Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus		C	C	C	C	C		C	C	C	C	C
Chlorophyll a		C	C	C	B	C		B	B	B	B	A
Secchi Depth		B	C	C	C	C		C	B	B	C	B
Lake Grade		**C**	**C**	**C**	**C**	**C**		**C**	**B**	**B**	**C**	**B**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	B	C	C	C	C	B
Chlorophyll a	A	B	A	B	A	A
Secchi Depth	B	B	B	C	B	B
Lake Grade	**B**	**B**	**B**	**C**	**B**	**B**

Source: Metropolitan Council and STORET data

Long Lake [Pine Springs] (82-0118) *Valley Branch Watershed District*

Long Lake is located in Pine Springs Township (Washington County). It has a surface area of 62 acres. The mean and maximum depths of the lake are 3.6 m (12 feet) and 10.4 m (34 feet), respectively. The lake's surface area and watershed area of 2,060 acres translates to a 33:1 watershed-to-lake area ratio. Generally the larger the ratio, the greater the potential stress on the lake from surface runoff.

The MN DNR has designated the lake as being infested with Eurasion water milfoil (Myriophyllum spicatum).

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	9.4	5.0	19.0	A
CLA (µg/l)	2.6	1.6	4.6	A
Secchi (m)	4.8	2.3	6.3	A
TKN (mg/l)	0.54	0.34	0.94	
			Lake Grade	A

The lake received a lake grade of A for 2009, which is the best grade on record for the lake. The good water quality year of 2009 follows an alum treatment that occurred in 2008. To better understand the quality of the lake and what direction it may be heading, continued monitoring is suggested.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

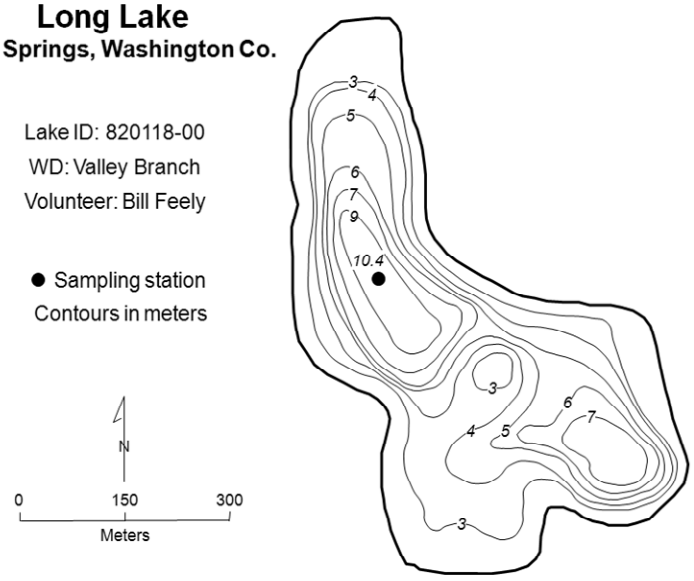
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Long Lake

Pine Springs, Washington Co.

Lake ID: 820118-00
WD: Valley Branch
Volunteer: Bill Feely

● Sampling station
Contours in meters



2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/14	9.1				5.8	14		2.6	2	1
4/28	11.7				5.8	12		2.6	1	1
5/13	16.3				4.6	13		2.3	1	1
5/28	19.4				2.2	19		4.6	1	1
6/10	19				2.5	8		5.0	1	1
6/22	25.2				1.6	10		5.4	1	1
7/6	23.8				1.9	8		5.5	1	1
7/22	22.3				2.4	5		6.3	1	1
8/5	23.9				3.7	5		5.4	1	1
8/18	24.6				3.1	7		5.5	1	1
8/31	22.1				2.4	10		4.7	2	1
9/15	24.7				1.8	8		4.5	1	1
9/29	17.4				2.9	10		3.3	2	1
10/17	9.2				2.9	18		5.0	2	1

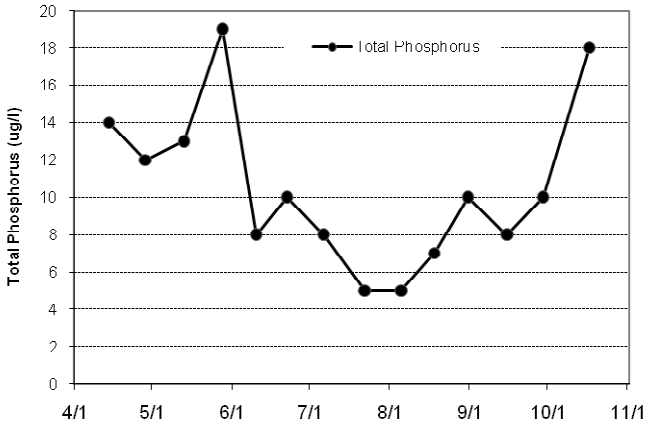
Lake Water Quality Grades Based on Summertime Averages

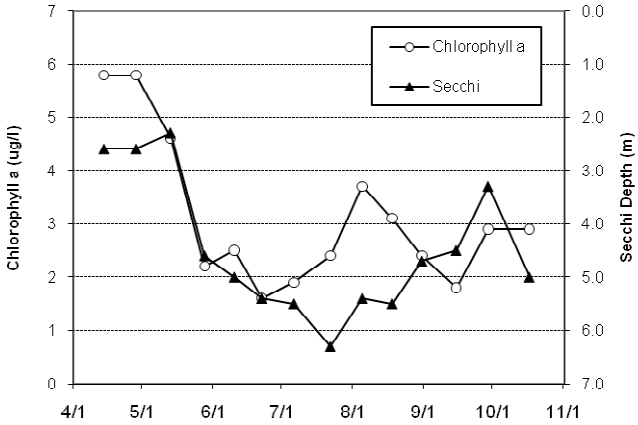
Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus					C							
Chlorophyll a					B							
Secchi Depth					C							
Lake Grade					**C**							

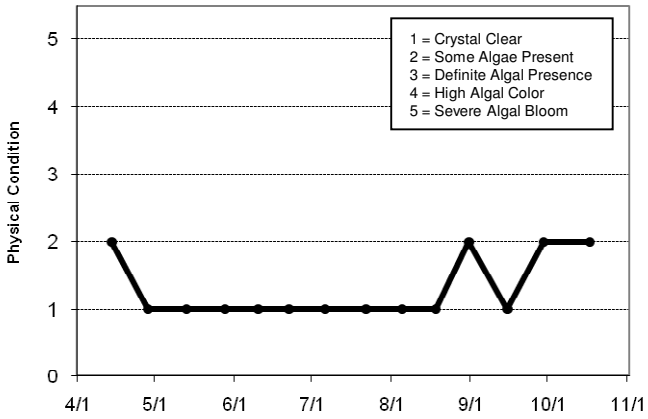
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus		B										B
Chlorophyll a		B										A
Secchi Depth		C										B
Lake Grade		**B**										**B**

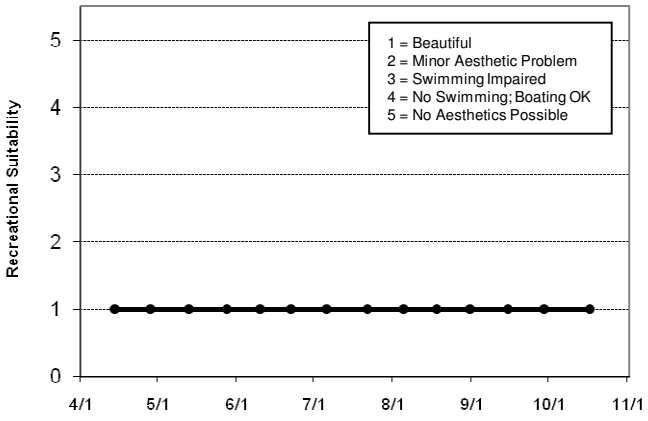
Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	C	C	C	B	B	A
Chlorophyll a	B	B	C	A	A	A
Secchi Depth	C	C	C	B	B	A
Lake Grade	**C**	**C**	**C**	**B**	**B**	**A**

Source: Metropolitan Council and STORET data









Long Lake [Stillwater] (82-0021) *Browns Creek Watershed District*

Long Lake is located on the western boundary of the City of Stillwater (Washington County). It has a surface area of 96 acres, and its maximum depth is 6.7 m (22 feet). Approximately 95 percent of the surface area is considered littoral zone, which is the 0-15 feet depth zone dominated by aquatic vegetation. The MN DNR has designated the lake as being infested with Eurasion water milfoil (*Myriophyllum spicatum*).

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	48.7	23.0	90.0	C
CLA (µg/l)	15.4	6.5	47.0	B
Secchi (m)	2.1	0.8	3.2	C
TKN (mg/l)	1.40	0.91	2.00	
			Lake Grade	C

The lake received a lake grade of C for 2009. On the basis of the historical water quality database, the lake's annual water clarity grades, prior to the C recorded in 2004, have been near constant Fs. The year 2009 was the second year that the lake received a B grade for CLA. This year's water quality continues the improving trend since 2004.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

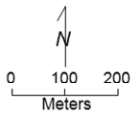
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

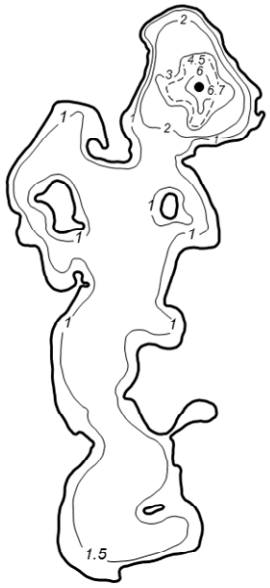
Long Lake, Site 1
Stillwater, Washington Co.

Lake ID: 820021-00
WD: Browns Creek
Volunteer: Washington Conservation District

● Sampling site

Contours in meters





2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/15	12.1	5.6	11.21	0.05	13	57		1.8	3	3
4/28	13.3	5.9	9.76	0.05	20	133		1.4	3	4
5/14	15	6.5	8.24	0.08	8.3	57		2.3	3	3
5/26	20.3	8.9	8.2	0.09	17	52		2.0	2	3
6/9	17	8.2	6.84	0.08	17	53		1.8	2	3
6/22	26.6	9.8	10.04	0.11	6.5	47		2.6	3	3
7/7	26.1	11.7	11.51	0.13	9.3	44		2.0	3	4
7/21	23.3	13.8	12.72	0.11	47	61		0.8	3	4
8/3	23.8	15.8	9	0.07	21	37		1.5	3	4
8/18	25	15.8	6.89	0.06	11	39		2.3	2	3
8/31	21.7	12.7	7.19	0.06	9	33		3.0	3	3
9/14	24.7	12.8	9.37	0.08	15	23		3.2	3	3
9/30	15.9	13.7	5.74	0.05	8.4	90		2.1	3	3
10/13	8.9	8.5	9.69	0.13	9.5	24		3.0	2	3

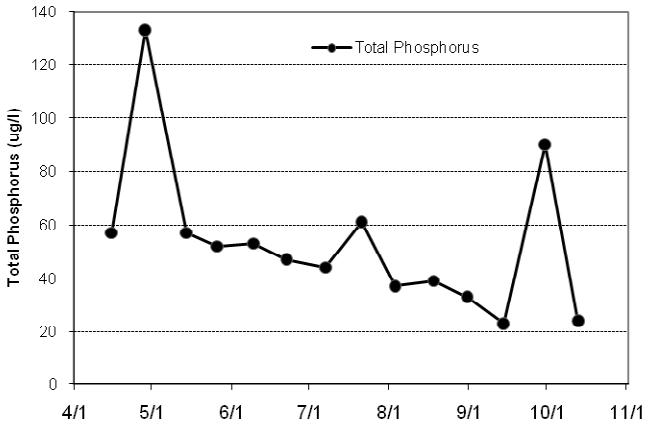
Lake Water Quality Grades Based on Summertime Averages

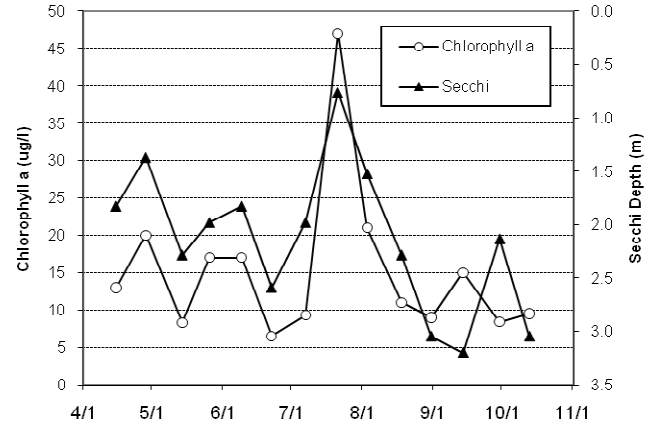
Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth								F		D		F
Lake Grade												

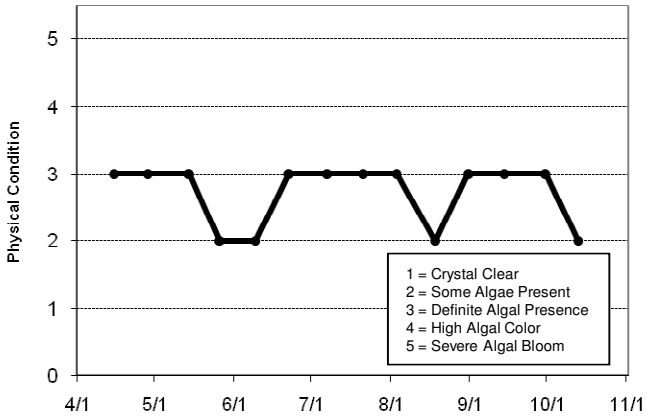
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus				D	D		D	D	F	D	D	D
Chlorophyll a				D	D		F	F	F	F	D	D
Secchi Depth	F	F	F	F	D		F	F	F	F	F	F
Lake Grade				**D**	**D**		**F**	**F**	**F**	**F**	**D**	**D**

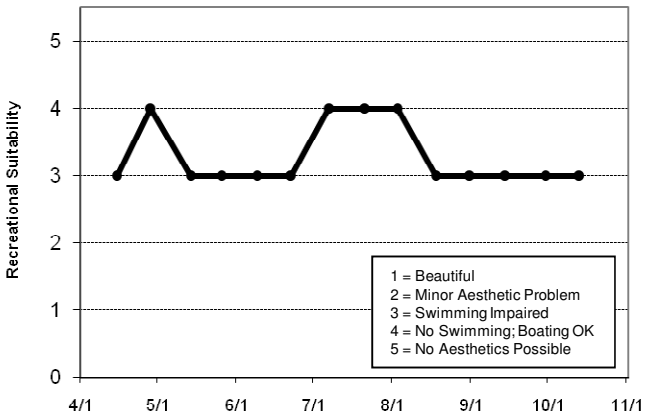
Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	C	D	D	C	C	C
Chlorophyll a	C	D	C	C	B	B
Secchi Depth	C	D	D	D	C	C
Lake Grade	**C**	**D**	**D**	**C**	**C**	**C**

Source: Metropolitan Council and STORET data









Long Lake [Washington Co.] (82-0068) *Carnelian - Marine - St. Croix Watershed District*

Long Lake is located within City of Scandia (Washington County). The lake has a surface area of 35 acres. The maximum and mean depths are 2.1 m (6.9 ft)) and 1.1 m (3.6 ft), respectively. The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	74.2	51.0	117.0	D
CLA (µg/l)	42.8	6.8	130.0	C
Secchi (m)	1.2	0.5	1.8	D
TKN (mg/l)	1.84	0.98	3.30	
			Lake Grade	D

The lake received a lake grade of D for 2009, which is similar to grades received about 5 years ago. The lake grades have fluctuated in the range of F to B to D since 1998, which is quite variable.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

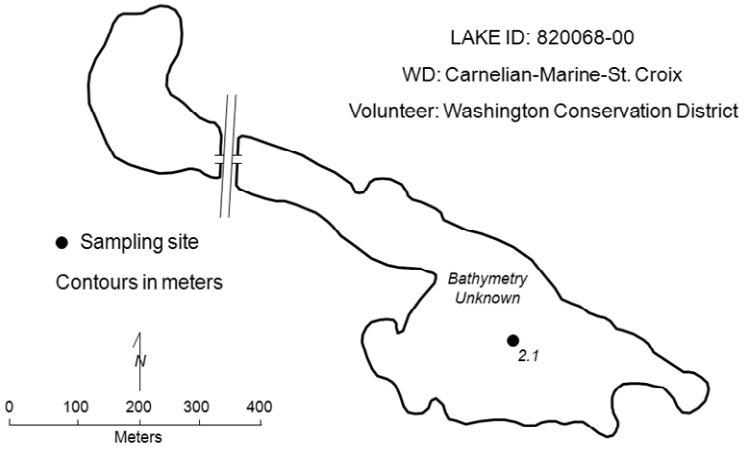
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

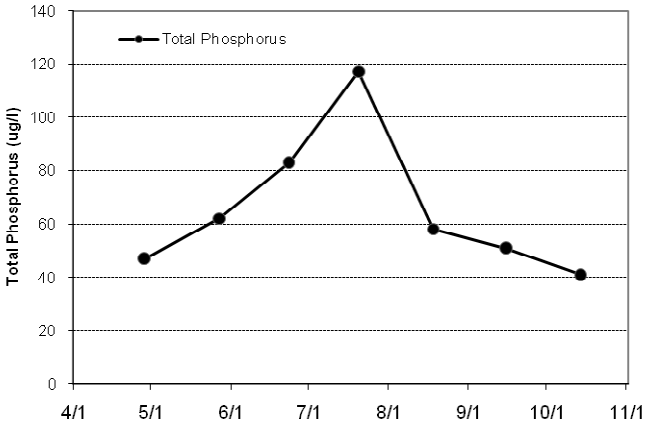
Long Lake
Scandia, Washington Co.

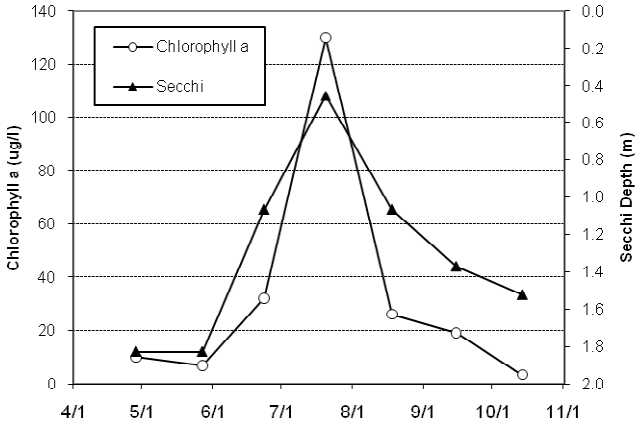
LAKE ID: 820068-00

WD: Carnelian-Marine-St. Croix

Volunteer: Washington Conservation District

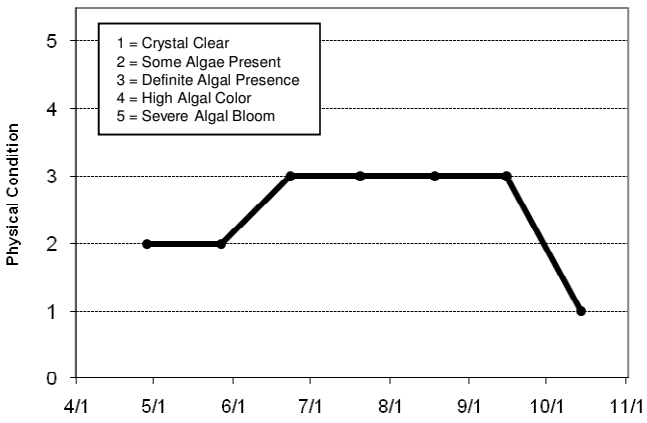






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/28	13.6	13.5	10.96	0.11	10	47		1.8	2	2
5/27	18.8	18.8	6.83	0.05	6.8	62		1.8	2	2
6/23	26.7	23.6	7.64	0.12	32	83		1.1	3	4
7/20	24.8	19.3	13.79	0.09	130	117		0.5	3	4
8/18	23.1	23.2	6.07	0.09	26	58		1.1	3	4
9/15	23.2	23	7.89	0.09	19	51		1.4	3	4
10/14	6.5	6.5	9.91	9.85	3.4	41		1.5	1	1

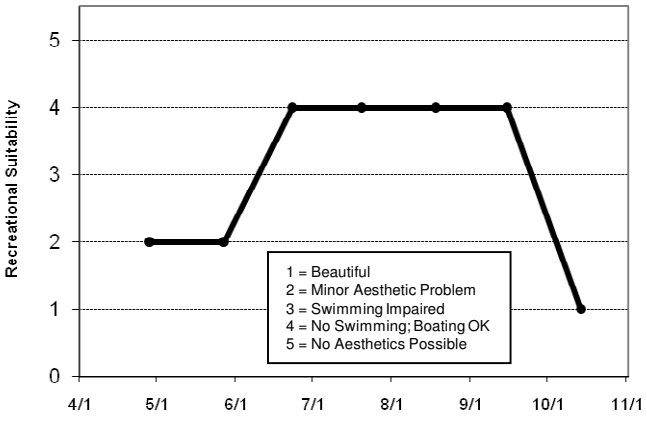


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus							D	D	D	C	C	D
Chlorophyll a							F	F	F	D	C	F
Secchi Depth							F	F	F	D	D	F
Lake Grade							**F**	**F**	**F**	**D**	**C**	**F**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	D	D	D	C	C	D
Chlorophyll a	D	C	B	C	A	C
Secchi Depth	D	D	C	C	C	D
Lake Grade	**D**	**D**	**C**	**C**	**B**	**D**



Source: Metropolitan Council and STORET data

Loon Lake (82-0015-02) *Carnelian - Marine - St. Croix Watershed District*

Loon Lake is located in Stillwater Township (Washington County). The surface area of the lake is 64 acres. It has a mean and maximum depth of 2.4 m (eight feet) and 4.9 m (16 feet), respectively. The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	161.6	116.0	229.0	F
CLA (µg/l)	111.6	60.0	230.0	F
Secchi (m)	0.5	0.2	0.9	F
TKN (mg/l)	3.40	2.60	4.50	
			Lake Grade	F

The lake received a lake grade of F for 2009, which is similar to previous years' lake grades. On the basis of the historical water quality database, this lake appears represented by a lake grade of F.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Loon Lake

Stillwater Twp., Washington Co.

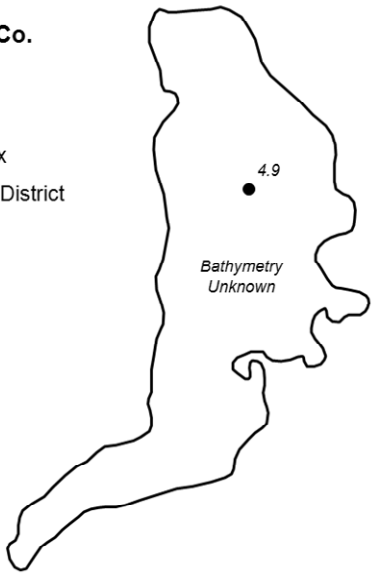
LAKE ID: 820015-02

WD: Carnelian-Marine-St. Croix

Volunteer: Washington Conservation District

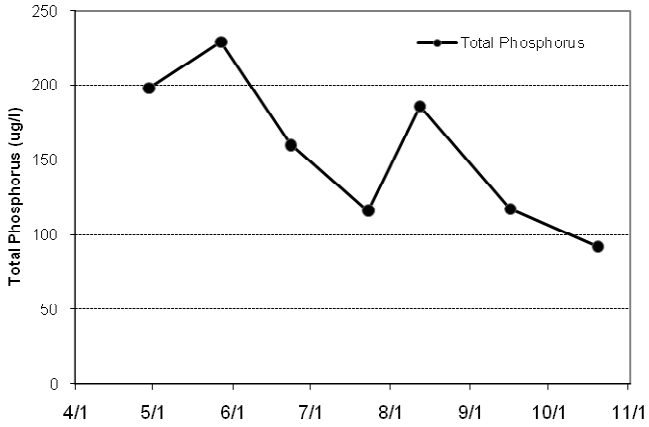
● Sampling site

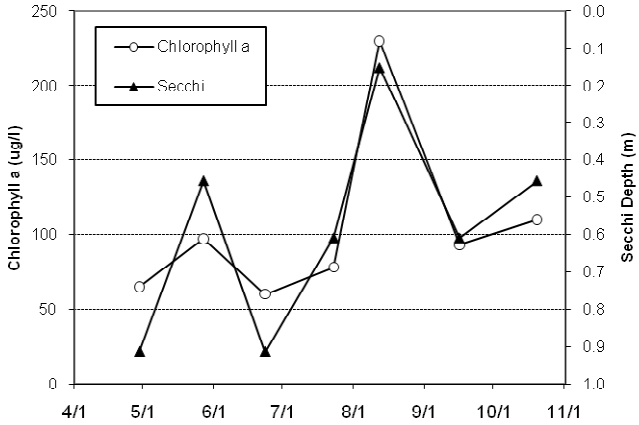
Contours in meters

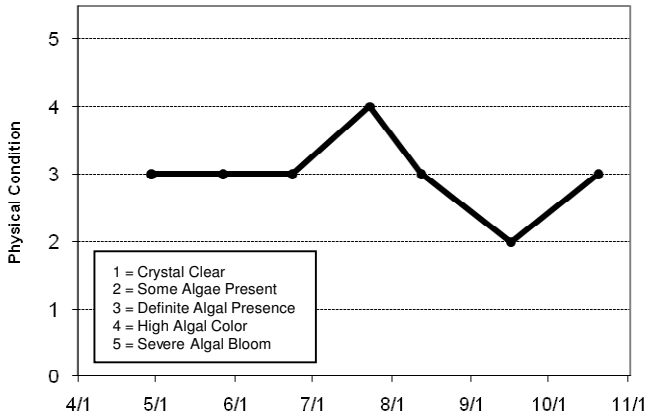


2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/29	13.5	12.4	10.89	0.11	65	198		0.9	3	4
5/27	18.7	17.3	6.14	0.09	97	229		0.5	3	4
6/23	28.2	15.9	9.7	0.05	60	160		0.9	3	4
7/23	24.2	18.6	11.97	0.07	78	116		0.6	4	4
8/12	24.6	21.4	12.3	0.05	230	186		0.2	3	4
9/16	22.5	19.5	6.73	0.1	93	117		0.6	2	2
10/20	8.7	8	11.11	4.6	110	92		0.5	3	2







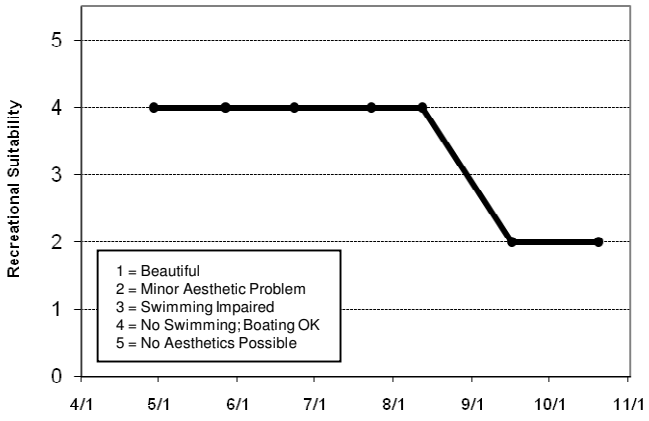
Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus					F	F	F	F	D	D	D	D
Chlorophyll a					D	D	D	D	D	D	D	F
Secchi Depth					F	F	F	F	D	D	F	F
Lake Grade					**F**	**F**	**F**	**F**	**D**	**D**	**D**	**F**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	D	D	F	D	D	F
Chlorophyll a	F	F	F	F	F	F
Secchi Depth	F	F	F	F	F	F
Lake Grade	**F**	**F**	**F**	**F**	**F**	**F**

Source: Metropolitan Council and STORET data



Lotus Lake (10-0006) *City of Chanhassen*

Lotus Lake is located within the City of Chanhassen (Carver County). It is considered a Priority Lake by the Metropolitan Council for its high regional recreation value (METC 2007). It has a surface area of 246 acres. The MN DNR has designated the lake as being infested with Eurasion water milfoil (*Myriophyllum spicatum*).

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	39.5	23.0	100.0	C
CLA (µg/l)	10.7	5.1	23.0	B
Secchi (m)	2.0	1.2	3.0	C
TKN (mg/l)	1.06	0.86	1.40	
			Lake Grade	C

The lake received a lake grade of C for 2009, which is consistent with previous years of lake grades, except for the D lake grade received in 2003. On the basis of the historical water quality database, the water quality of this lake appears represented well by a lake grade of C.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

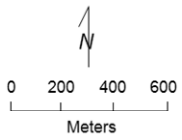
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

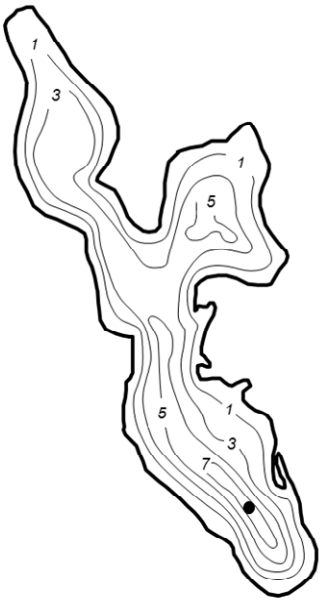
Lotus Lake
Chanhassen, Carver Co.

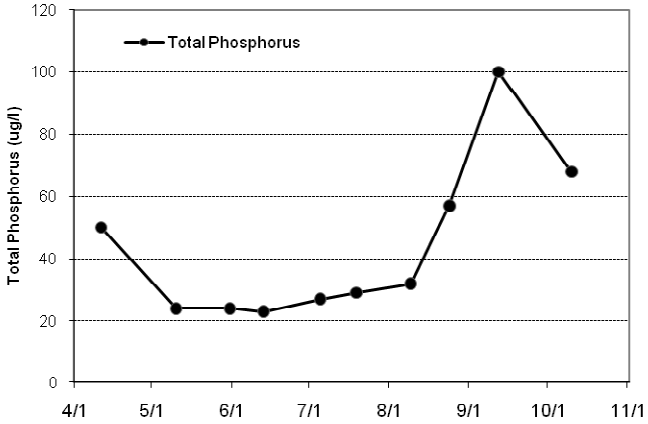
Lake ID: 100006-00
WD: Riley-Purgatory-Bluff Creek
Volunteer: Shelly Strohmaier

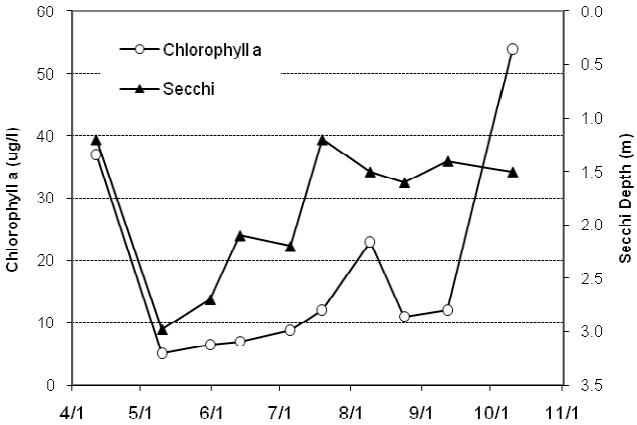
● Sampling site

Contours in meters



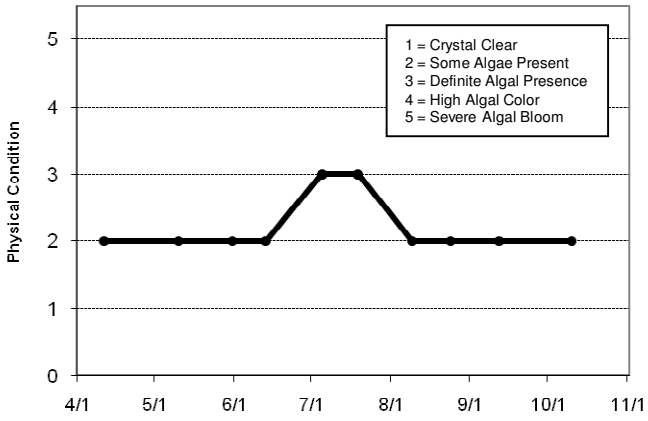






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/11	8.2				37	50		1.2	2	2
5/10	15.9				5.1	24		3.0	2	2
5/31	20.4				6.5	24		2.7	2	2
6/13	20.4				7	23		2.1	2	2
7/5	23.6				8.8	27		2.2	3	3
7/19	21.7				12	29		1.2	3	3
8/9	24.4				23	32		1.5	2	2
8/24	23.1				11	57		1.6	2	2
9/12	24				12	100		1.4	2	2
10/10					54	68		1.5	2	2

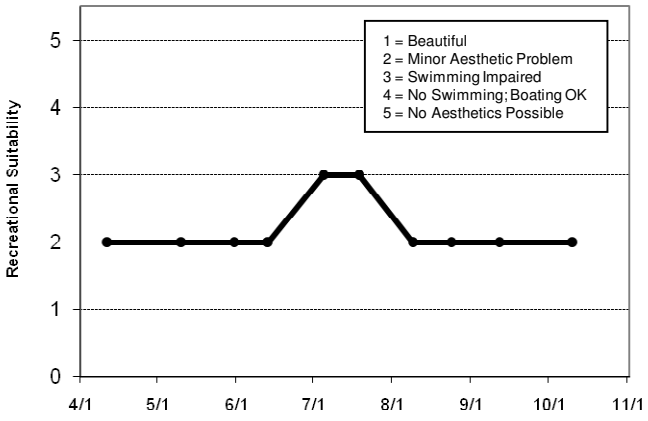


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus						C						
Chlorophyll a						C					C	
Secchi Depth	D					C			D	C	C	C
Lake Grade						**C**						

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus								C	C			D
Chlorophyll a								C	C			C
Secchi Depth								C	C			D
Lake Grade								**C**	**C**			**D**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	C	C	C	C	C	C
Chlorophyll a	C	C	C	C	C	B
Secchi Depth	C	C	C	C	C	C
Lake Grade	**C**	**C**	**C**	**C**	**C**	**C**



Source: Metropolitan Council and STORET data

Louise Lake (82-0025) *Carnelian - Marine - St. Croix Watershed District*

Louise Lake is located in Stillwater Township (Washington County). The lake has a surface area of 48 acres. It has a maximum and mean depth of the lake are 3.7 m (12 ft) and 1.8 m (6 ft), respectively. The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	179.8	105.0	272.0	F
CLA (µg/l)	84.2	3.5	260.0	F
Secchi (m)	1.3	0.2	2.1	C
TKN (mg/l)	2.60	1.70	4.00	
			Lake Grade	D

The lake received a lake grade of D for 2009. The historical water quality database shows that the annual lake grades have varied from Cs to Ds. To better understand the lake's water quality and where it may be heading, more data are needed.

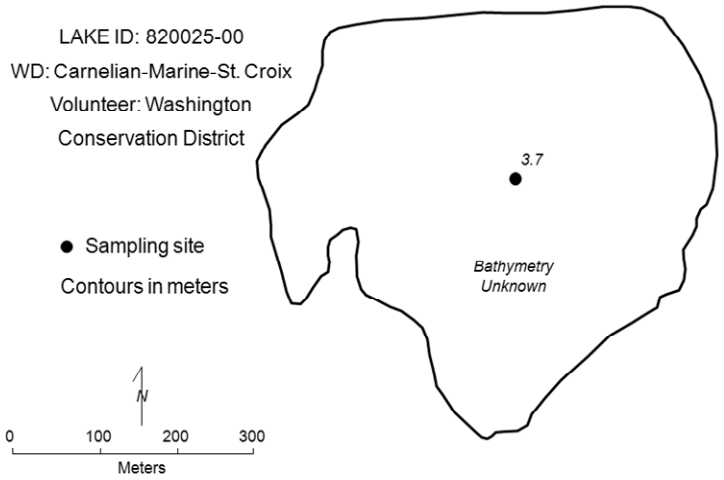
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Lake Louise

Stillwater Twp., Washington Co.

LAKE ID: 820025-00
WD: Carnelian-Marine-St. Croix
Volunteer: Washington Conservation District



2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/29	13	13.1	10.76	0.11	2.1	68		2.1	2	3
5/27	18.6	18.7	9.09	0.55	3.5	105		2.1	2	3
6/23	26.9	19.9	7.65	0.14	7.6	127		2.1	3	4
7/23	24.4	20.1	15.28	0.12	79	151		1.2	3	4
8/12	25.3	21.4	12.99	0.07	260	272		0.2	5	4
9/16	22.4	20.3	4.75	0.1	71	244		0.8	4	3
10/19	8.3	8.2	10.97	0.15	4.2	178		1.8	3	4

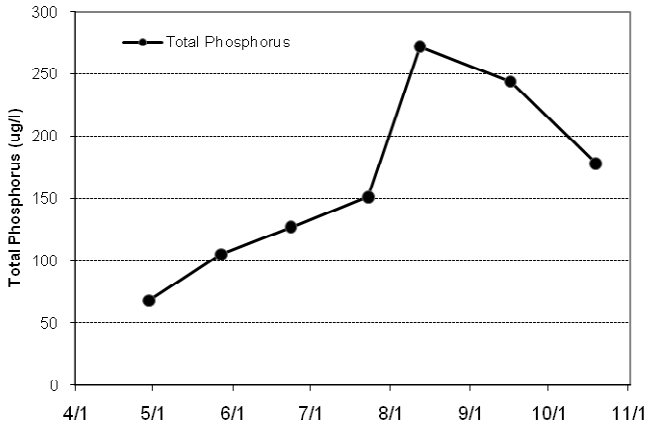
Lake Water Quality Grades Based on Summertime Averages

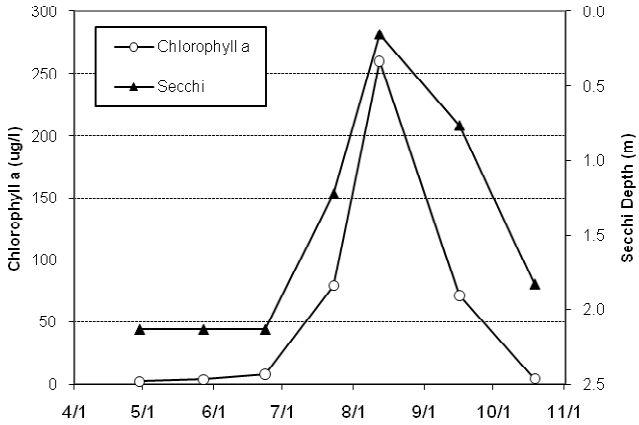
Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

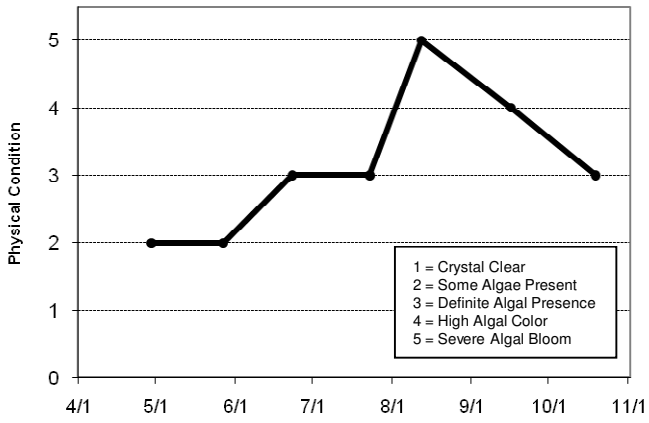
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus					D	D	B	C	D	D	D	
Chlorophyll a					D	D	D	F	B	D	C	
Secchi Depth					B	C	C	C	C	D	D	B
Lake Grade					**C**	**D**	**C**	**D**	**C**	**D**	**D**	

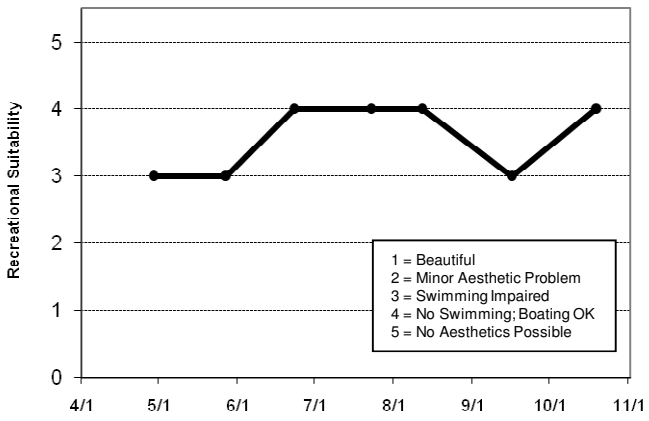
Year	2004	2005	2006	2007	2008	2009
Total Phosphorus					D	F
Chlorophyll a					C	F
Secchi Depth	C	D	D	D	D	C
Lake Grade				**D**	**D**	**D**

Source: Metropolitan Council and STORET data









Lucy Lake (10-0006) *City of Chanhassen*

Lucy Lake is located within the City of Chanhassen (Carver County). It has a surface area of 87 acres and a maximum depth of 6.4 m (21 ft). Ninety nine percent of the lake's surface area is considered littoral zone, which is the 0-15 feet depth zone of aquatic plant dominance. The lake does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the lake's water column. The MN DNR has designated the lake as being infested with Eurasion water milfoil (*Myriophyllum spicatum*).

This was the first year that the lake was part of the CAMP. Historical Secchi depth monitoring was done on the lake prior to 2009 by the MPCA's citizen volunteer program.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	44.9	27.0	73.0	C
CLA (µg/l)	23.5	7.9	49.0	C
Secchi (m)	1.5	0.6	3.0	C
TKN (mg/l)	1.65	1.20	2.00	
			Lake Grade	C

The lake received a lake grade of C for 2009. Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

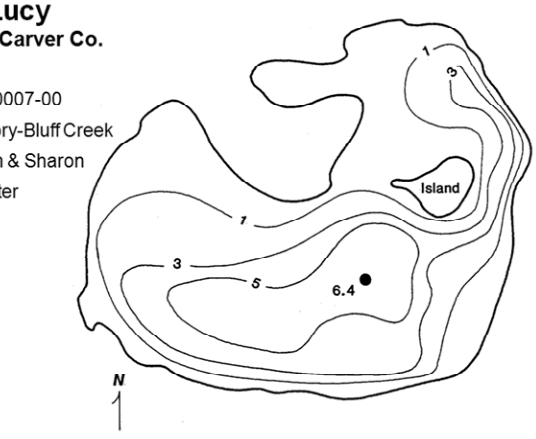
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

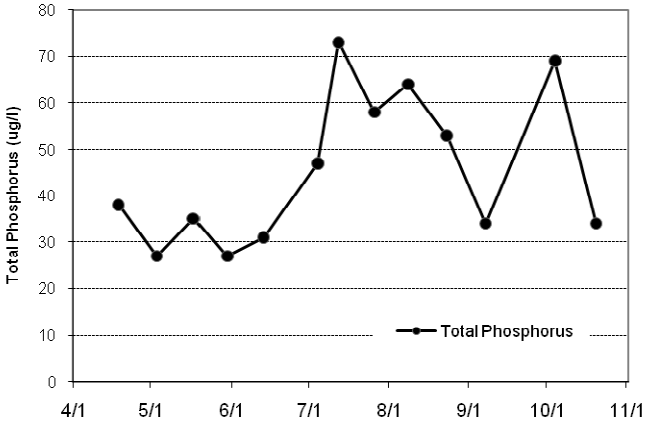
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

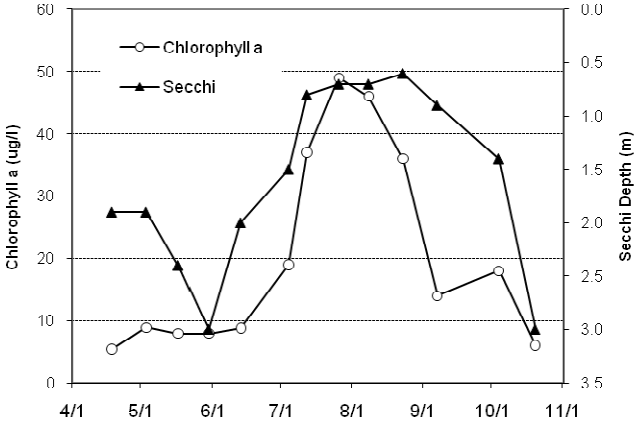
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Lake Lucy
Chanhassen, Carver Co.

Lake ID: 100007-00
WD: Riley-Purgatory-Bluff Creek
Volunteers: Tim & Sharon McCotter

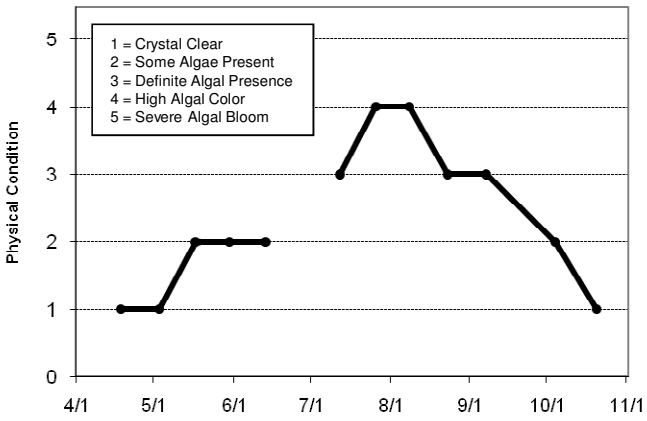






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/18	16				5.4	38		1.9	1	1
5/3	15				8.9	27		1.9	1	1
5/17	15.2				7.9	35		2.4	2	
5/30	19.8				7.9	27		3.0	2	
6/13	19.9				8.8	31		2.0	2	2
7/4	23.4				19	47		1.5		
7/12	25.2				37	73		0.8	3	2
7/26	23				49	58		0.7	4	2
8/8	23.4				46	64		0.7	4	
8/23	23.1				36	53		0.6	3	
9/7	22.6				14	34		0.9	3	3
10/4	12.8				18	69		1.4	2	
10/20	8.6				6	34		3.0	1	1

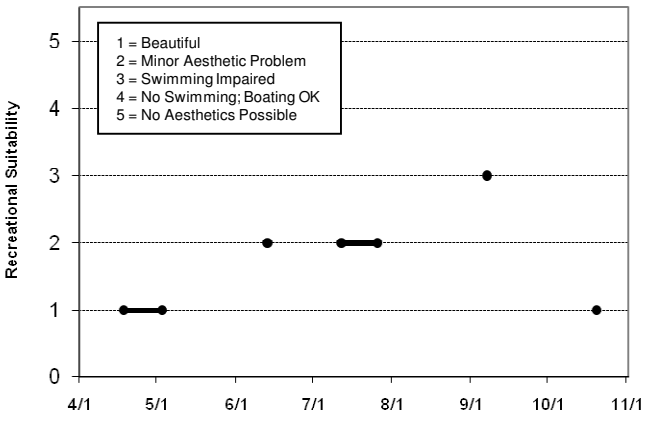


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus						C						
Chlorophyll a						C						
Secchi Depth						C					C	C
Lake Grade						**C**						

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												
Chlorophyll a												
Secchi Depth	C	C	C	C	C	C	D	C	C	C	C	C
Lake Grade												

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus						C
Chlorophyll a						C
Secchi Depth	D	D	C	C	D	C
Lake Grade						**C**



Source: Metropolitan Council and STORET data

Lynch Lake (82-0042) *Browns Creek Watershed District*

Lynch Lake is located in Washington County. It has a surface area of 43 acres. There is little known morphological data available for the lake.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

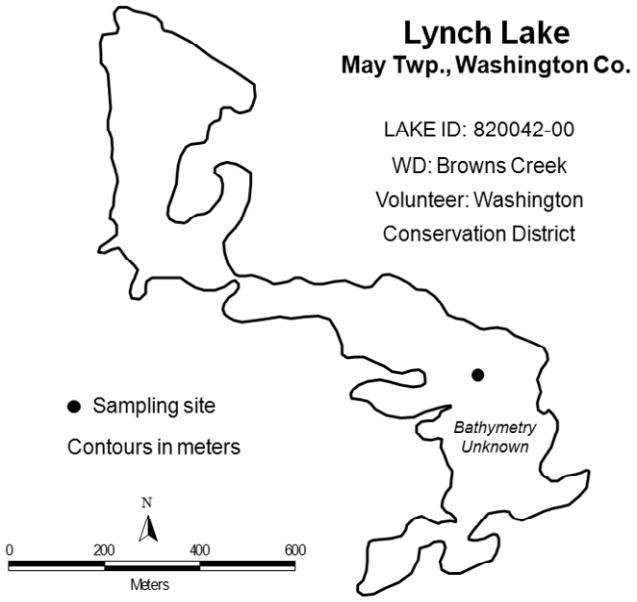
2009 summer (May-September) data summary

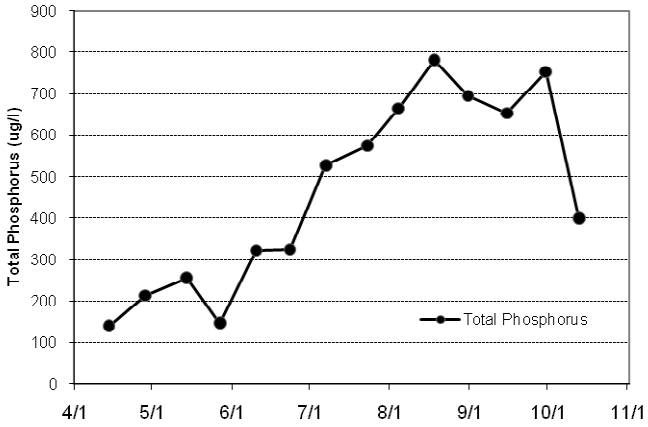
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	517.7	147.0	781.0	F
CLA (µg/l)	542.7	140.0	950.0	F
Secchi (m)	0.2	0.1	0.3	F
TKN (mg/l)	10.03	3.00	15.00	
			Lake Grade	F

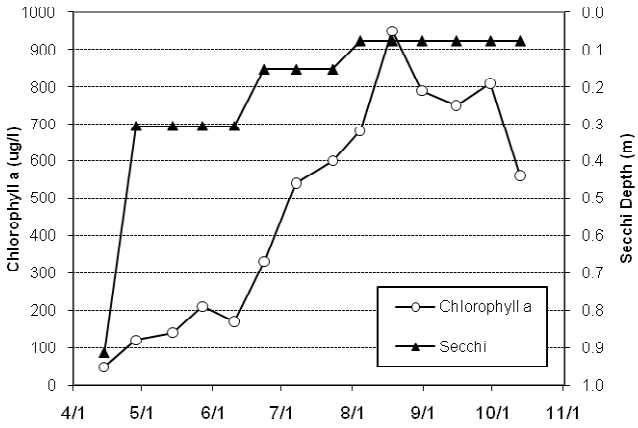
The lake received a lake grade of F for 2009. Further monitoring is suggested to continue to build the water quality database for increasing power to detect water quality trends.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

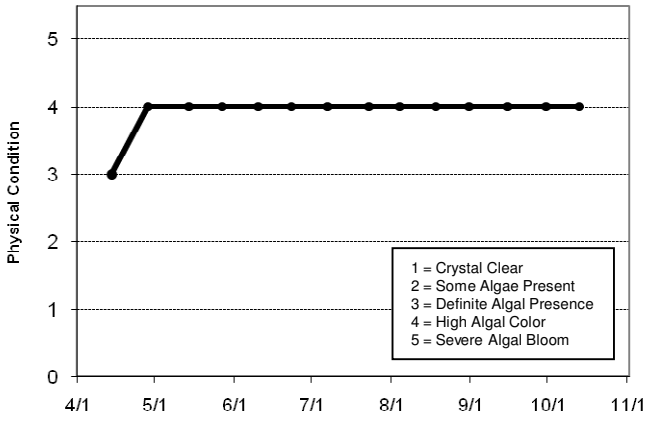






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/14	12.9	12.7	11.68	11.61	48	140		0.9	3	3
4/28	12	11.6	12.37	0.15	120	213		0.3	4	4
5/14	13.8	13.9	8.83	0.11	140	256		0.3	4	4
5/27	17.1	17	8.26	2.96	210	147		0.3	4	4
6/10	16	14.8	7.73	0.11	170	322		0.3	4	4
6/23	28.9	23.6	11.98	0.15	330	324		0.2	4	4
7/7	23.9	22.4	8.43	0.09	540	527		0.2	4	4
7/23	22.4	20.9	10.98	0.11	600	574		0.2	4	4
8/4	25	22.7	11.88	0.26	680	664		0.1	4	4
8/18	21.5	21.7	8.99	0.14	950	781		0.1	4	4
8/31	21.7		13.56		790	695		0.1	4	4
9/15	23.4	21.4	12.23	0.09	750	653		0.1	4	4
9/30	10.2		11.13		810	752		0.1	4	4
10/13	5.3	5.5	11.68	0.11	560	400		0.1	4	4

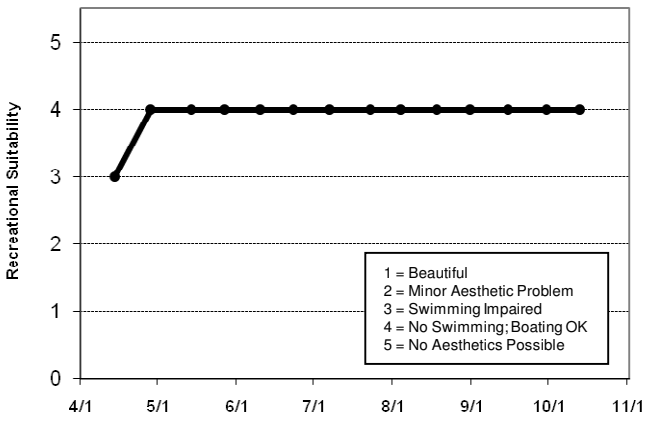


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus			F	F	F	F
Chlorophyll a			F	F	F	F
Secchi Depth			F	F	F	F
Lake Grade			**F**	**F**	**F**	**F**



Source: Metropolitan Council and STORET data

Magda Lake (27-00656) *Shingle Creek Watershed Management Commission*

Magda Lake is located in the City of Brooklyn Park (Hennepin County). Little morphological data is available for the lake.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	106.5	66.0	144.0	D
CLA (µg/l)	51.8	25.0	76.0	D
Secchi (m)	0.5	0.4	0.8	F
TKN (mg/l)	2.05	1.60	2.80	
			Lake Grade	D

The lake received a lake grade of D for 2009, which is consistent with its historical database. Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

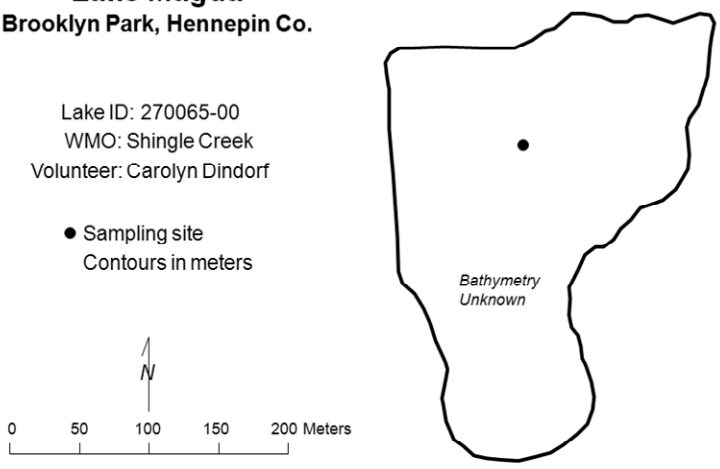
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

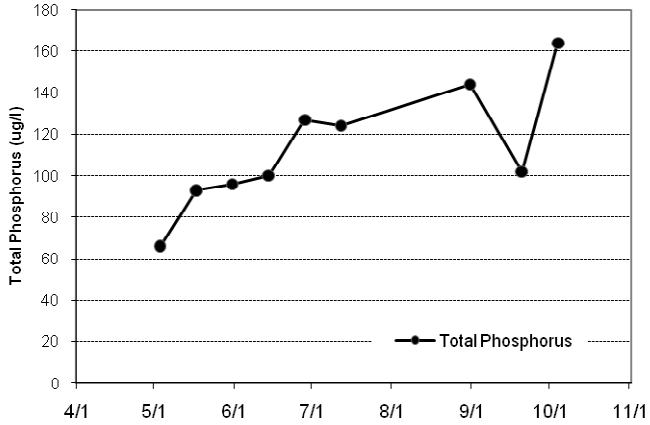
Lake Magda

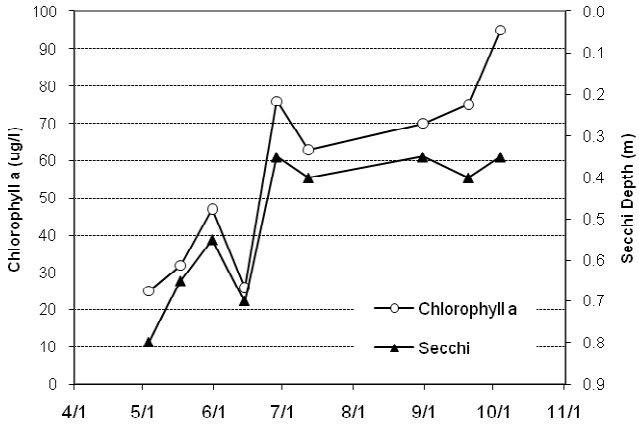
Brooklyn Park, Hennepin Co.

Lake ID: 270065-00
WMO: Shingle Creek
Volunteer: Carolyn Dindorf

● Sampling site
Contours in meters

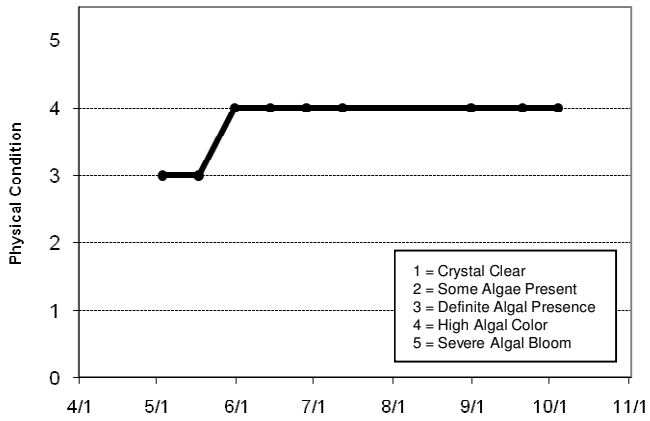






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/3	16.7				25	66		0.8	3	3
5/17	18.6				32	93		0.7	3	3
5/31	21.7				47	96		0.6	4	4
6/14	26.1				26	100		0.7	4	4
6/28	25.2				76	127		0.4	4	4
7/12	24.9				63	124		0.4	4	4
8/31	21				70	144		0.4	4	4
9/20	23				75	102		0.4	4	4
10/4	11				95	164		0.4	4	4

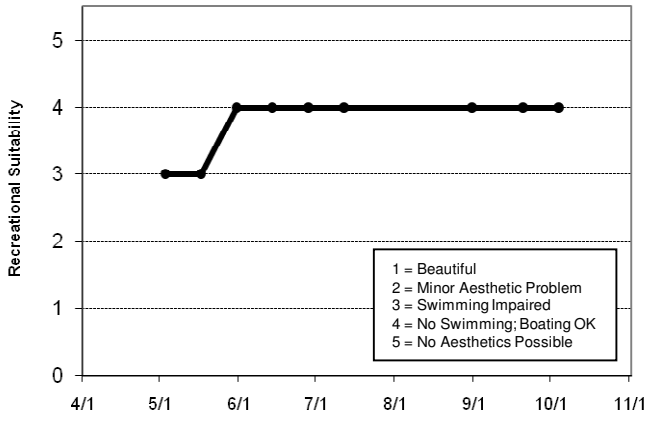


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus								D	D			F
Chlorophyll a								D	C			F
Secchi Depth								F	F			F
Lake Grade								**D**	**D**			**F**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus			F			D
Chlorophyll a			F			D
Secchi Depth			F			F
Lake Grade			**F**			**D**



Source: Metropolitan Council and STORET data

Marion Lake (19-0026) *City of Lakeville*

Marion Lake is located in the City of Lakeville (Dakota County). It is considered a Priority Lake by the Metropolitan Council for its high regional recreation value (METC 2007). It has a surface area of approximately 560 acres, and has a maximum depth of 6.4 m (21 feet). The MN DNR has designated the lake as being infested with Eurasion water milfoil (*Myriophyllum spicatum*). The lake gets heavy use by area fishermen and other lake users during the winter and summer months.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

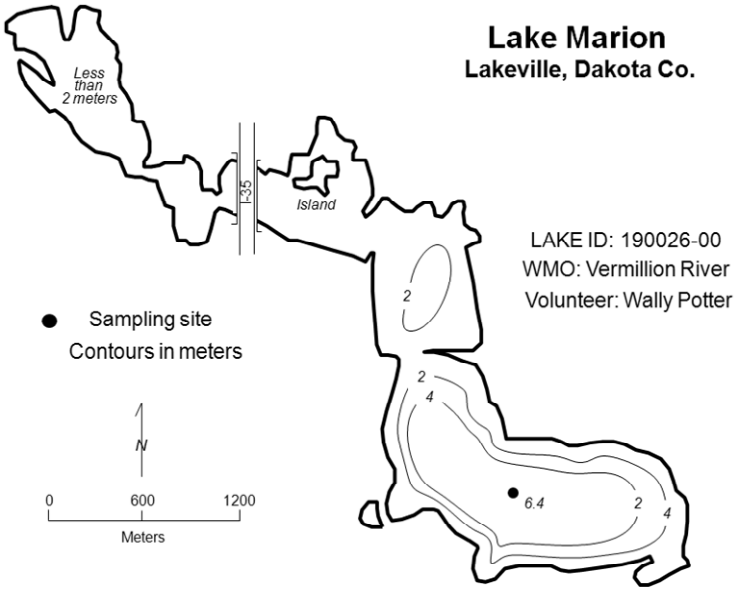
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	52.5	20.0	115.0	C
CLA (µg/l)	29.2	3.9	88.0	C
Secchi (m)	1.9	1.0	3.1	C
TKN (mg/l)	1.28	0.86	1.90	
			Lake Grade	C

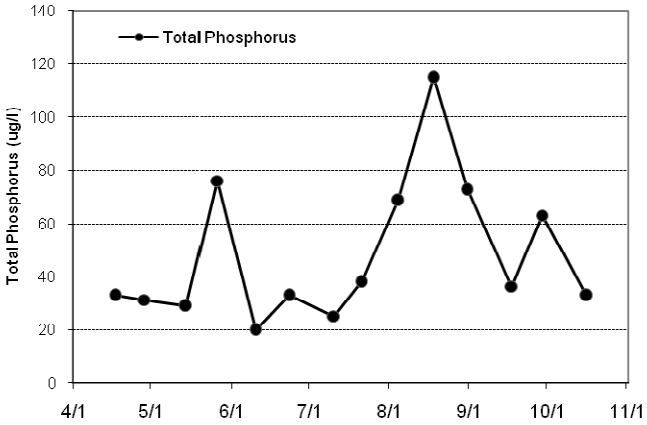
The lake received a lake grade of C for 2009, which is consistent with recent lake grades. On the basis of the historical water quality database, the surface water quality of the lake has varied from Bs to a D, with Cs being most common. Further monitoring is suggested to continue to build the water quality database for increasing power to detect water quality trends.

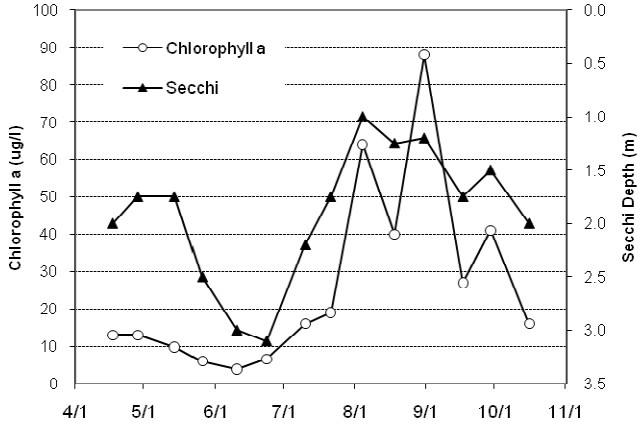
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

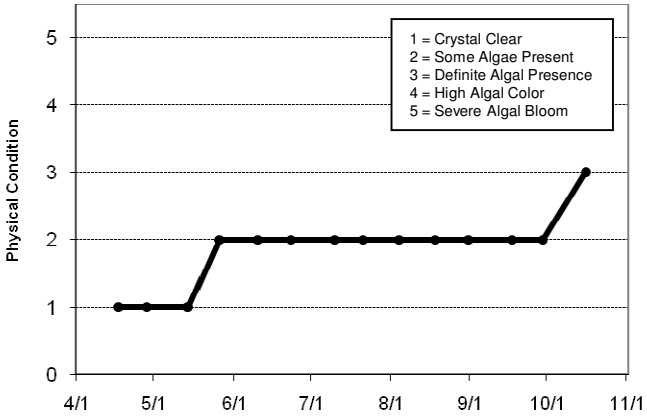






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/17	11.3				13	33		2.0	1	1
4/28	12.4				13	31		1.8	1	1
5/14	15.2				9.8	29		1.8	1	1
5/26	18.6				6	76		2.5	2	1
6/10	17.4				3.9	20		3.0	2	1
6/23	26.4				6.6	33		3.1	2	1
7/10	24.1				16	25		2.2	2	1
7/21	24.7				19	38		1.8	2	1
8/4	23.8				64	69		1.0	2	1
8/18	24.5				40	115		1.3	2	1
8/31	22.2				88	73		1.2	2	1
9/17	23.8				27	36		1.8	2	1
9/29	17.6				41	63		1.5	2	1
10/16	8.5				16	33		2.0	3	1

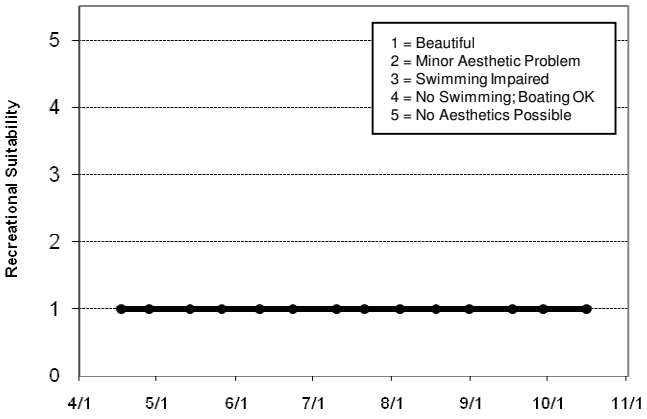


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus	C	C		C				C		C		
Chlorophyll a	C	D		C				C		C		
Secchi Depth	C	D		B				C		C	C	C
Lake Grade	**C**	**D**		**C**				**C**		**C**		

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus			B					B	B	B	C	B
Chlorophyll a			A					B	A	B	B	C
Secchi Depth			B					C	B	B	C	C
Lake Grade			**B**					**B**	**B**	**B**	**C**	**C**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	C	C	C	C	C	C
Chlorophyll a	C	C	C	C	C	C
Secchi Depth	C	C	C	C	B	C
Lake Grade	**C**	**C**	**C**	**C**	**C**	**C**



Source: Metropolitan Council and STORET data

Markgrafs Lake (82-0089) *City of Woodbury*

Markgrafs Lake is located within the City of Woodbury (Washington County). It has a surface area of approximately 46 acres, and a maximum depth of 2.4 m (8 feet). The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column. The lake has a piped outlet on the southern end. Downstream from the outlet is a valve that can direct the overflow to either Powers or Wilmes lakes. The lake is used by the MDNR Fisheries as a rearing pond for walleyes.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	238.7	168.0	341.0	F
CLA (µg/l)	79.2	51.0	95.0	F
Secchi (m)	0.4	0.3	0.4	F
TKN (mg/l)	3.88	2.70	4.60	
			Lake Grade	F

The lake received a lake grade of F for 2009. Over the past decade, the lake grades have varied back and forth in the D and F range.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

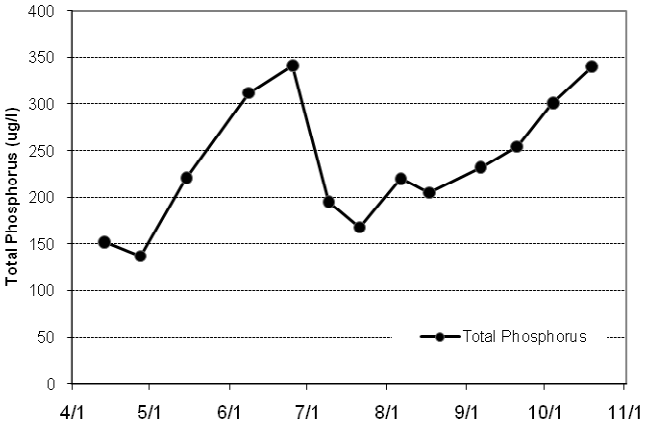
Markgrafs Lake

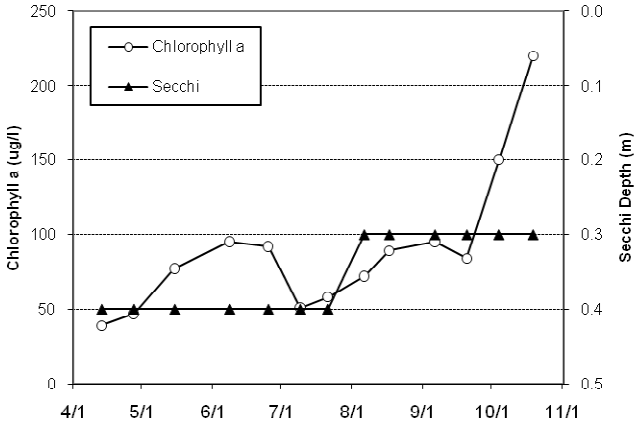
Woodbury, Washington Co.

Lake ID: 820089-00
WD: South Washington
Volunteer: Terry Riley

- Sampling site

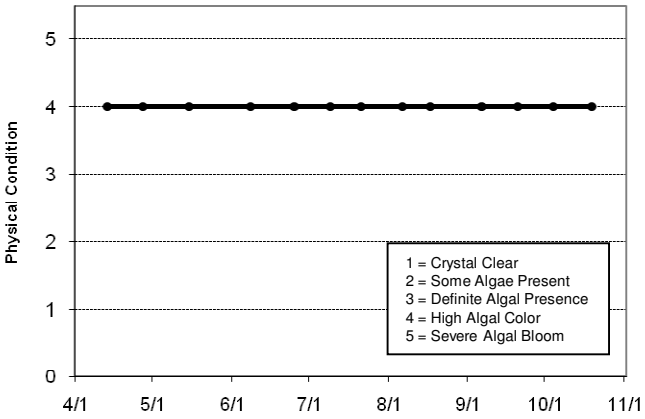
Contours in meters





2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/13	17.1				39	152		0.4	4	4
4/27	18.7				47	137		0.4	4	4
5/15	18.1				77	221		0.4	4	4
6/8	17.2				95	312		0.4	4	4
6/25	17				92	341		0.4	4	4
7/9	24.7				51	195		0.4	4	4
7/21	25.3				58	168		0.4	4	4
8/6	25.1				72	220		0.3	4	4
8/17	22.3				89	205		0.3	4	4
9/6	21.8				95	232		0.3	4	4
9/20	18.6				84	254		0.3	4	4
10/4	10.1				150	301		0.3	4	4
10/19	8.4				220	340		0.3	4	4

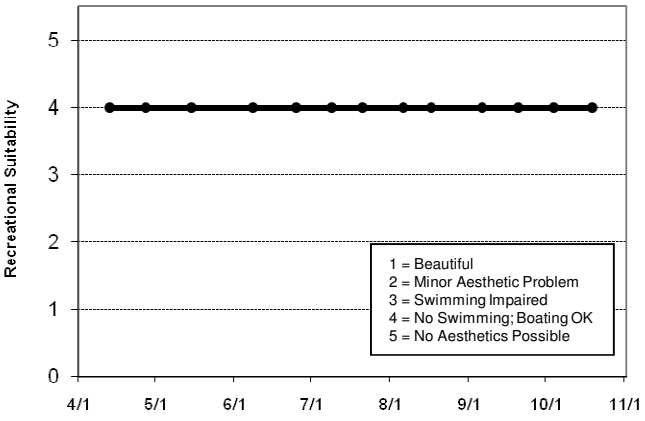


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus			D	C	D	D	F	D	D	F	F	D
Chlorophyll a			C	B	B	C	F	C	C	C	C	C
Secchi Depth			D	C	C	D	F	D	C	D	F	D
Lake Grade			**D**	**C**	**C**	**D**	**F**	**D**	**C**	**D**	**D**	**D**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	D	D	F	D	D	F
Chlorophyll a	D	C	D	D	D	F
Secchi Depth	F	F	F	F	F	F
Lake Grade	**D**	**D**	**F**	**D**	**D**	**F**



Source: Metropolitan Council and STORET data

Masterman Lake (82-0126) *Browns Creek Watershed District*

Masterman Lake is located in Grant Township (Washington County). It has a surface area of 45 acres. There is very little known morphological data available for the lake.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

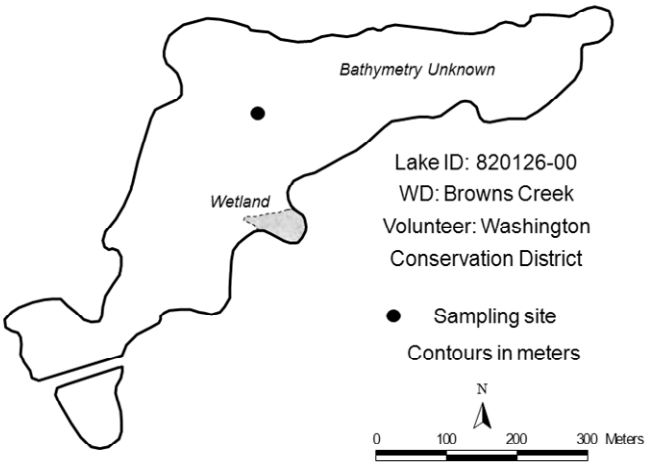
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	44.1	31.0	70.0	C
CLA (µg/l)	10.6	5.9	16.0	B
Secchi (m)	2.0	1.8	2.3	C
TKN (mg/l)	1.08	0.96	1.30	
			Lake Grade	C

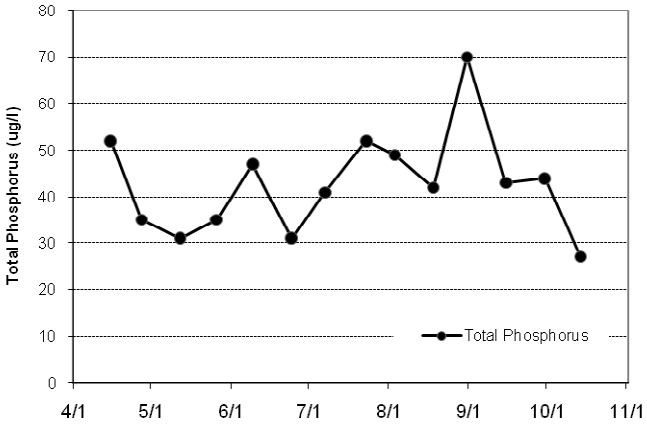
The lake received a lake grade of C for 2009, which is similar to the lake grades received in the previous three years. Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

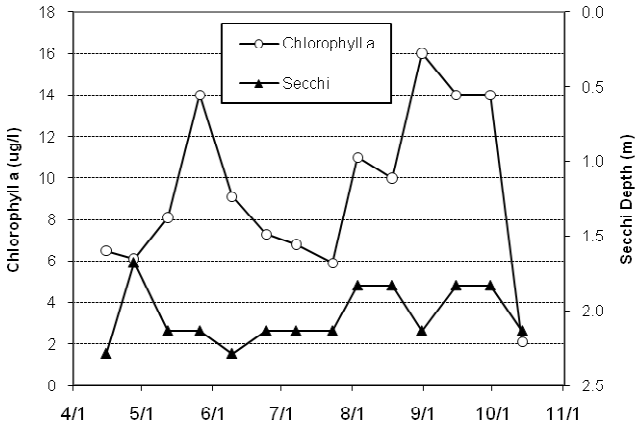
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Masterman Lake
Grant, Washington Co.

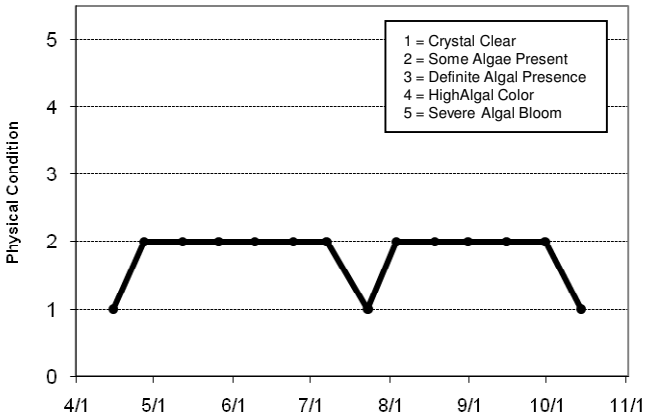






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/15	12.1	10.2	10.97	7.54	6.5	52		2.3	1	1
4/27	12.8	12.8	9.35	0.98	6.1	35		1.7	2	2
5/12	16.1	15.9	9.21	2.46	8.1	31		2.1	2	3
5/26	20.6	20.3	8.33	1.38	14	35		2.1	2	2
6/9	15.9	15.7	5.04	4.33	9.1	47		2.3	2	2
6/24	27.4	25.3	7.3	1.63	7.3	31		2.1	2	2
7/7	24.5	23.2	7.98	0.49	6.8	41		2.1	2	2
7/23	22.6	22.1	7.61	1.17	5.9	52		2.1	1	1
8/3	24.2	22.5	7.27	0.95	11	49		1.8	2	3
8/18	23.8	23.6	4.1	2.25	10	42		1.8	2	2
8/31	21.8	20.3	5.87	4.03	16	70		2.1	2	2
9/15	25.4	23.3	6.77	1.29	14	43		1.8	2	2
9/30	13.8	14	6.68	5.69	14	44		1.8	2	2
10/14	6.3	6.3	10.19	9.42	2.1	27		2.1	1	1

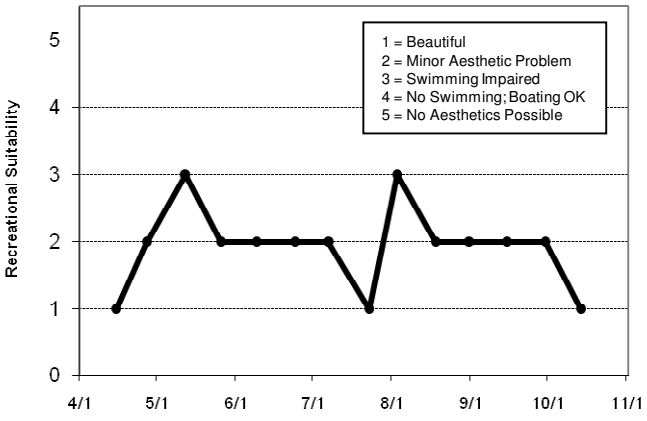


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus			C	C	C	C
Chlorophyll a			B	B	B	B
Secchi Depth			C	C	C	C
Lake Grade			**C**	**C**	**C**	**C**



Source: Metropolitan Council and STORET data

Mays Lake (82-0033) *Carnelian-Marine Watershed District*

Mays Lake is located in Mays Township (Washington County). The lake has a surface area of 25 acres, and a maximum depth of 7.6 m (25 ft). Approximately 92 percent of the lake's surface area is considered littoral zone, which is the 0-15 feet depth zone of aquatic plant dominance. 2008 was the second year that Mays Lake was involved in the CAMP.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	17.7	8.0	38.0	A
CLA (µg/l)	2.8	1.4	5.0	A
Secchi (m)	5.8	4.8	6.3	A
TKN (mg/l)	0.63	0.51	0.80	
			Lake Grade	A

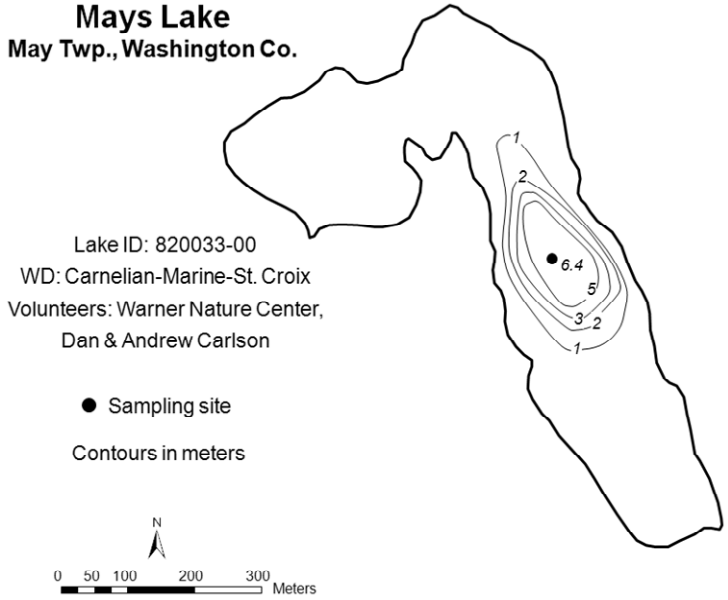
The lake received a lake grade of A for 2009. This lake has the distinction as being the second best lake for water quality in the 2009 CAMP. Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

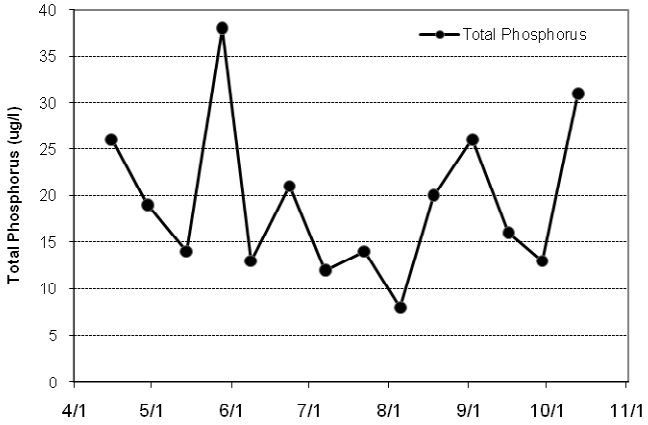
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

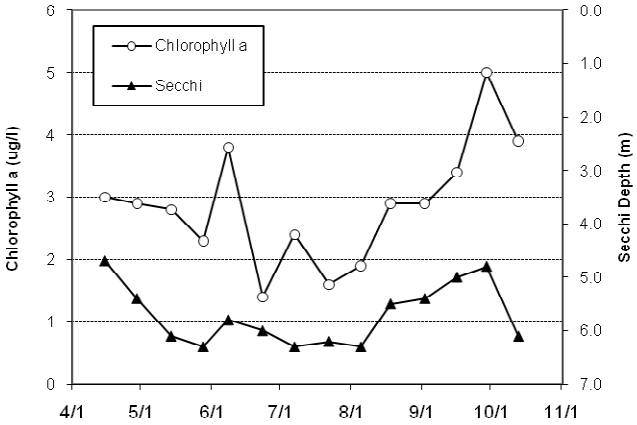
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

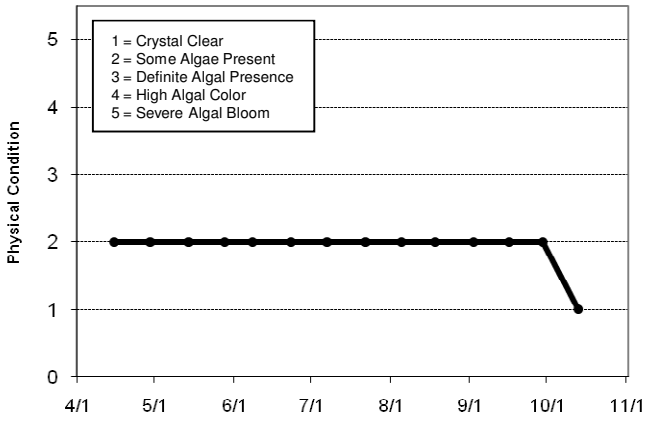
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

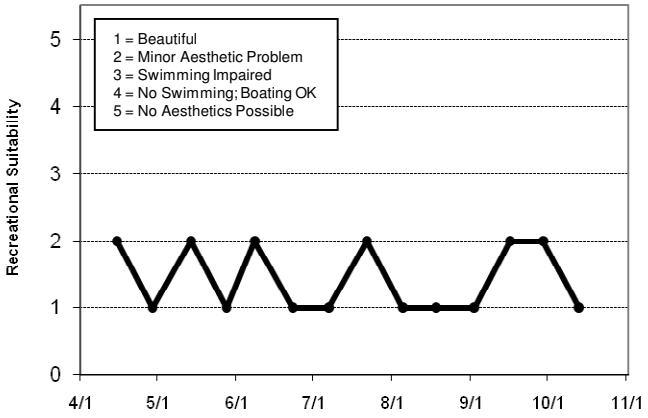
Mays Lake
May Twp., Washington Co.











2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	**(ºC)**	**(ºC)**	**(mg/L)**	**(mg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(m)**	**PC**	**RS**
4/15	12.1				3	26		4.7	2	2
4/29	13.1				2.9	19		5.4	2	1
5/14	15.3				2.8	14		6.1	2	2
5/28	19.7				2.3	38		6.3	2	1
6/8	18				3.8	13		5.8	2	2
6/23	28.4				1.4	21		6.0	2	1
7/7	26.2				2.4	12		6.3	2	1
7/22	24.6				1.6	14		6.2	2	2
8/5	23.8				1.9	8		6.3	2	1
8/18	25.4				2.9	20		5.5	2	1
9/2	22.4				2.9	26		5.4	2	1
9/16	24.2				3.4	16		5.0	2	2
9/29	17.6				5	13		4.8	2	2
10/13	9.2				3.9	31		6.1	1	1

Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus					A	A
Chlorophyll a					A	A
Secchi Depth					A	A
Lake Grade					**A**	**A**

Source: Metropolitan Council and STORET data

McDonald Lake (82-0010) *Valley Branch Watershed District*

McDonald Lake is a 54-acre land-locked (no outlet) lake located within Baytown Township (Washington County). The mean and maximum depth of the lake is 1.8 m (nearly 6 feet) and 3.7 m (roughly 12 feet). The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and Secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the next page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	50.2	40.0	59.0	C
CLA (µg/l)	18.0	4.9	37.0	B
Secchi (m)	1.8	1.1	2.9	C
TKN (mg/l)	1.04	0.88	1.30	
			Lake Grade	C

The lake's 2009 lake grade of C is consistent with its historical database. The lake's water quality seems well represented by a lake grade of C, with some variation from year to year.

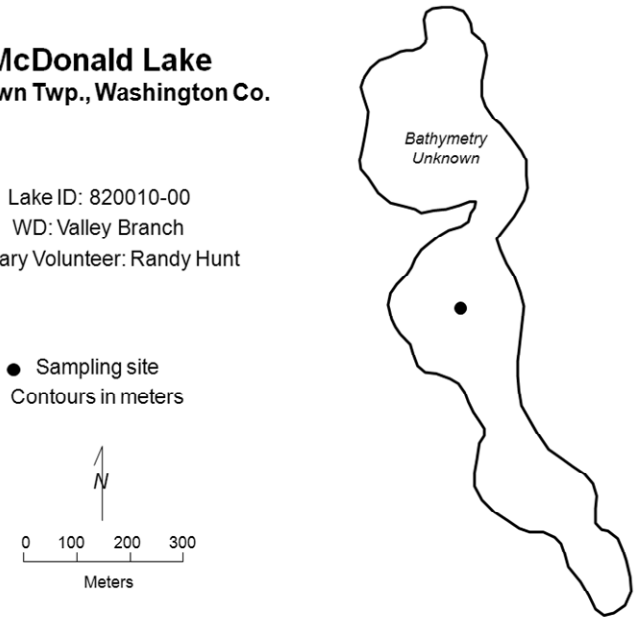
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

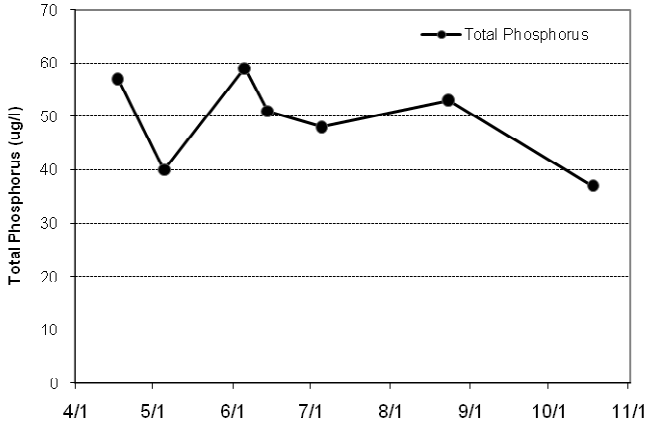
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

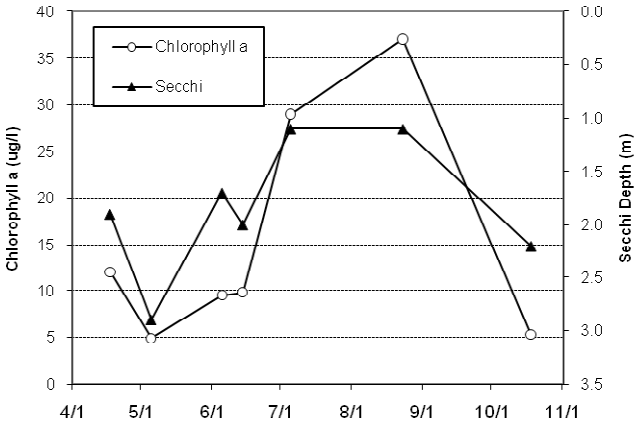
McDonald Lake

Baytown Twp., Washington Co.

Lake ID: 820010-00
WD: Valley Branch
Primary Volunteer: Randy Hunt

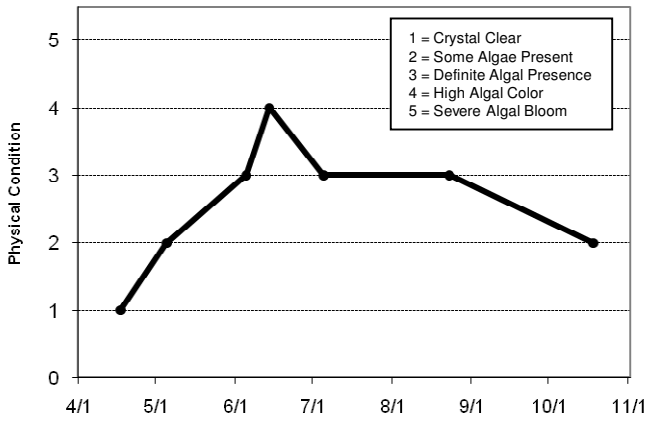






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/17	13.8				12	57		1.9	1	2
5/5	16				4.9	40		2.9	2	2
6/5	18.5				9.5	59		1.7	3	4
6/14	25.1				9.8	51		2.0	4	4
7/5	24.5				29	48		1.1	3	4
8/23	23.8				37	53		1.1	3	4
10/18	7.8				5.3	37		2.2	2	4

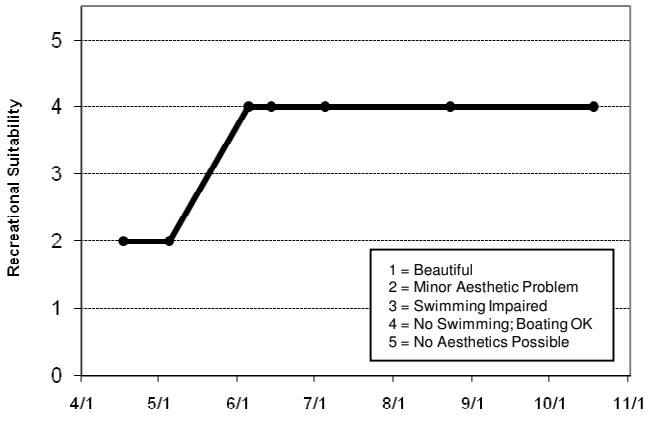


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus								C		C	C	C
Chlorophyll a								B		C	C	C
Secchi Depth							C	C	C	C	C	C
Lake Grade								**C**		**C**	**C**	**C**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	C	C	C	C	C	C
Chlorophyll a	B	B	C	F	C	B
Secchi Depth	B	C	C	C	C	C
Lake Grade	**B**	**C**	**C**	**D**	**C**	**C**



Source: Metropolitan Council and STORET data

McKnight Lake (10-0216) *Carver County Environmental Services*

McKnight Lake is a small lake located in Carver County. There is very little known morphological data available for the lake.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	211.4	132.0	291.0	F
CLA (µg/l)	99.2	25.0	160.0	F
Secchi (m)	0.4	0.2	0.8	F
TKN (mg/l)	3.11	1.90	3.70	
			Overall Grade	F

The lake received a lake grade of F for 2009, which is similar to previous years' lake grades. Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

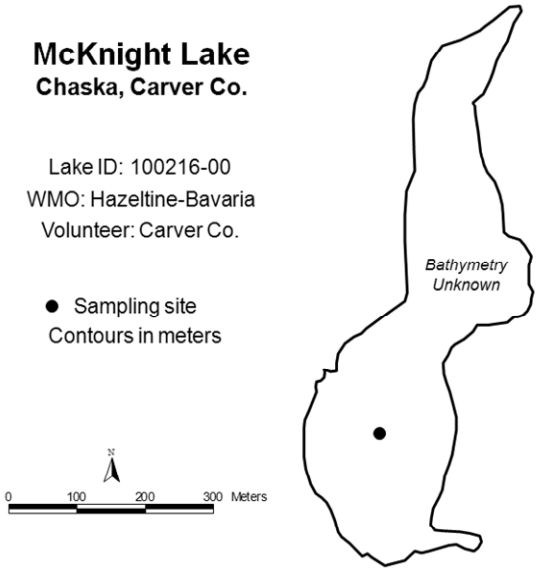
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

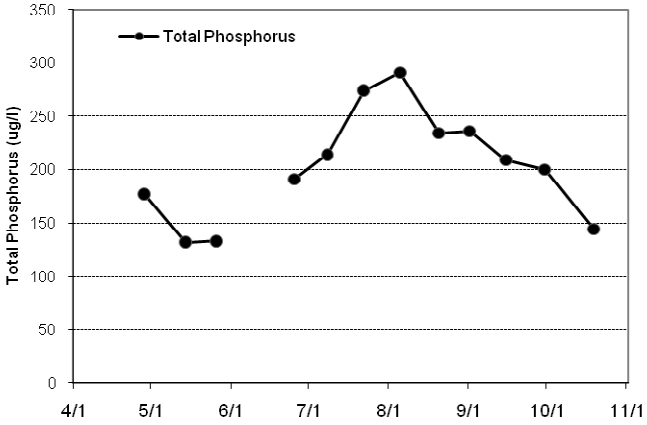
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

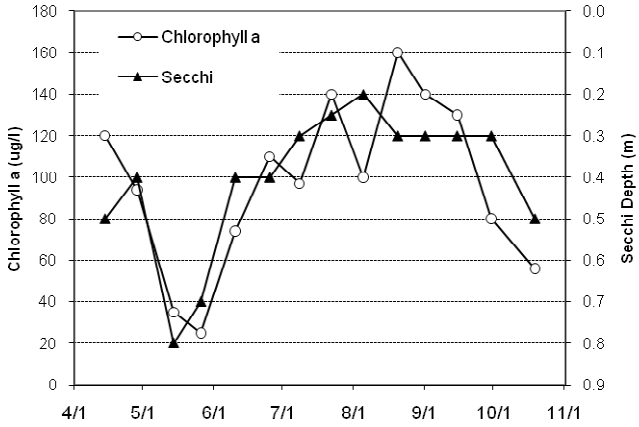
McKnight Lake
Chaska, Carver Co.

Lake ID: 100216-00
WMO: Hazeltine-Bavaria
Volunteer: Carver Co.

● Sampling site
Contours in meters

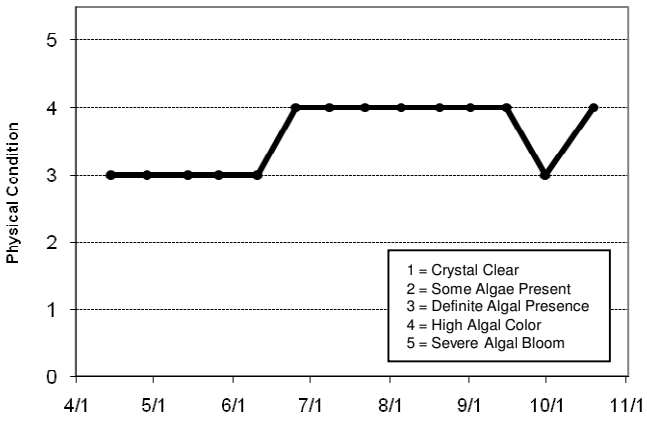






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/14	10.66		14.8		120			0.5	3	3
4/28	13.3		11.4		94	177		0.4	3	3
5/14	17.33		7.12		35	132		0.8	3	4
5/26	20.31		7.09		25	133		0.7	3	4
6/10	16.7		11.34		74			0.4	3	4
6/25	26.2		14.7		110	191		0.4	4	4
7/8	24.02		14.1		97	214		0.3	4	4
7/22	21.76		10.65		140	274		0.3	4	4
8/5	23		9.45		100	291		0.2	4	5
8/20	21.95		4.9		160	234		0.3	4	4
9/1	21.35		10.6		140	236		0.3	4	4
9/15	24.55		12.7		130	209		0.3	4	4
9/30	15.5		6.32		80	200		0.3	3	3
10/19	8.37		9.43		56	144		0.5	4	4

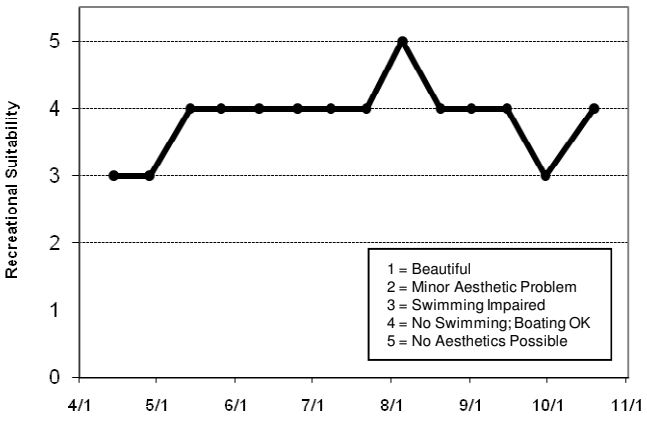


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus			F		F	F
Chlorophyll a			D		F	F
Secchi Depth			F		F	F
Lake Grade			**F**		**F**	**F**



Source: Metropolitan Council and STORET data

McKusick Lake (82-0020) *Middle St. Croix Watershed Management Organization*

Lake McKusick is located in the City of Stillwater (Washington County). The lake has surface area of 46 acres, and a maximum depth of 4.7 m (15 ft). The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

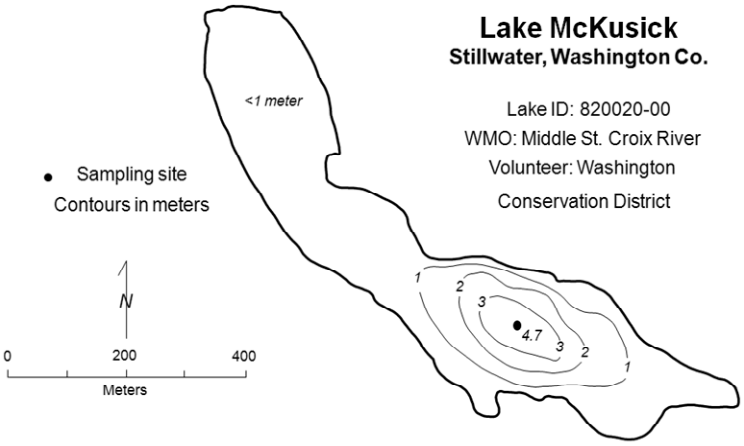
2009 summer (May-September) data summary

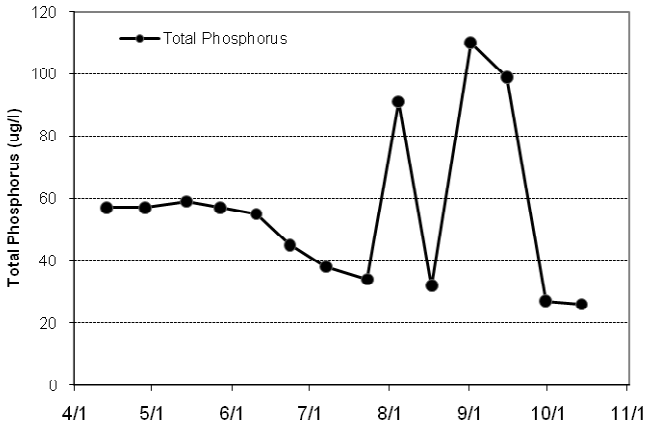
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	58.8	27.0	110.0	C
CLA (µg/l)	8.7	4.7	15.0	A
Secchi (m)	2.6	1.7	3.4	B
TKN (mg/l)	1.17	0.93	1.70	
			Lake Grade	B

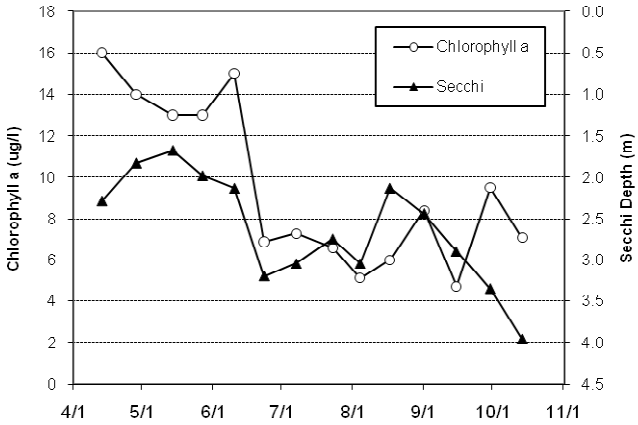
The lake received a lake grade of B for 2009, which is similar to lake grades received in some past years. The lake grades over the past 15 years have varied from C to D range. The historical water quality database suggests that the lake has been represented by a lake grade of C or B for the past 10 years. The lake has not received a D lake grade since 1999.

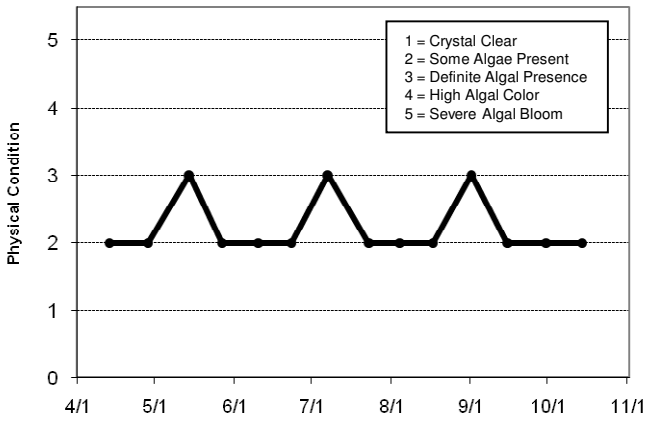
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

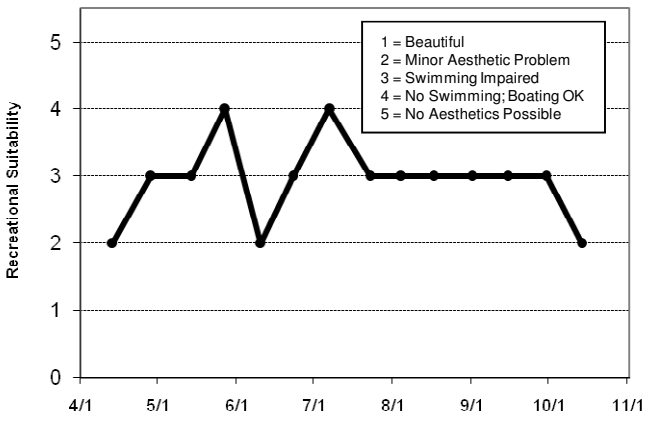
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.











2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/13	11.9	7.7	10.39	0.19	16	57		2.3	2	2
4/28	13.7	12	10.73	0.11	14	57		1.8	2	3
5/14	14.6	14.3	8.46	0.13	13	59		1.7	3	3
5/27	18.6	14.6	9.65	0.11	13	57		2.0	2	4
6/10	17	15.2	8.95	0.2	15	55		2.1	2	2
6/23	27.4	15.9	8.59	0.11	6.9	45		3.2	2	3
7/7	25.2	18.9	11.92	0.11	7.3	38		3.0	3	4
7/23	23.7	19.3	10.83	0.17	6.6	34		2.7	2	3
8/4	24.3	20.8	9.97	0.11	5.1	91		3.0	2	3
8/17	26	20.9	7.61	0.05	6	32		2.1	2	3
9/1	20.6	19	9.26	2.69	8.4	110		2.4	3	3
9/15	23.2	19.1	10.17	0.08	4.7	99		2.9	2	3
9/30	14.4	14.4	9.66	0.08	9.5	27		3.4	2	3
10/14	6.7	6.7	12.89	0.11	7.1	26		4.0	2	2

Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus			D	D	D	C	D	D	C	C	C	C
Chlorophyll a			D	C	C	C	D	D	B	B	C	B
Secchi Depth			D	D	D	C	D	D	B	B	D	C
Lake Grade			**D**	**D**	**D**	**C**	**D**	**D**	**B**	**B**	**C**	**C**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	C	C	C	C	C	C
Chlorophyll a	A	B	B	B	B	A
Secchi Depth	B	C	C	C	C	B
Lake Grade	**B**	**C**	**C**	**C**	**C**	**B**

Source: Metropolitan Council and STORET data

McMahon Lake (70-0050) *Scott County Watershed Management Organization*

McMahon Lake, also known as Carl's Lake, is located in Spring Lake Township (Scott County). The lake has a surface area of 110 acres and a maximum depth of 4.5 m (14 feet). The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column. The MN DNR has designated the lake as being infested with Eurasion water milfoil (*Myriophyllum spicatum*).

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	57.5	6.0	140.0	C
CLA (µg/l)	36.1	3.2	80.0	C
Secchi (m)	1.1	0.3	2.0	D
TKN (mg/l)	1.56	0.50	3.20	
			Lake Grade	C

The lake received a lake grade of C for 2009, which is similar to the lake grade received in 2007. The lake historically has been characterized as a D lake. But recent monitoring has shown improvements to the C grade on occasion. Continued monitoring is suggested to determine if there are trends in the lake's water quality.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

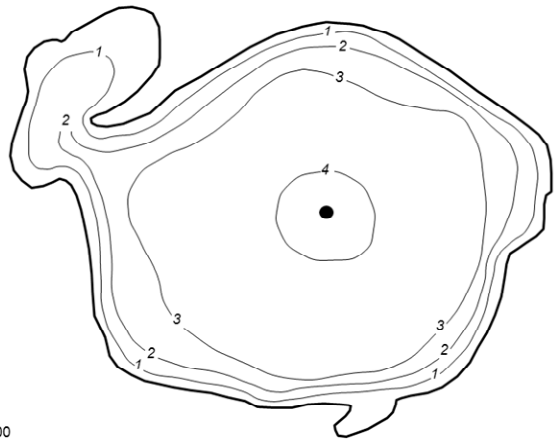
McMahon Lake

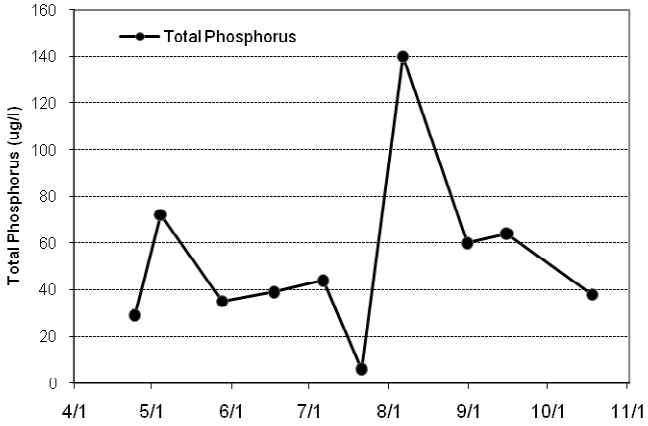
Spring Lake Twp., Scott Co.

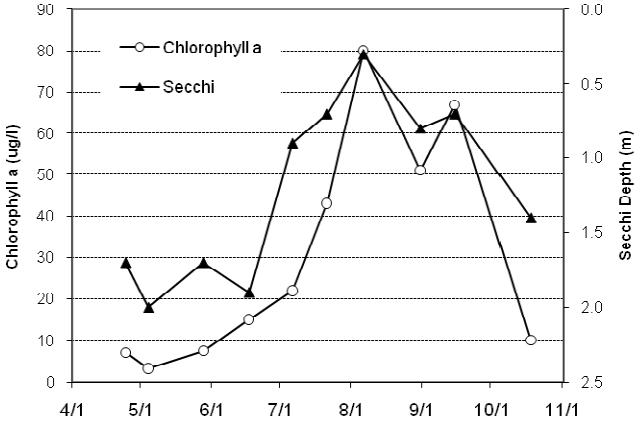
Lake ID: 700050-00
WMO: Sand Creek
Volunteers:
Joe & Diane Williamson

● Sampling site

Contours in meters

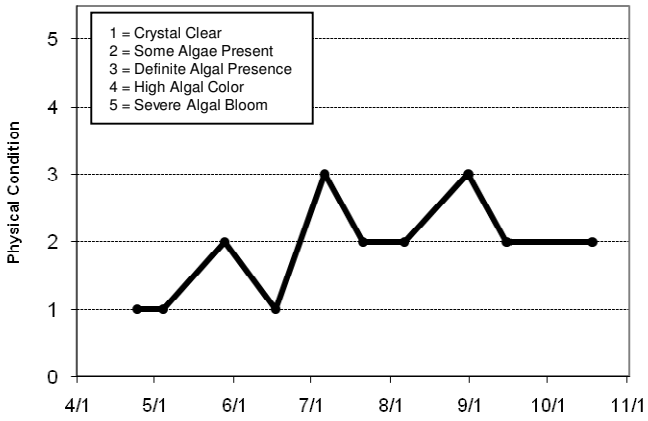






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/24	13.9				7.1	29		1.7	1	1
5/4					3.2	72		2.0	1	1
5/28	18.8				7.5	35		1.7	2	1
6/17	21				15	39		1.9	1	1
7/6	25				22	44		0.9	3	1
7/21	21				43	6		0.7	2	1
8/6	25.3				80	140		0.3	2	2
8/31	21.3				51	60		0.8	3	2
9/15	26				67	64		0.7	2	2
10/18	8.5				10	38		1.4	2	1

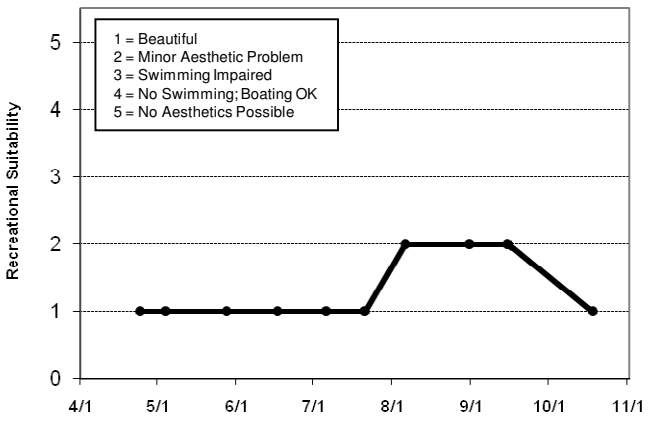


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus	F				D							
Chlorophyll a	F				D							
Secchi Depth	C				D							
Lake Grade	**D**				**D**							

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus				D			D			D		
Chlorophyll a				D			D			D		
Secchi Depth				C			D			D		
Lake Grade				**D**			**D**			**D**		

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus		D	C	C	D	C
Chlorophyll a		F	D	C	C	C
Secchi Depth		D	D	D	D	D
Lake Grade		**D**	**D**	**C**	**D**	**C**



Source: Metropolitan Council and STORET data

Mergen's Pond (82-0482) *Washington Conservation District*

Mergen's Pond is located in the West Lakeland Township (Washington County). The lake has a surface area of 12 acres. The maximum depth of the lake is 1.3 m (4.3 ft). Because of the shallowness of the lake, the entire area is considered littoral zone which is the area of aquatic plant dominance. Furthermore, the lake does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column. The lake's surface area and watershed area of 1,383 acres translate to a watershed-to-lake area ratio of 115, which is very large. Generally the larger the ratio, the greater the potential stress on the lake from surface runoff.

The lake was monitored just once in 2009. On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

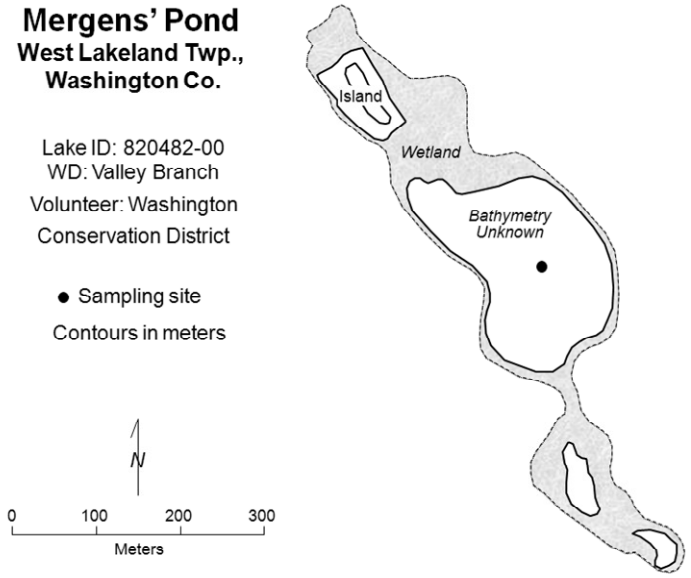
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

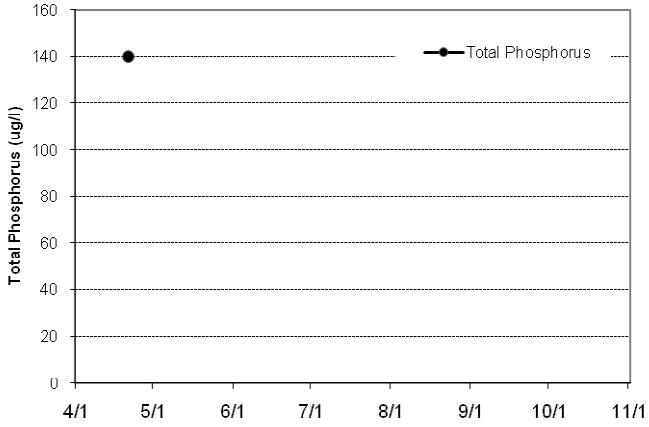
Mergens' Pond

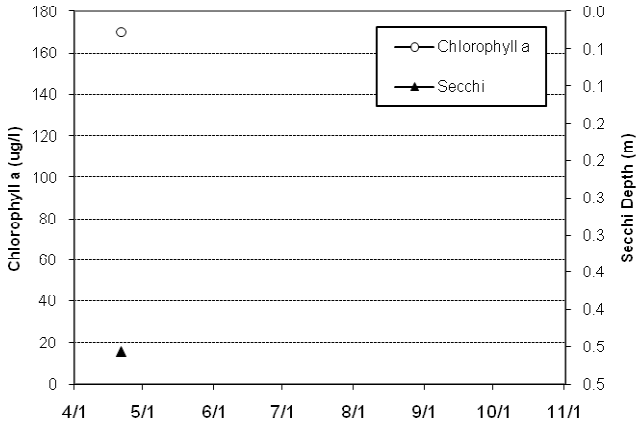
West Lakeland Twp., Washington Co.

Lake ID: 820482-00
WD: Valley Branch
Volunteer: Washington Conservation District

● Sampling site
Contours in meters

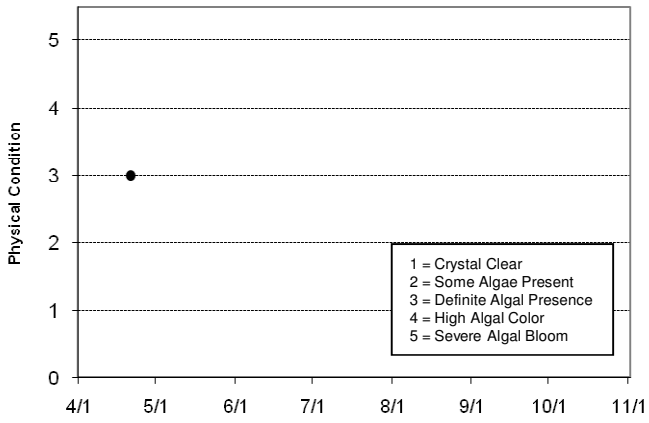






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/21	8.2	9.2	11.38	0.14	170	140		0.5	3	4



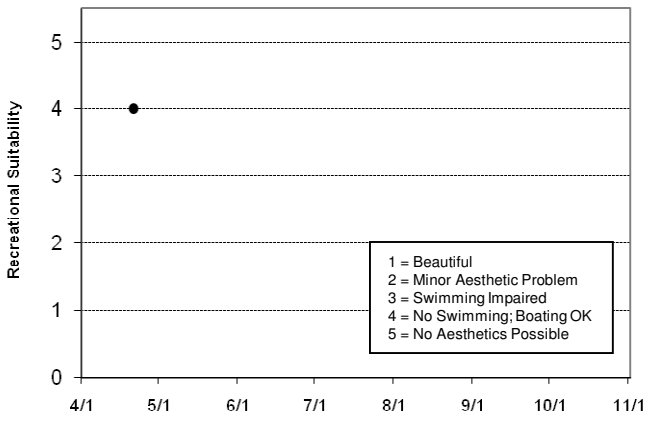
Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus									D			NA
Chlorophyll a									C			NA
Secchi Depth									D			NA
Lake Grade									**D**			

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	NA	D			F	
Chlorophyll a	NA	B			F	
Secchi Depth	NA	D			F	
Lake Grade		**C**			**F**	**NA**

Source: Metropolitan Council and STORET data



Miller Lake (10-0029) *Carver County Environmental Services*

Miller Lake is located within Dahlgren Township (Carver County). It has a surface area of 145 acres. The mean and maximum depths of the lake are 3.1 m (10 feet) and 4.3 m (roughly 14 feet), respectively. The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

The lake has a 16,701-acre immediate watershed, which translates to a large watershed-to-lake area ratio of 115:1 (Carver County Planning 1999). The larger the ratio the greater the potential stress put on the lake from surface runoff.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	237.2	85.0	408.0	F
CLA (µg/l)	100.0	17.0	260.0	F
Secchi (m)	0.5	0.1	1.2	F
TKN (mg/l)	2.70	1.00	4.80	
			Lake Grade	F

The lake received a lake grade of F for 2009, which is consistent with its historical database. The historical lake grades typically fall in the range of D to F.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

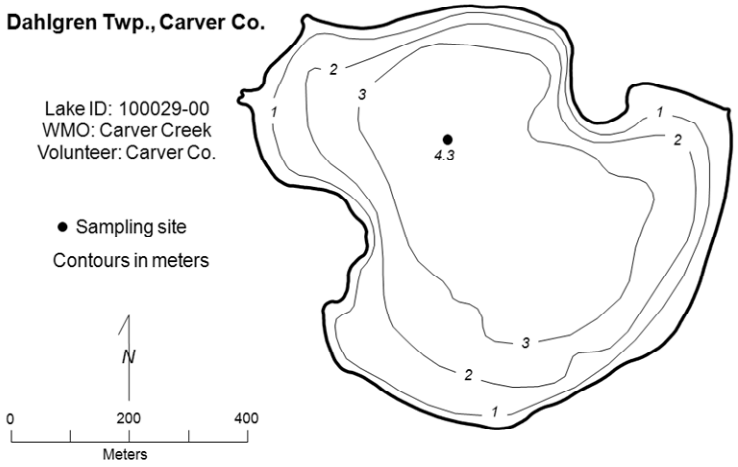
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

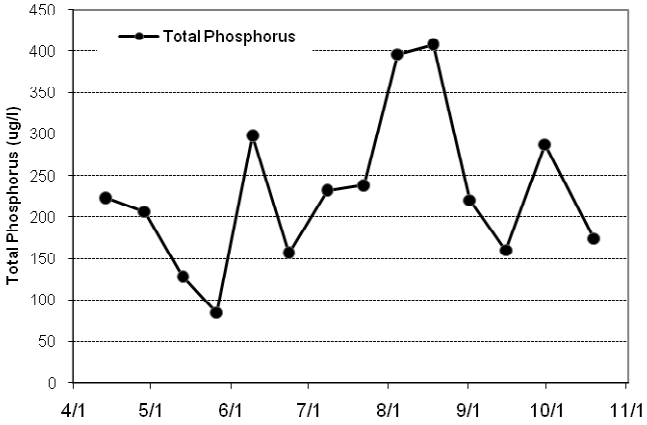
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

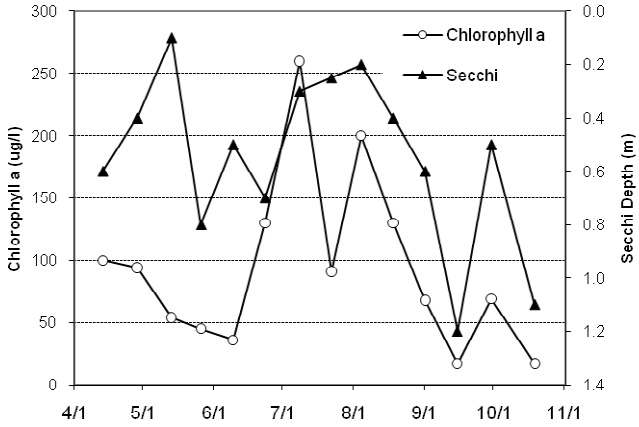
Miller Lake

Dahlgren Twp., Carver Co.

Lake ID: 100029-00
WMO: Carver Creek
Volunteer: Carver Co.

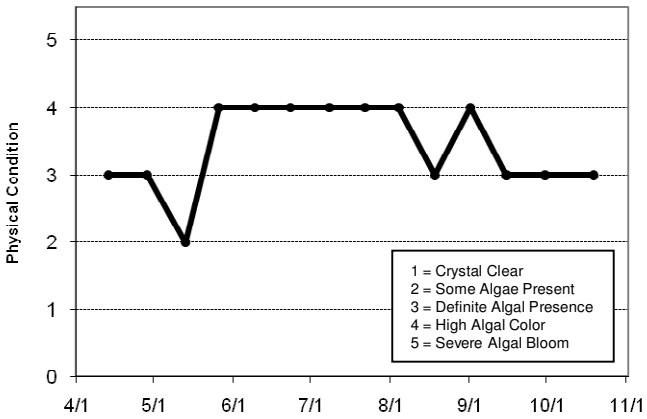






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/13	9.08		11.33		100	223		0.6	3	3
4/28	12.02		13.26		94	206		0.4	3	3
5/13	15.75		11.02		54	128		0.1	2	2
5/26	19.25		11.6		45	85		0.8	4	4
6/9	17.17		8.5		36	298		0.5	4	4
6/23	28.4		22.43		130	157		0.7	4	4
7/8	24.1		16.91		260	232		0.3	4	4
7/22	22.22		13.35		91	238		0.3	4	4
8/4	23.8		13.83		200	396		0.2	4	4
8/18	23.11		11.93		130	408		0.4	3	3
9/1	20.5		17.11		68	220		0.6	4	4
9/15	24.05		14.15		17	160		1.2	3	3
9/30	15.57		11.27		69	287		0.5	3	3
10/19	6.98		10.47		17	174		1.1	3	3

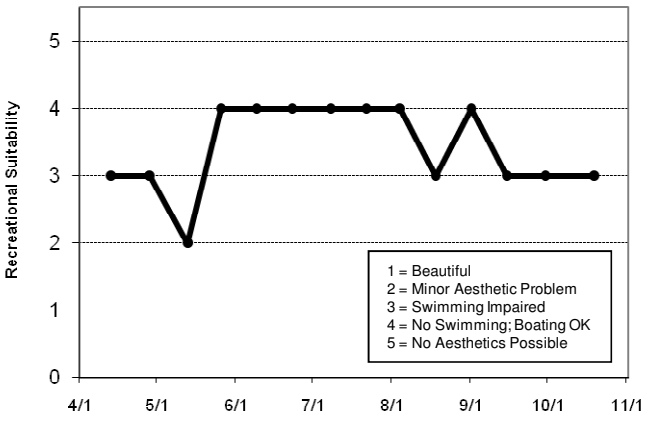


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus				F	F	F		F	F	F	F	F
Chlorophyll a				F	F	D		D	C	C	C	D
Secchi Depth				F	F	D		D	D	C	C	F
Lake Grade				**F**	**F**	**D**		**D**	**D**	**D**	**D**	**F**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	F	D	F	F	F	F
Chlorophyll a	D	D	D	F	D	F
Secchi Depth	F	D	F	F	D	F
Lake Grade	**F**	**D**	**F**	**F**	**D**	**F**



Source: Metropolitan Council and STORET data

Mitchell Lake (27-0070) *City of Eden Prairie*

Mitchell Lake is located in the City of Eden Prairie (Hennepin County). It is considered a Priority Lake by the Metropolitan Council for its high regional recreation value (METC 2007). It has a surface area of 112 acres. The maximum depth of the lake is 5.8 m (19 feet). Approximately 97 percent of the lake's surface area is considered littoral zone, which is the 0-15 feet depth zone of aquatic plant dominance. Furthermore, the lake does not maintain a substantial thermocline, which is a density gradient caused by changing water temperatures throughout the water column. The Minnesota DNR has designated the lake as being infested with Eurasion water milfoil (*Myriophyllum spicatum*).

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	48.5	22.0	80.0	C
CLA (µg/l)	22.1	3.9	70.0	C
Secchi (m)	1.8	0.5	3.5	C
TKN (mg/l)	1.53	1.00	2.00	
			Lake Grade	C

The lake received a lake grade of C which is consistent with its historical database. The lake's water quality seems represented by lake grades between C and D. The CLA grade returned to a C grade from the B grade it received last year. Further monitoring is suggested to continue to build the water quality database for increasing power to detect water quality trends.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

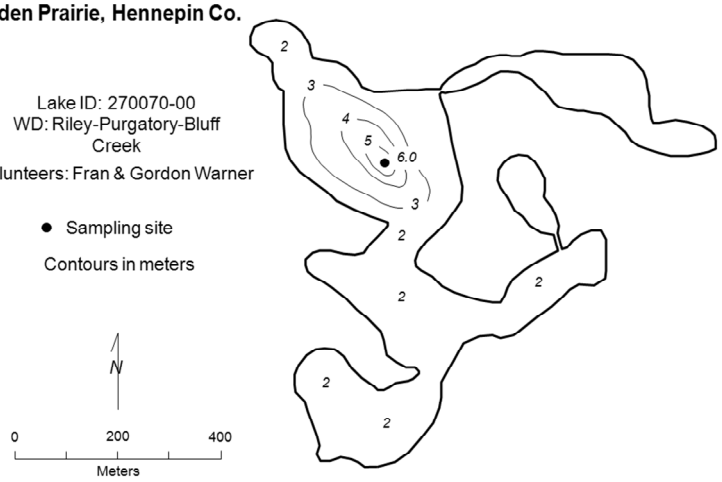
Lake Mitchell

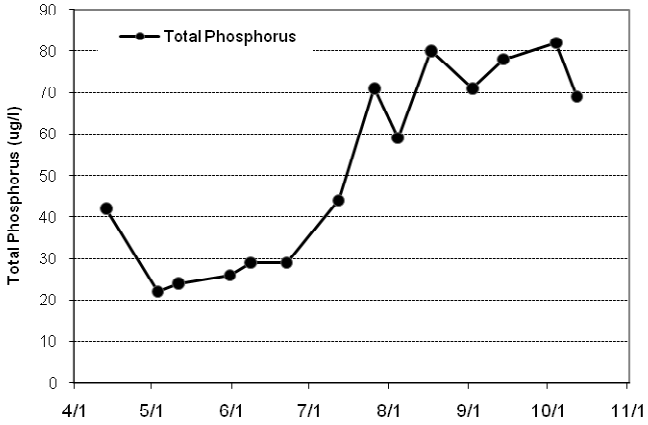
Eden Prairie, Hennepin Co.

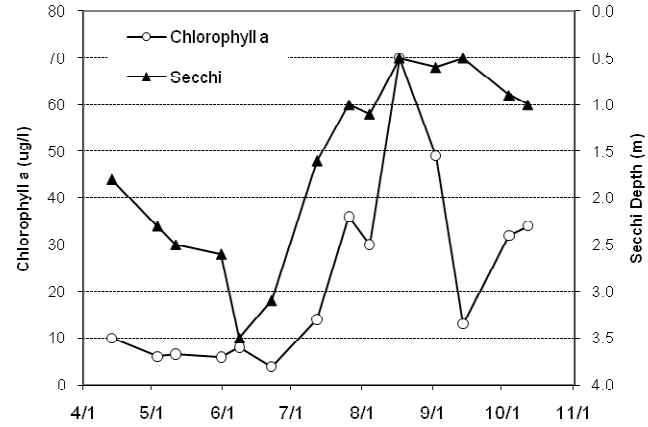
Lake ID: 270070-00
WD: Riley-Purgatory-Bluff Creek
Volunteers: Fran & Gordon Warner

● Sampling site

Contours in meters

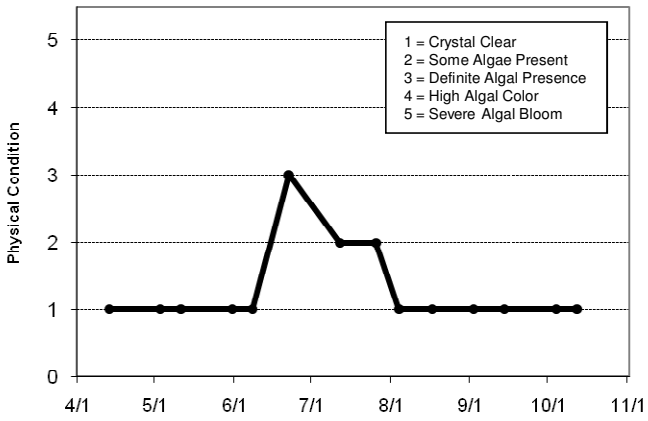






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/13	9.8				10	42		1.8	1	1
5/3	15.7				6.1	22		2.3	1	1
5/11	15.5				6.6	24		2.5	1	1
5/31	20.8				6	26		2.6	1	1
6/8	18.5				8	29		3.5	1	1
6/22	28.5				3.9	29		3.1	3	1
7/12	24.1				14	44		1.6	2	1
7/26	25.1				36	71		1.0	2	1
8/4	25.5				30	59		1.1	1	1
8/17	25.5				70	80		0.5	1	1
9/2	22.5				49	71		0.6	1	1
9/14	27.2				13	78		0.5	1	1
10/4	13.3				32	82		0.9	1	1
10/12	9.7				34	69		1.0	1	4

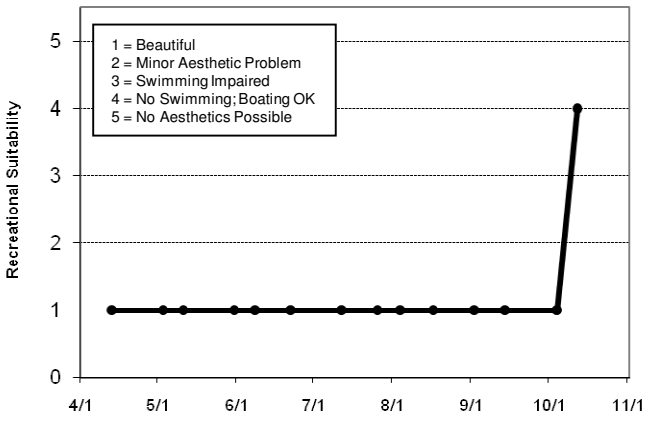


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												D
Chlorophyll a												C
Secchi Depth												C
Lake Grade												**C**

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus				C				D	D			D
Chlorophyll a				C				D	D			D
Secchi Depth				C				D	C			C
Lake Grade				**C**				**D**	**D**			**D**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	C	D	D	C	C	C
Chlorophyll a	C	C	C	C	B	C
Secchi Depth	C	C	D	C	C	C
Lake Grade	**C**	**C**	**D**	**C**	**C**	**C**



Source: Metropolitan Council and STORET data

Normandale Lake (27-1045) *Nine Mile Creek Watershed District*

Normandale Lake is located in the City of Bloomington (Hennepin County). The lake is considered a METC Priority Lake for its high regional recreational value (METC 2007). It has a surface area of 103 acres. The maximum depth of the lake is 3.7 m (12 feet). The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	41.2	22.0	71.0	C
CLA (µg/l)	4.9	2.7	6.4	A
Secchi (m)	2.4	2.0	3.3	B
TKN (mg/l)	0.90	0.55	1.30	
			Lake Grade	B

The lake received a lake grade of B in 2009. Additional years of monitoring are suggested for continuing to build the water quality database so as to better understand the lake's water quality and determine potential water quality trends.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

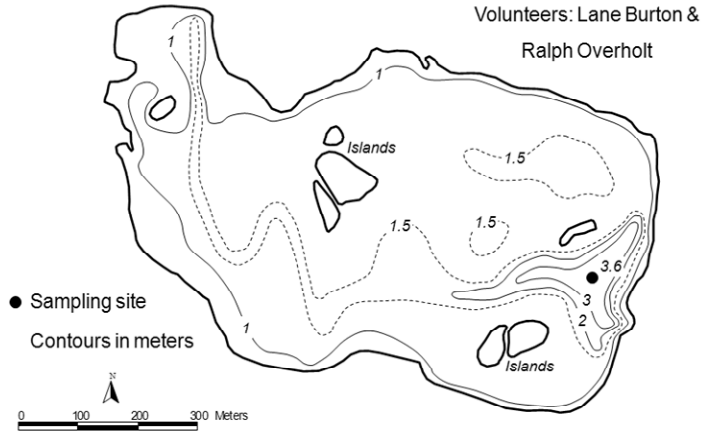
Normandale Lake (Nordmyr Lake)

Bloomington, Hennepin Co.

LAKE ID: 271045-00

WD: Nine Mile Creek

Volunteers: Lane Burton & Ralph Overholt



2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
6/3	23.2				5.7	66		2.3	2	4
6/11	19.5				6.3	71		2.6	2	4
6/25	28.3				5.8	53		2.3	3	4
7/8	25.5				4.6	41		2.1	4	4
7/22	24.8				2.7	22		2.2	4	4
8/5	25.2				4.9	23		2.6	3	4
8/20	22.1				6.4	43		2.3	3	4
9/2	22.3				3.5	24		2.3	1	4
9/24	22.2				3.4	42		2.0	3	4
9/30	15				5.8	27		3.3	1	4
10/14	7				2.9	36		2.8	1	4

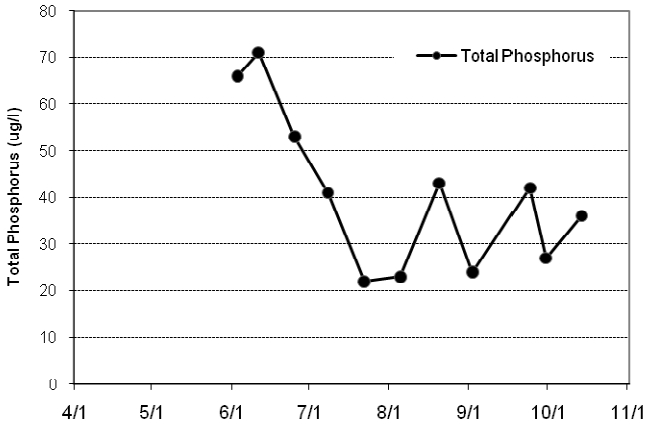
Lake Water Quality Grades Based on Summertime Averages

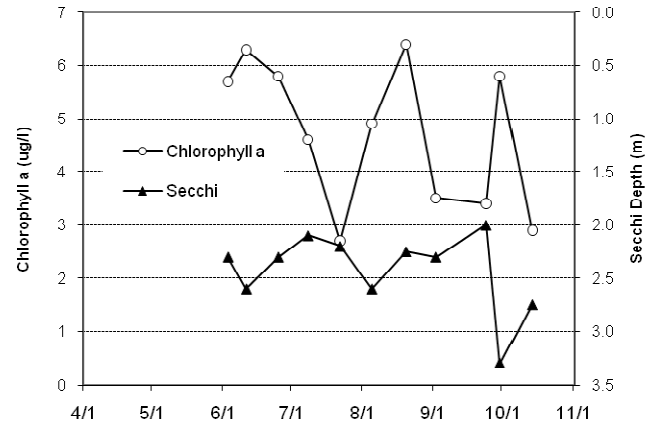
Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

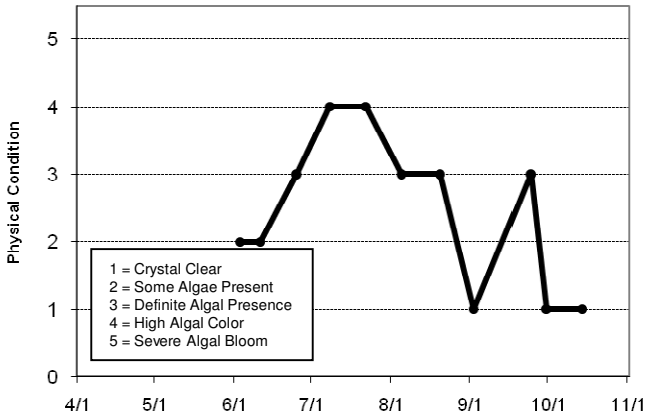
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

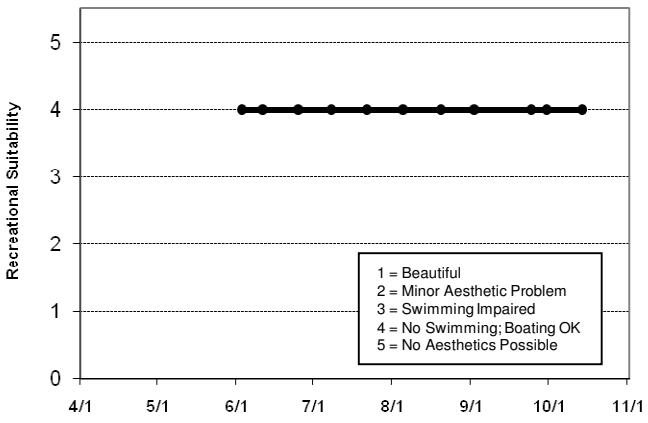
Year	2004	2005	2006	2007	2008	2009
Total Phosphorus			C	C		C
Chlorophyll a			B	A		A
Secchi Depth			D	C		B
Lake Grade			**C**	**B**		**B**

Source: Metropolitan Council and STORET data









North Twin Lake (82-0018) *Carnelian - Marine - St. Croix Watershed District*

North Twin Lake is located in Stillwater Township (Washington County). It has a surface area of 69 acres. The maximum and mean depths of the lake are 1.8 m (5.9 ft) and 0.9 m (2.9 ft), respectively. The entire area of the lake is considered littoral zone which is the 0-15 feet depth zone of aquatic plant dominance. Furthermore, the lake does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

On each sampling day the lake was monitored for secchi transparency, temperature, dissolved oxygen, and the perceived physical condition and recreational suitability. The data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
Secchi (m)	1.0	0.8	1.2	D

Only secchi depth, temperature, and dissolved oxygen were monitored in 2008. Therefore no lake grade can determined for this year. This was the third year in a row where the lake received a Secchi grade of D, which is worse than the B Secchi grades it was receiving in the late 1990s.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

North Twin Lake

Stillwater Twp., Washington Co.

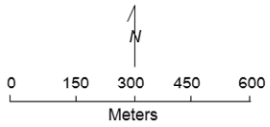
LAKE ID: 820018-00

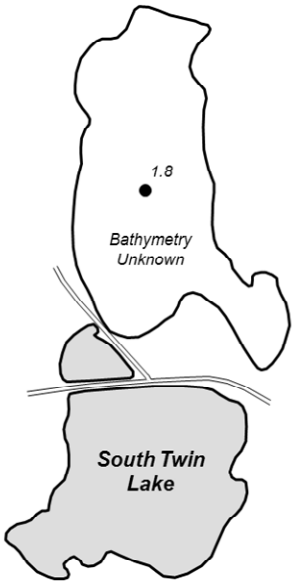
WD: Carnelian-Marine-St. Croix

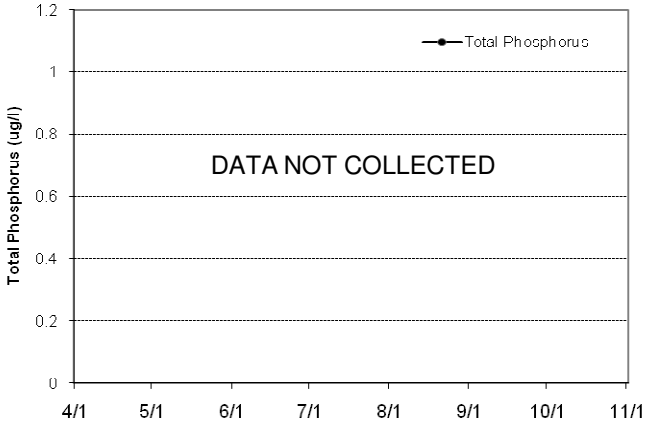
Volunteer: Washington Conservation District

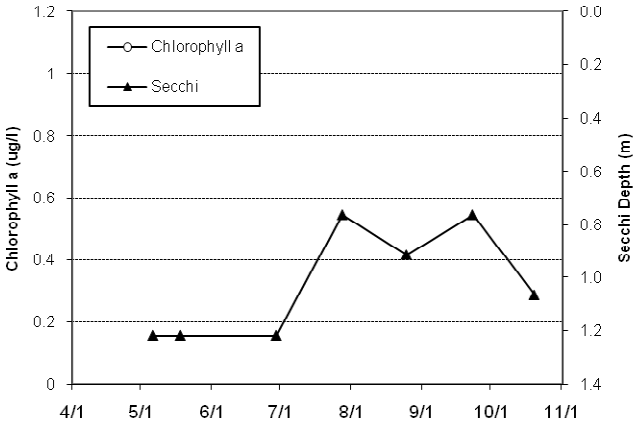
● Sampling site

Contours in meters



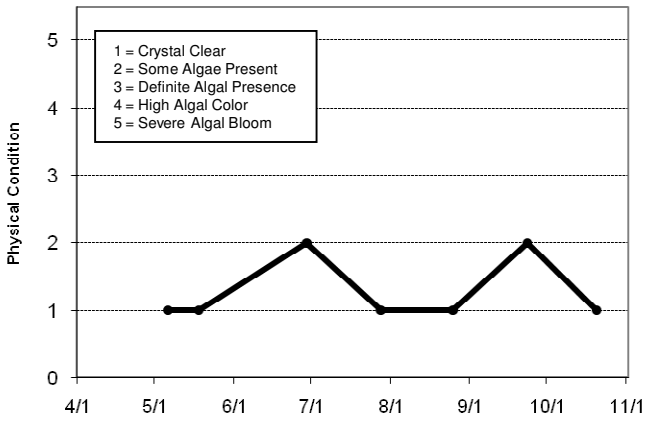






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/6	16.7	16.6	9.21	9.73				1.2	1	1
5/18	15.4	15.4	10.4	9.42				1.2	1	1
6/29	21.3	21.3	7.19	6.75				1.2	2	1
7/28	23.4	22.4	8.91	0.99				0.8	1	1
8/25	21.9	21.4	7.89	2.11				0.9	1	1
9/23	20.3	20.3	5.22	4.5				0.8	2	3
10/20	9.1	8.8	13.71	12.42				1.1	1	2

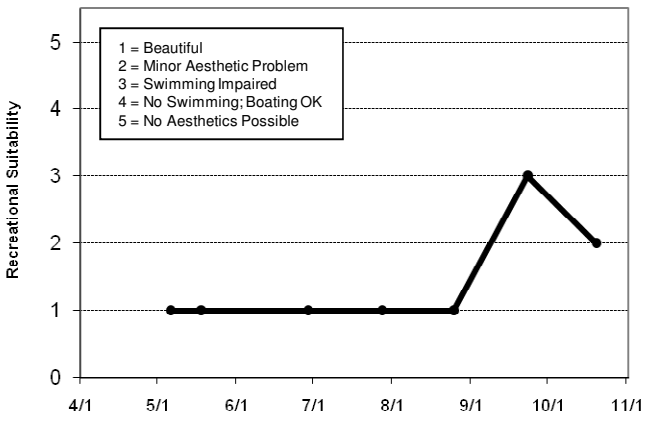


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus					C	B	B	A	B	B		B
Chlorophyll a					D	C	D	B	A	B		A
Secchi Depth					B	B	B	B	C	C	C	C
Lake Grade					**C**	**B**	**C**	**B**	**B**	**B**		**B**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	A	B	C	C		
Chlorophyll a	A	A	A	A		
Secchi Depth	C	D	C	D	D	D
Lake Grade	**B**	**B**	**B**	**C**		



Source: Metropolitan Council and STORET data

Northwood Lake (27-0627) *Bassett Creek Watershed Management Organization*

Northwood Lake is a 15-acre lake located within the City of New Hope (Hennepin County). The mean and maximum depths of the lake are 0.8 m (2.5 ft) and 1.5 m (4.9 ft), respectively. The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column. The lake's 1,341-acre immediate watershed translates to a large watershed-to-lake area ratio of 89:1. The greater the ratio, the greater the potential stress on the lake from surface runoff.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

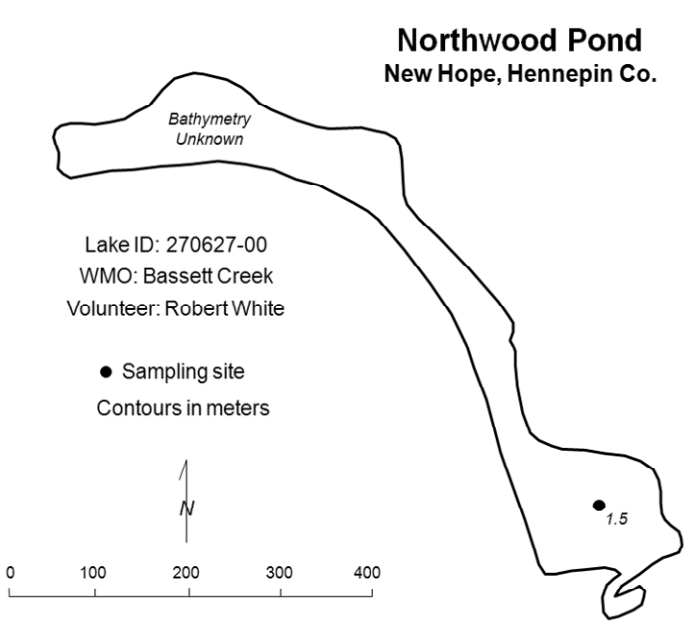
2009 summer (May-September) data summary

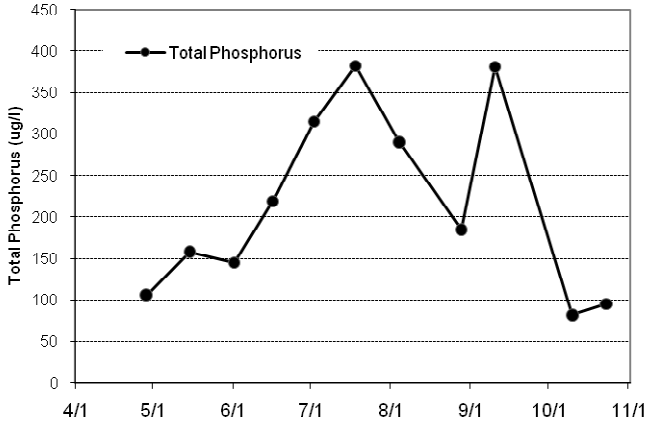
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	259.4	145.0	382.0	F
CLA (µg/l)	13.1	5.0	25.0	B
Secchi (m)	1.0	0.9	1.2	D
TKN (mg/l)	1.22	0.74	2.00	
			Lake Grade	D

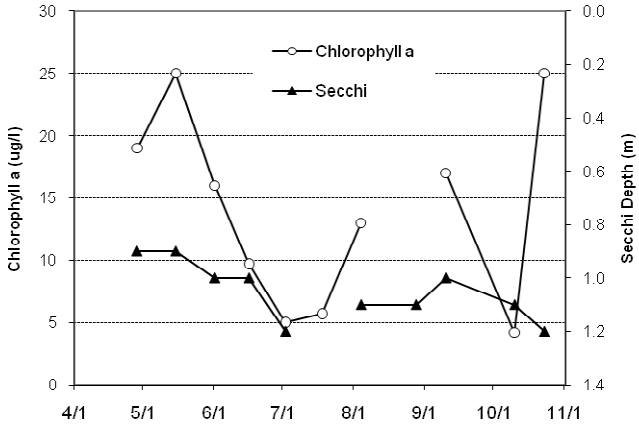
The lake received a lake grade of D in 2009 which is consistent to its historical database. Over the past 9 years, the lake grades appear to vary in the D and C range. Continued monitoring is suggested to build the water quality database for enhancing the ability to detect potential trends in water quality.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

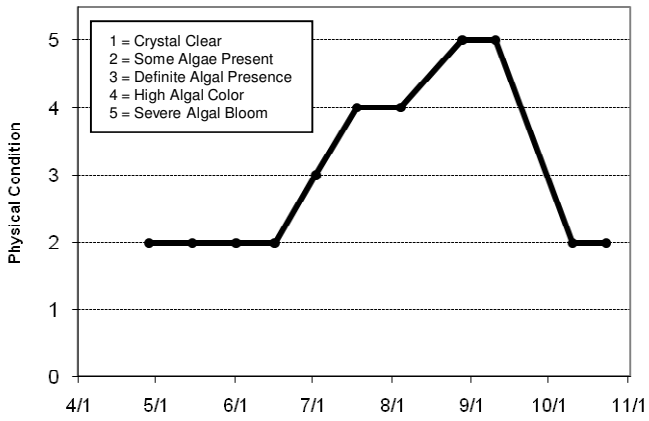






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/28	18				19	106		0.9	2	4
5/15	20.2				25	158		0.9	2	4
6/1	20.3				16	145		1.0	2	4
6/16					9.7	219		1.0	2	4
7/2	22.8				5	315		1.2	3	4
7/18	19.2				5.7	382			4	5
8/4	26.1				13	290		1.1	4	5
8/28	25.5					185		1.1	5	5
9/10	23				17	381		1.0	5	5
10/10	9.1				4.2	82		1.1	2	5
10/23	6.3				25	95		1.2	2	5

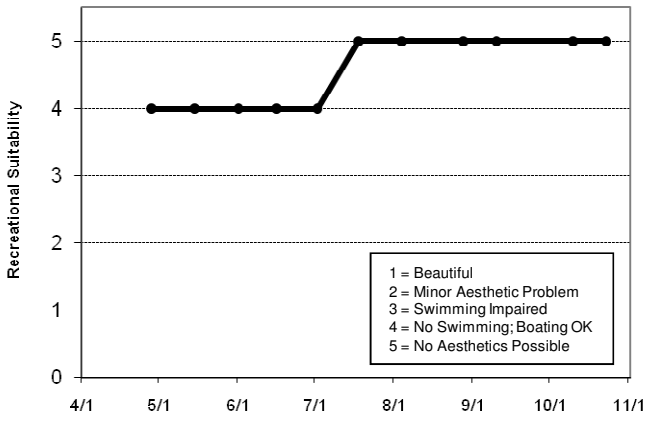


Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus									F	F	D	F
Chlorophyll a									B	C	B	C
Secchi Depth									D	D	D	D
Lake Grade									**D**	**D**	**C**	**D**

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	D	D	F	F	D	F
Chlorophyll a	B	B	B	C	C	B
Secchi Depth	D	D	D	D	D	D
Lake Grade	**C**	**C**	**D**	**D**	**D**	**D**



Source: Metropolitan Council and STORET data