

Parkers Lake (27-0107) Bassett Creek Watershed Management Organization

Parkers Lake is located in the City of Plymouth (Hennepin County). It has a surface area of 97 acres. The mean and maximum depths of the lake are 3.7 m (12 ft) and 11.3 m (37 ft), respectively. The lake's size and mean depth result in an approximate lake volume of 1,164 ac-ft. Approximately 70 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's 950-acre immediate watershed translates to a moderate watershed-to-lake area ratio of 10:1. The greater the ratio, the greater the potential stress on the lake from surface runoff. The MN DNR has designated the lake as being infested with Eurasian water milfoil (*Myriophyllum spicatum*).

The lake was monitored 13 times in 2008. 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.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	25.2	18.0	43.0	B
CLA (µg/l)	7.6	1.0	16.0	A
Secchi (m)	2.3	1.0	5.5	B
TKN (mg/l)	1.32	1.00	1.70	
			Lake Grade	B

The lake received a lake grade of B for 2008, which is similar to some previous years' annual lake grades. The lake has received lake grades varying from C to A to B over the past 29 years as indicated by the historical water quality database, but the lake has not experienced a C lake grade since 1999. The lake has received only A and B lake grades from 2000 through 2008. A trend analysis conducted by the MPCA on the lake's Secchi transparency data revealed no statistically significant trend in water clarity (MPCA 2008). Continued monitoring is suggested to determine potential trends in the lake's water quality.

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 2.5 (between 2- "some algae present" and 3- "definite algae present"). The average recreational suitability ranking was 2.5 (between 2- "minor aesthetic problem" and 3- "swimming slightly impaired").

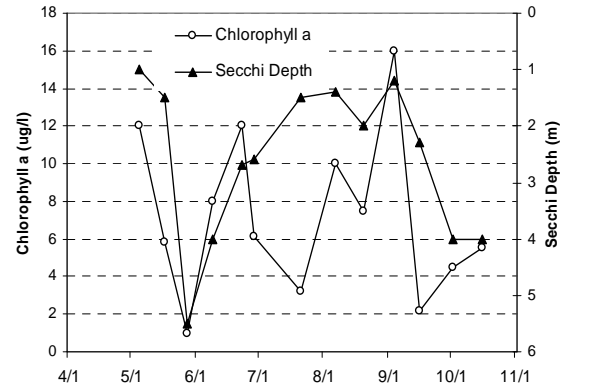
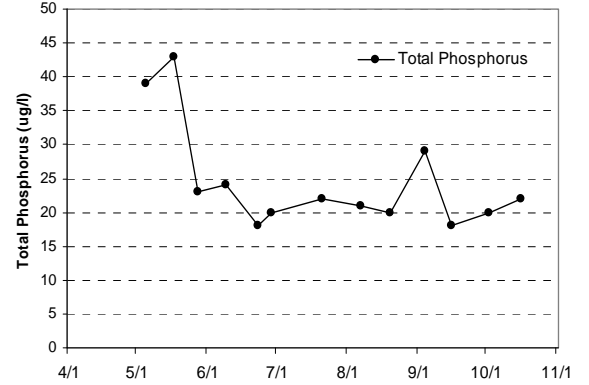
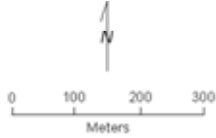
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

Parkers Lake
Plymouth, Hennepin Co.

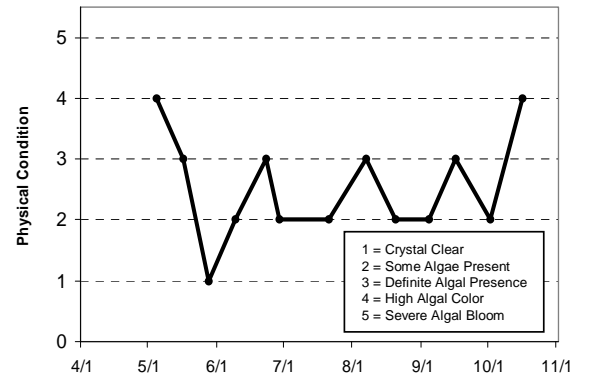
Lake ID: 270107
WMO: Bassett Creek
Volunteer: Bob Videen

● Sampling site
Contours in meters



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/5	8				12	39		1	4	4
5/17	12				5.8	43		1.5	3	3
5/28	13				1	23		5.5	1	1
6/9	16				8	24		4	2	2
6/23	26				12	18		2.7	3	2
6/29	24				6.1	20		2.6	2	2
7/21	27				3.2	22		1.5	2	2
8/7	27				10	21		1.4	3	3
8/20	27				7.5	20		2	2	2
9/4	22				16	29		1.2	2	4
9/16	20				2.2	18		2.3	3	3
10/2	18				4.5	20		4	2	2
10/16	16				5.5	22		4	4	4



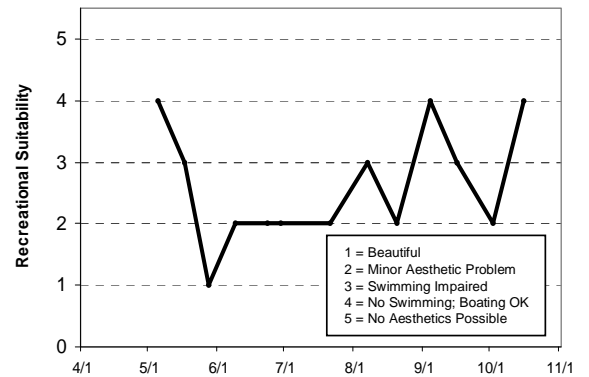
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Pat Lake (82-0125) Browns Creek Watershed District

Pat Lake is a small 13-acre lake located in Washington County. There is little known morphological data available for the lake. This was the third year that Pat Lake has been involved in the CAMP. A search through the STORET nationwide water quality database for data on the lake provided no data other than the historical CAMP data.

The lake was monitored 7 times in 2008. 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. Depth profiles for temperature and dissolved oxygen were also measured. The resulting data are summarized in tables and figures on the following page.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	48.7	24.0	76.0	C
CLA ($\mu\text{g/l}$)	18.8	5.7	56.0	B
Secchi (m)	1.6	1.2	2.1	C
TKN (mg/l)	1.05	0.66	1.60	
			<i>Lake Grade</i>	C

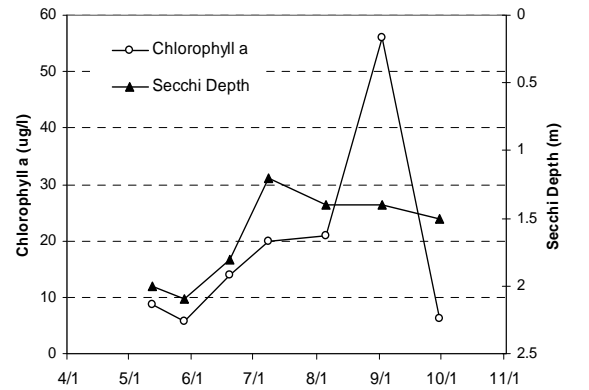
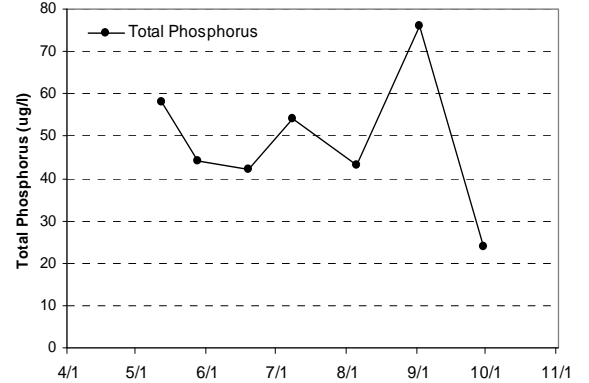
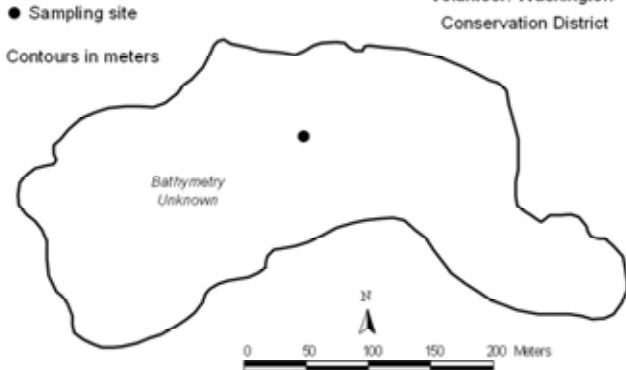
The lake received a lake grade of C for 2008, which is similar to the lake grade received in 2006. There are only 3 monitoring seasons of data, so there are insufficient quantities of data to determine trends. To better understand the lake's water quality and where it may be heading, additional years of data collection are needed.

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 2.6 (between 2- "some algae present" and 3- "definite algae present"). The average recreational suitability ranking was 3.4 (between 3- "swimming slightly impaired" and 4- "no swimming/boating ok").

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.

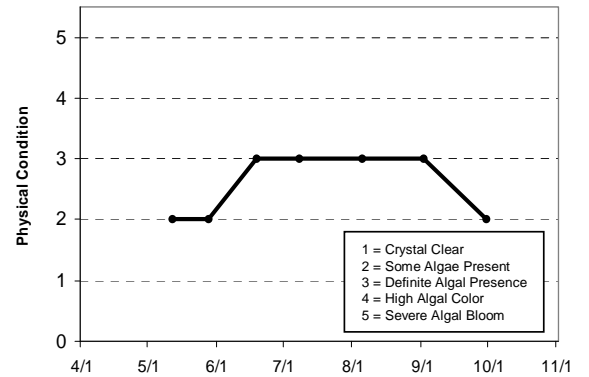
Pat Lake
Grant, Washington Co.

Lake ID: 820125
WD: Browns Creek
Volunteer: Washington Conservation District



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/12	15.7	15.6	10	8.23	8.6	58		2	2	3
5/28	20.5	17.8	8.41	8.15	5.7	44		2.1	2	3
6/19	24.1	20.8	9.23	0.53	14	42		1.8	3	4
7/8	26.1	24.4	8.66	1.02	20	54		1.2	3	4
8/5	25.9	23.6	6.88	0.26	21	43		1.4	3	4
9/2	24.7	21.6	7.94	0.19	56	76		1.4	3	4
9/30	16.6	16.4	7.44	3.8	6.2	24		1.5	2	2



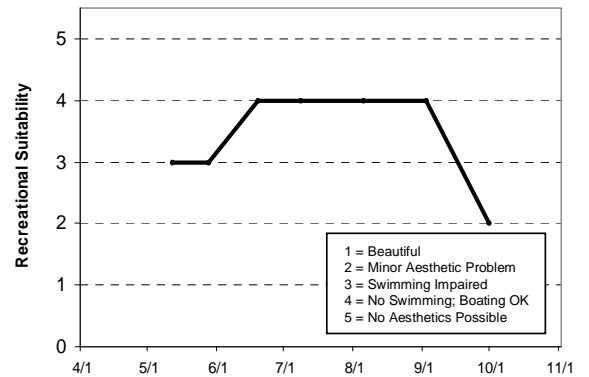
Lake Water Quality Grades Based on Summertime Averages

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

Source: Metropolitan Council and STORET data



Pike Lake [Ramsey Co.] (62-0069) Rice Creek Watershed District

Pike Lake is a 35-acre lake located within the City of New Brighton (Ramsey County). The mean and maximum depths of the lake are 2.1 m (6.9 ft) and 4.9 m (16 feet). The lake's mean depth and surface area translate to a lake volume of 242 ac-ft. 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.

The lake was monitored 13 times in 2008. 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.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	72.6	33.0	125.0	D
CLA (µg/l)	30.5	4.3	60.0	C
Secchi (m)	1.1	0.5	3.0	D
TKN (mg/l)	1.94	0.96	2.70	
			Lake Grade	D

The lake received a lake grade of D in 2008, which is similar to the lake grades received in most of the monitoring seasons since 1981. The lake has experienced occasional C and F lake grades in the past, but the lake has received a D lake grade every year consistently since 1999. A trend analysis conducted by the MPCA on the lake's Secchi transparency data revealed no statistically significant trend in water clarity (MPCA 2008).

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 2.9 (between 2- "some algae present" and 3- "definite algae present"). The average recreational suitability ranking was 2.6 (between 2- "minor aesthetic problem" and 3- "swimming slightly impaired").

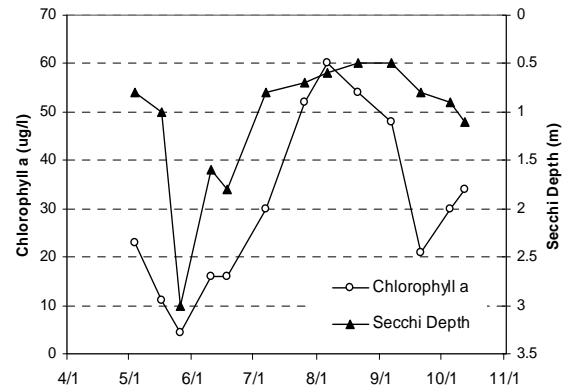
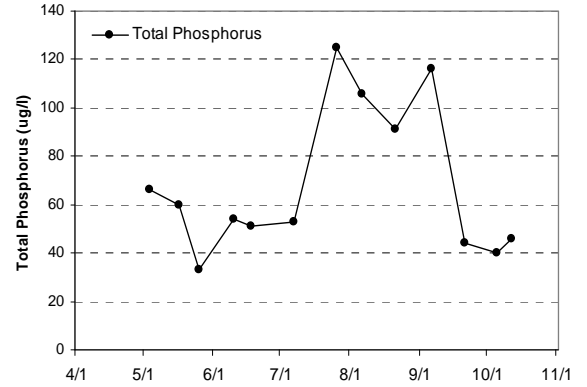
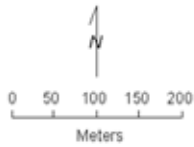
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

Pike Lake
New Brighton, Ramsey Co.

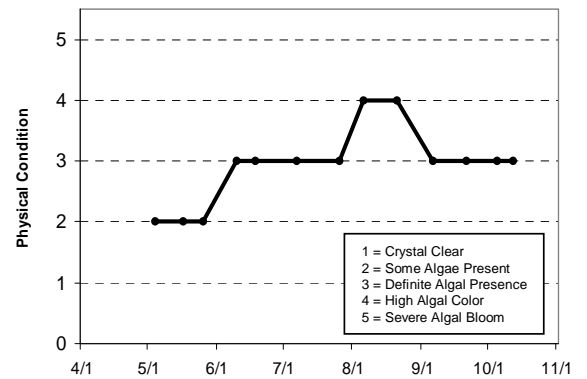
Lake ID: 620069
WD: Rice Creek
Volunteer: Phil Goodrich

● Sampling site
Contours in meters



2008 Data

DATE	Surf Temp (°C)	Bot Temp (°C)	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	13.2				23	66		0.8	2	2
5/17	18.8				11	60		1	2	2
5/26	19.6				4.3	33		3	2	2
6/10	21.6				16	54		1.6	3	2
6/18	23.6				16	51		1.8	3	3
7/7	27.4				30	53		0.8	3	3
7/26	26.4				52	125		0.7	3	3
8/6	26.6				60	106		0.6	4	3
8/21	26.2				54	91		0.5	4	3
9/6	22.1				48	116		0.5	3	3
9/21	22.5				21	44		0.8	3	3
10/5	17.3				30	40		0.9	3	2
10/12	17				34	46		1.1	3	3



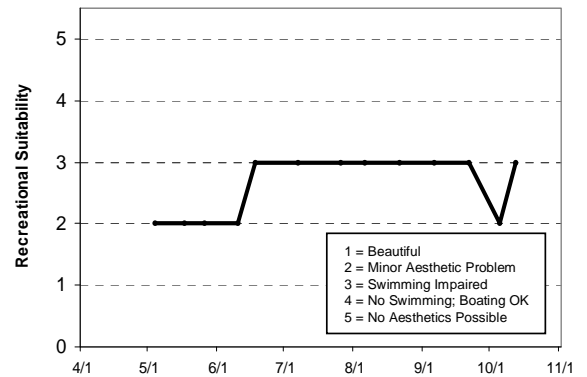
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Pine Tree Lake (82-0122) Rice Creek Watershed District

Pine Tree Lake, located on the eastern edge of the City of Dellwood (Washington County), covers an area of 174 acres. It has a maximum depth of 7.9 m (26 feet), and a mean depth of 3.0 m (10 feet). The lake has an approximate lake volume of 1,740 ac-ft. Because of its multi-recreational uses, it is considered a “Priority Lake” in the Metropolitan Area. The lake has two aeration systems to prevent winter fish-kills. The systems are operated only during the winter period.

The lake was monitored 7 times in 2008. 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.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	30.0	18.0	50.0	B
CLA (µg/l)	10.5	3.3	30.0	B
Secchi (m)	2.3	1.4	3.0	B
TKN (mg/l)	0.87	0.74	1.20	
			<i>Lake Grade</i>	B

The lake received a lake grade of B in 2008, which is similar to the lake grades received since 2004. The annual lake grades have varied between B’s and C’s on the basis of the historical water quality database. A trend analysis conducted by the MPCA on the lake’s Secchi transparency data revealed a statistically significant improving trend in water clarity (MPCA 2008).

The volunteer’s perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 1.9 (between 1- “crystal clear” and 2- “some algae present”). The average recreational suitability ranking was 2.3 (between 2- “minor aesthetic problem” and 3- “swimming slightly impaired”).

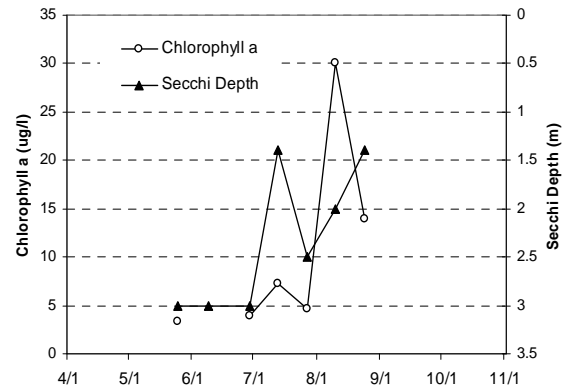
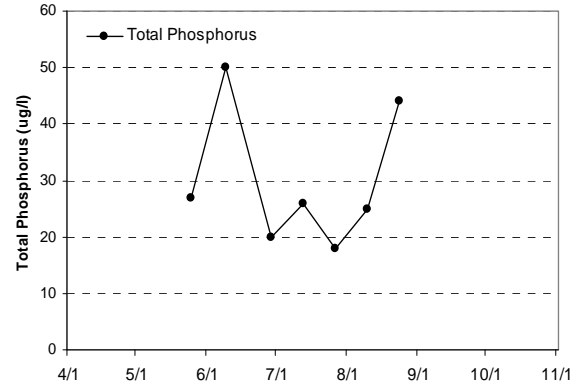
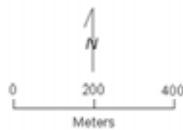
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

Pine Tree Lake
Dellwood/Grant,
Washington Co.

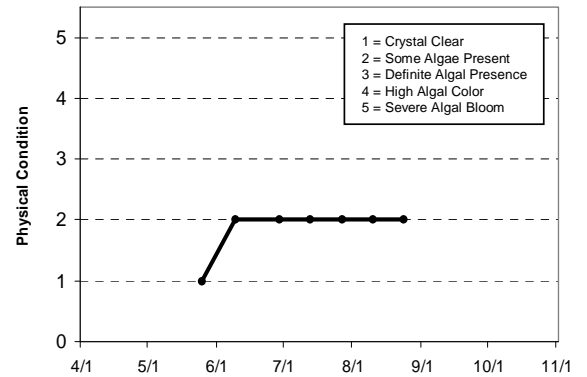
Lake ID: 820122
WD: Rice Creek
Volunteer: Gene Berwald

● Sampling site
Contours in meters



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/25	17.9				3.3	27		3	1	1
6/9	22				50			3	2	3
6/29	24.8				3.9	20		3	2	1
7/13	24.2				7.3	26		1.4	2	3
7/27	26.9				4.7	18		2.5	2	3
8/10	26.7				30	25		2	2	3
8/24	25.1				14	44		1.4	2	2



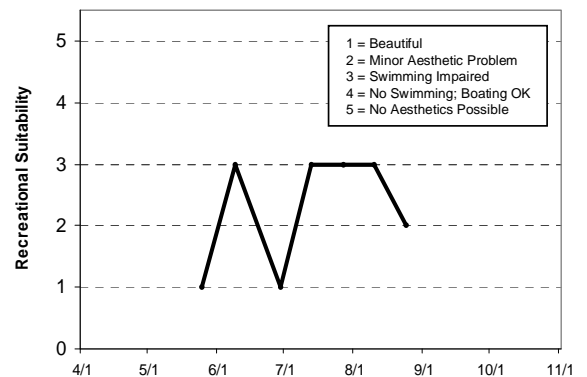
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Plaisted Lake (82-0148) Washington Conservation District

Plaisted Lake is located in the City of Hugo (Washington County). Little morphological data is available for the lake. No historical monitoring data was provided by STORET, the national water quality database.

The lake was monitored 7 times in 2008. 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.

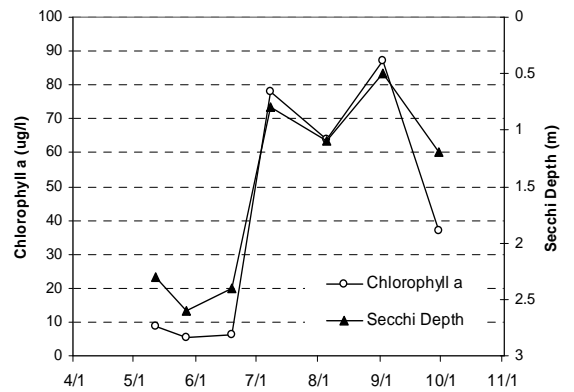
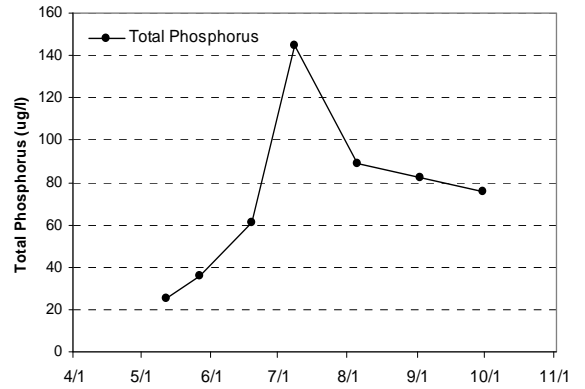
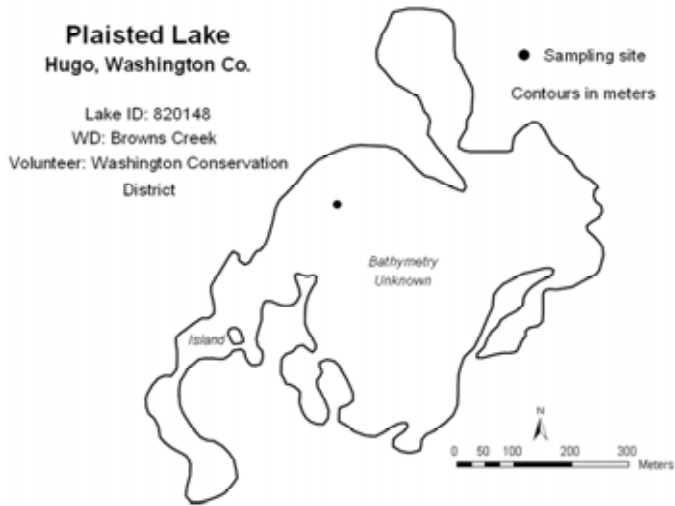
2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	73.4	25.0	145.0	D
CLA (µg/l)	40.9	5.2	87.0	C
Secchi (m)	1.6	0.5	2.6	C
TKN (mg/l)	1.94	1.10	2.90	
Lake Grade				C

The lake received a lake grade of C in 2008. Continued monitoring is necessary to build the water quality database for this lake.

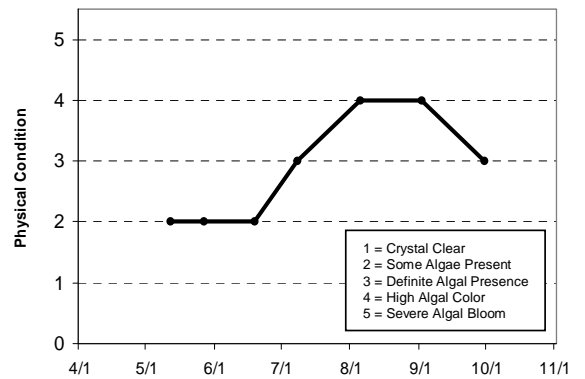
The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 2.9 (between 1- "crystal clear" and 2- "some algae present"). The average recreational suitability ranking was 3.1 (between 3- "swimming slightly impaired" and 4- "no swimming/boating ok").

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.



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/12	14.1	14.1	11.52	11.5	8.8	25		2.3	2	3
5/27	17.1	16.8	8.73	4.58	5.2	36		2.6	2	3
6/19	24.1	19.9	8.35	2.03	6.2	61		2.4	2	3
7/8	26.5	20.8	10.79	0.22	78	145		0.8	3	2
8/5	25.9	20.9	4.78	0.14	64	89		1.1	4	4
9/2	23.8	21.8	7.16	0.17	87	82		0.5	4	4
9/30	17.6	17.2	5.55	0.22	37	76		1.2	3	3



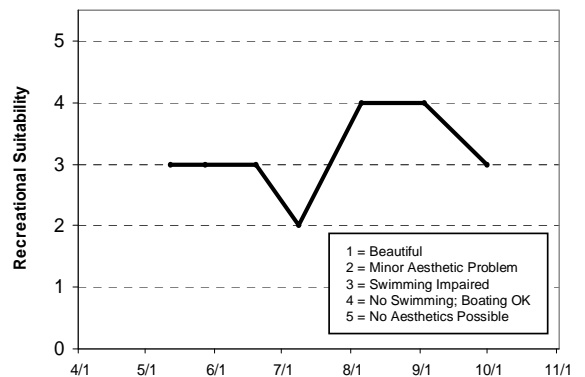
Lake Water Quality Grades Based on Summertime Averages

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												
Chlorophyll a												
Secchi Depth												
Lake Grade												

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

Source: Metropolitan Council and STORET data



Powers Lake (82-0092) City of Woodbury

Powers Lake is located within the City of Woodbury (Washington County). It has a surface area of approximately 57 acres, a shoreline length of 1.75 miles, and a maximum depth of 12.5 m (41.0 feet). Approximately 50 percent of the lake's surface area is considered littoral, which is the shallow (0-15 feet) zone dominated by aquatic vegetation. There is a public access (canoe only) on the northwest end of the lake near one of its two inlets. The lake has no outlet.

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

The area of the lake's watershed is 1,238 acres. The lake's watershed-to-lake area ratio is 22:1. The greater the ratio, the greater the potential stress on the lake from surface runoff.

The lake was monitored 14 times between mid April and mid October. 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.

2008 summer (May-September) data summary

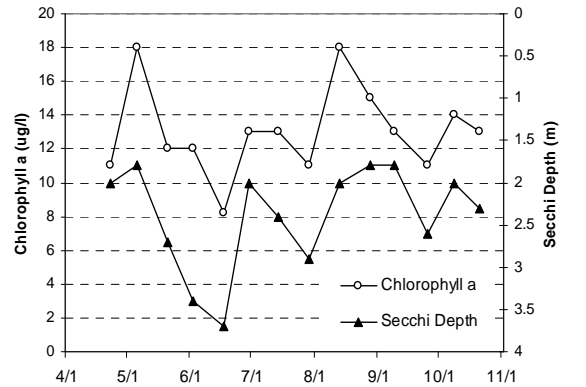
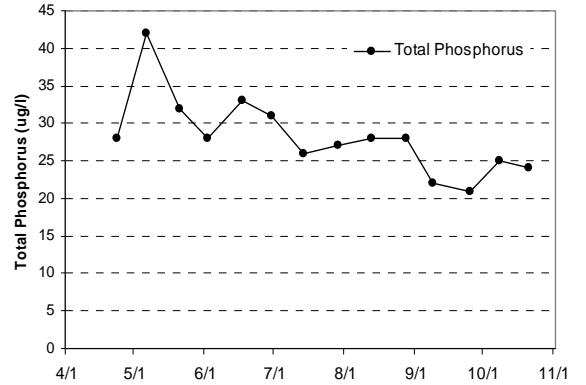
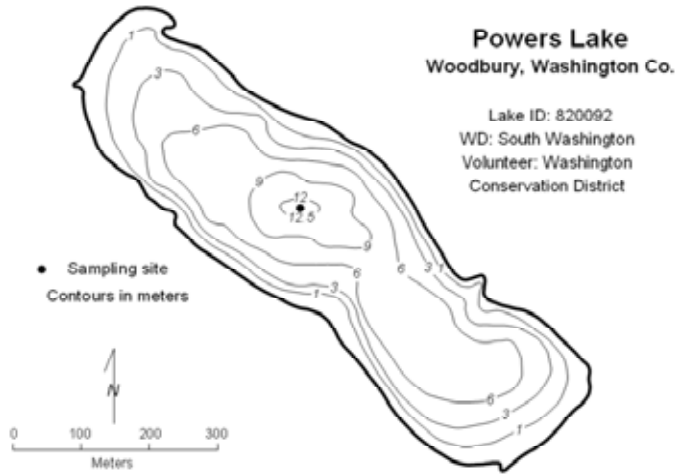
<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	28.9	21.0	42.0	B
CLA (µg/l)	13.1	8.2	18.0	B
Secchi (m)	2.5	1.8	3.7	B
TKN (mg/l)	1.26	1.10	1.60	
			Lake Grade	B

The lake received a lake grade of B for 2008. This grade is an improvement over recent years' lake grades. The water quality observed in 2008 is characteristic of the better water quality observed in the years 2000 and the 1990's. However, A trend analysis conducted by the MPCA on the lake's Secchi transparency data revealed a statistically significant declining trend in water clarity (MPCA 2008). Continued monitoring is suggested to determine if the improvement in water quality observed in 2008 is evidence of the beginning of a potential change in trend or an annual anomaly.

The physical and recreational conditions of the lake, as perceived by the volunteer, were ranked on a 1-to-5 scale and are displayed on the next page. The mean physical condition ranking was 3.0 (3- "definite algae present"), while the mean recreational suitability ranking was 3.6 (between 3- "swimming impaired" and 4- "no swimming – boating ok").

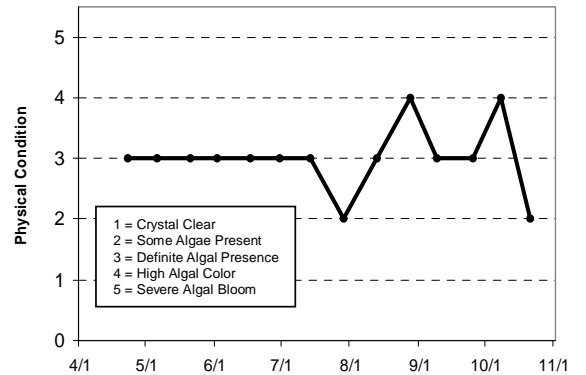
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/23	7.9	4.3	11.17	1.31	11	28		2	3	3
5/6	13.7	5.5	11.73	0.75	18	42		1.8	3	3
5/21	15.1	6.7	10.74	0.25	12	32	83	2.7	3	3
6/2	19.7	7.1	9.28	0.16	12	28	168	3.4	3	4
6/17	20.8	7.5	8.58	0.23	8.2	33	205	3.7	3	4
6/30	23.5	7.7	9.89	0.7	13	31	252	2	3	4
7/14	23.5	7.8	7.34	0.44	13	26	273	2.4	3	4
7/29	26.9	8.1	8.46	0.25	11	27	340	2.9	2	3
8/13	25.4	8.2	7.96	0.36	18	28	365	2	3	4
8/28	23	8.5	6.08	0.17	15	28	556	1.8	4	4
9/9	20.5	8.5	8.12	0.26	13	22	492	1.8	3	4
9/25	19.7	8.6	7.39	0.2	11	21	597	2.6	3	3
10/8	16.4	8.5	7.7	0.24	14	25	595	2	4	4
10/21	13	8.8	8.27	0.28	13	24	577	2.3	2	2



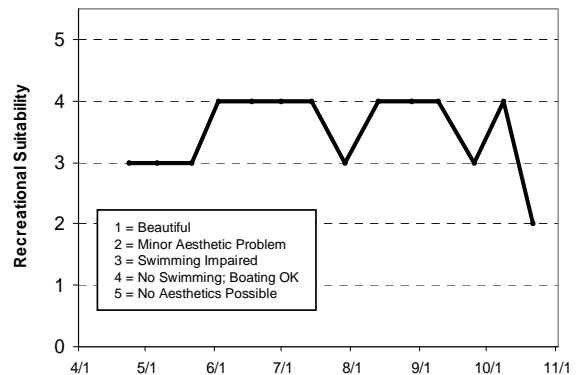
Lake Water Quality Grades Based on Summertime Averages

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	B	A	A	C	A	B	C	B	C
Chlorophyll a			A	B	A	B	C	B	B	C	C	B
Secchi Depth			A	B	A	C	C	A	B	C	C	B
Lake Grade			A	B	A	B	C	A	B	C	C	B

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

Source: Metropolitan Council and STORET data



Priebe Lake (62-0036) Rice Creek Watershed District

Priebe Lake is located in the City of White Bear Lake (Ramsey County). The maximum depth of the lake is 1.5 m (5.0 ft). Other morphological data is unavailable for the lake. 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. A search through the STORET system, the national water quality database, provided historical Secchi transparency data for 1989-1991 and 1997-1999.

This year was the first year that the lake was involved in the CAMP. The lake was monitored 13 times in 2008. 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.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	149.1	50.0	284.0	D
CLA ($\mu\text{g/l}$)	77.1	15.0	190.0	F
Secchi (m)	0.4	0.1	0.6	F
TKN (mg/l)	3.19	1.10	5.70	
			Lake Grade	F

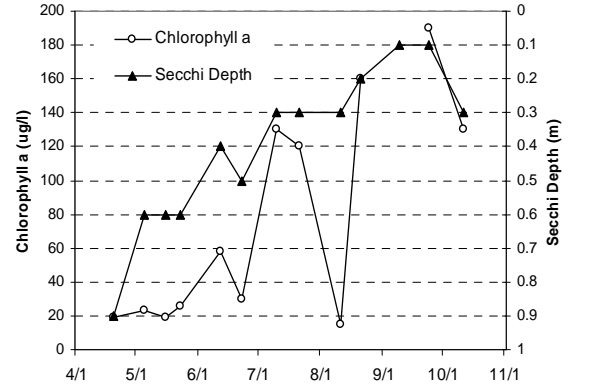
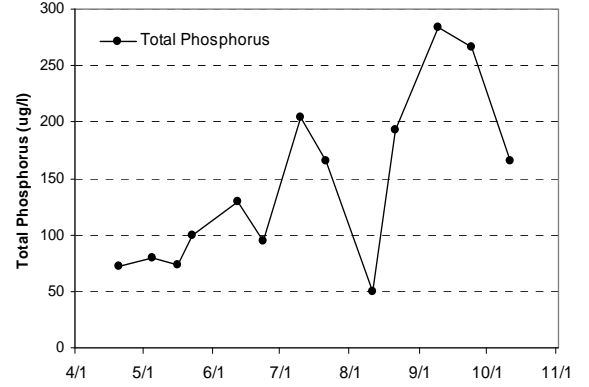
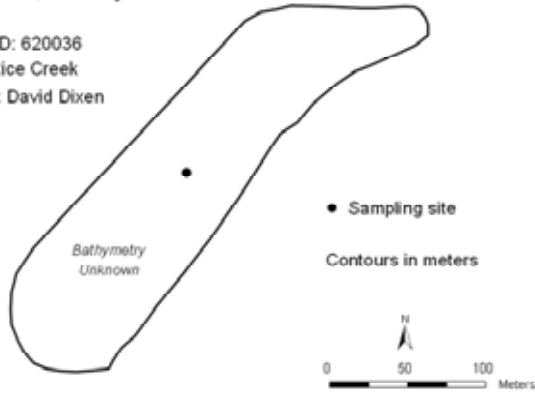
The lake received a lake grade of F for 2008. Continued monitoring is necessary to build the water quality database for this lake. The Secchi grade of F for 2008 is the same as the Secchi grades received for previous monitoring seasons dating back to 1989.

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 3.0 ("definite algae present"). The average recreational suitability ranking was 3.8 (between 3- "swimming slightly impaired" and 4- "no swimming/boating ok").

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.

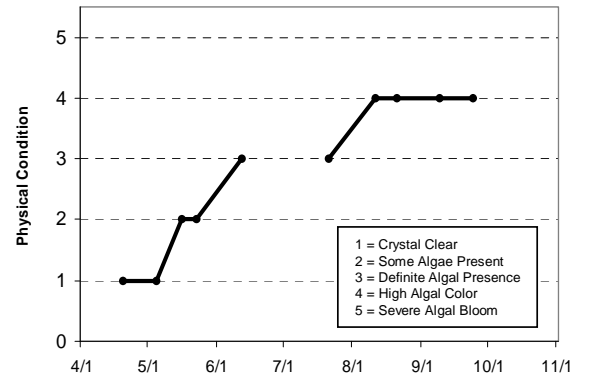
Priebe Lake
White Bear Lake, Ramsey Co.

Lake ID: 620036
WD: Rice Creek
Volunteer: David Dixen



2008 Data

DATE	Surf Temp (°C)	Bot Temp (°C)	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	13				19	72		0.9	1	
5/5	13.8				23	80		0.6	1	
5/16	21.7				19	74		0.6	2	2
5/23	20.8				26	99		0.6	2	4
6/12	23.2				58	129		0.4	3	4
6/23	28.1				30	94		0.5		
7/10	24.7				130	204		0.3		
7/21	29.2				120	166		0.3	3	4
8/11	26.8				15	50		0.3	4	4
8/21	27.4				160	193		0.2	4	4
9/9	21.5					284		0.1	4	4
9/24	20.8				190	267		0.1	4	4
10/11	17.8				130	165		0.3		



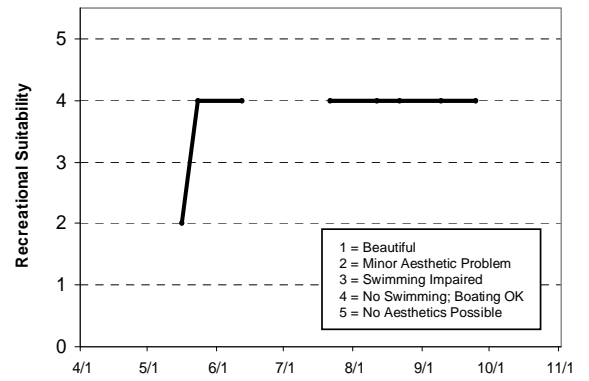
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Prior Lake [lower basin, site 1] (70-0026) Prior Lake - Spring Lake Watershed District

Prior Lake (lower basin) is located in the City of Prior Lake (Scott County). The lower basin is considered a Priority Lake by the Metropolitan Council for its high regional recreation value.

The lower basin has a surface area of 957 acres. The maximum and mean depths of the basin are 18.3 and 4.1 m (60 and 13 feet), respectively. Approximately 39 percent of the lake's surface area is considered littoral zone, which is the 0-15 feet depth zone of aquatic plant dominance. The lower basin's 2,090-acre watershed translates to a rather small watershed-to-lake area ratio of 2.5:1. The greater the ratio, the greater the potential stress on the lake from surface runoff. The lower basin has one inlet, which is the outlet from the upper basin of Prior Lake. The lower basin has one outlet. The outlet structure, located at the southwestern portion of the basin, was installed to regulate surface water elevations.

The MN DNR has designated the lower basin as being infested with Eurasian water milfoil (*Myriophyllum spicatum*) and Zebra mussels (*Dreissena spp.*).

While the Metropolitan Council has monitored the lower basin of Prior Lake in the past, the basin has been a part of the CAMP since 1997. Lower Prior was monitored 12 times in 2008. 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.

2008 summer (May-September) data summary

Parameter	Mean	Minimum	Maximum	Grade
TP ($\mu\text{g/l}$)	19.9	10.0	39.0	A
CLA ($\mu\text{g/l}$)	11.0	2.3	28.0	B
Secchi (m)	3.0	1.5	5.0	B
TKN (mg/l)	1.08	0.84	1.20	
Lake Grade				B

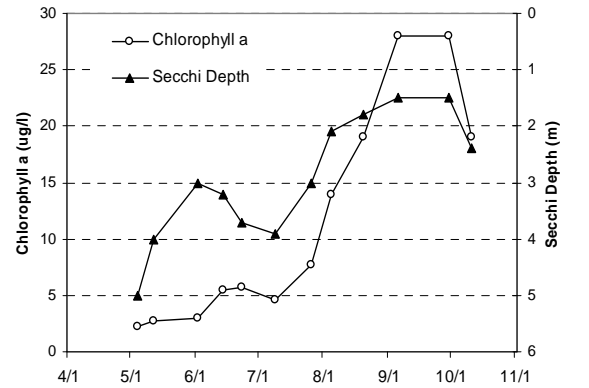
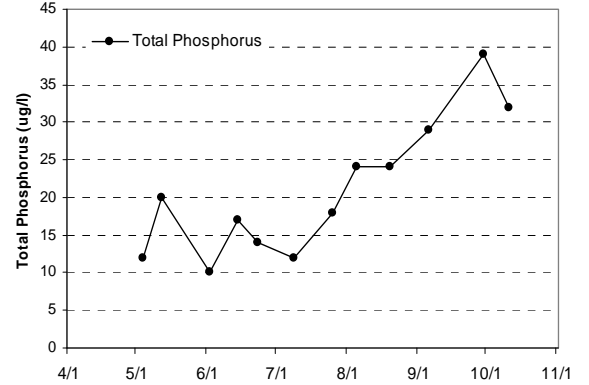
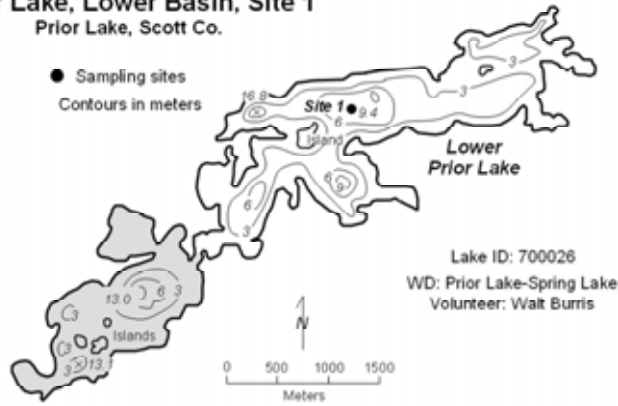
The lower basin received a lake grade of B for 2008. The historical lake grades appear to vary from A's to C's. With such variation, it is difficult to discern trends in the basin's water quality. Furthermore, a trend analysis conducted by the MPCA on the lake's Secchi transparency data revealed no statistically significant trend in water clarity (MPCA 2008).

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 2.1 (between 2- "some algae present" and 3- "definite algae present"). The average recreational suitability ranking was 1.5 (between 1- "beautiful" and 2- "minor aesthetic problem").

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/>.

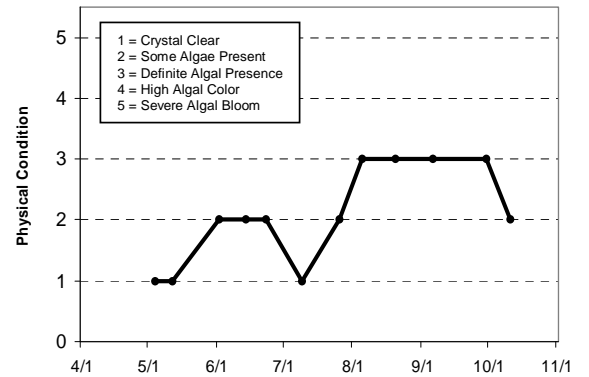
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Prior Lake, Lower Basin, Site 1
Prior Lake, Scott Co.



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	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	9.7				2.3	12		5	1	1
5/12	12.8				2.8	20		4	1	1
6/2	19.4				3	10		3	2	1
6/14	19.9				5.5	17		3.2	2	1
6/23	24.6				5.7	14		3.7	2	1
7/9	25.2				4.6	12		3.9	1	1
7/26	26				7.7	18		3	2	1
8/5	26.6				14	24		2.1	3	2
8/20	26.3				19	24		1.8	3	2
9/6	21.9				28	29		1.5	3	3
9/30	18.6				28	39		1.5	3	2
10/11	16.6				19	32		2.4	2	1



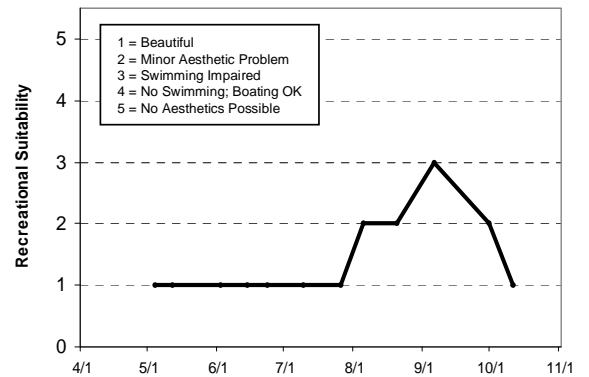
Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Total Phosphorus	C	A			B								C
Chlorophyll a	B				B					A	B		B
Secchi Depth	C	C	B	C	B	C	B	C	C	B	B	C	C
Lake Grade	C				B								C

Year	1993	1994	1995	1996	1997	1998 Site 1	1998 Site 2	1999 Site 1	1999 Site 2	2000 Site 1	2000 Site 2	2001 Site 1	2001 Site 2
Total Phosphorus			C	A	A	B	A	C	B	B	B	A	B
Chlorophyll a			A	A	B	C	A	B	B	B	B	B	C
Secchi Depth	B	B	B	B	B	C	C	B	C	B	C	B	C
Lake Grade			B	A	B	C	A	C	B	B	B	B	C

Year	2002 Site 1	2002 Site 2	2003 Site 1	2004 Site 1	2005 Site 1	2006 Site 1	2007 Site 1	2008 Site 1
Total Phosphorus	B	C	C	B	A	C	A	A
Chlorophyll a	B	C	A	B	A	B	B	B
Secchi Depth	B	C	A	B	A	B	B	B
Lake Grade	B	C	B	B	A	B	B	B

Source: Metropolitan Council and STORET data



Prior Lake [upper basin, site-1] (70-0072) Prior Lake - Spring Lake Watershed District

Prior Lake (upper basin) is located in the City of Prior Lake (Scott County). The upper basin is considered a Priority Lake by the Metropolitan Council for its high regional recreation value.

The upper basin has a surface area of 386 acres. The maximum and mean depths of the upper basin of Prior Lake are 15.2 and 3.1 m (50 and 10 feet), respectively. Approximately 85 percent of the lake's surface area is considered littoral zone, which is the 0-15 feet depth zone of aquatic plant dominance. The upper basin's 3,430-acre watershed translates to a watershed-to-lake area ratio of 10:1. The greater the ratio, the greater the potential stress on the lake from surface runoff. The upper basin of Prior Lake has two natural inlets, inflow from Spring Lake and the inlet from Rice and Crystal Lake drainage.

The MN DNR has designated the upper basin as being infested with Eurasian water milfoil (*Myriophyllum spicatum*) and Zebra mussels (*Dreissena spp.*).

While the Metropolitan Council has monitored the upper basin of Prior Lake in the past, the basin has been a part of the CAMP since 1997. The upper basin of Prior Lake was monitored 12 times in 2008. 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.

2008 summer (May-September) data summary

Parameter	Mean	Minimum	Maximum	Grade
TP (µg/l)	55.5	19.0	91.0	C
CLA (µg/l)	54.8	2.0	110.0	D
Secchi (m)	1.5	0.7	4.6	C
TKN (mg/l)	1.82	1.30	2.40	
			Lake Grade	C

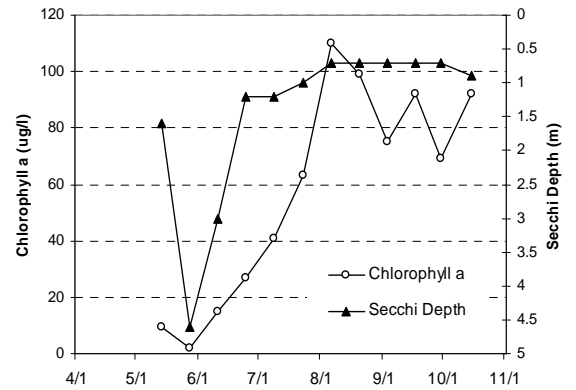
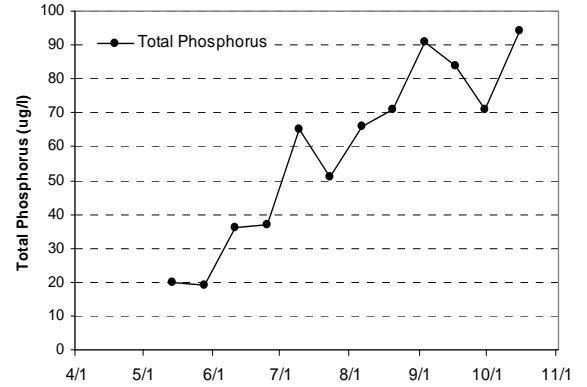
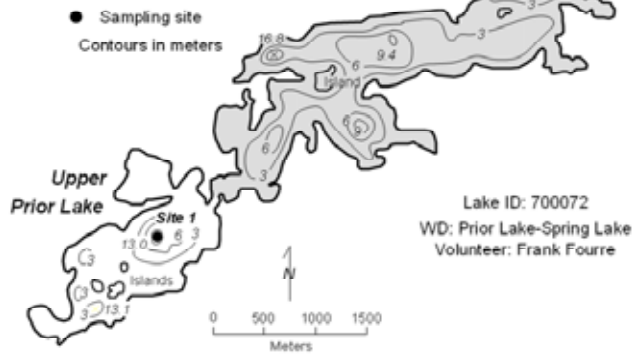
The upper basin received a lake grade of C for 2008. Historical data for the upper basin indicate that the water quality of the basin has varied between lake grades of C and D. A trend analysis conducted by the MPCA on the lake's Secchi transparency data revealed no statistically significant trend in water clarity (MPCA 2008).

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 2.1 (between 2- "some algae present" and 3- "definite algae present"). The average recreational suitability ranking was 1.8 (between 1- "beautiful" and 2- "minor aesthetic problem").

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/>.

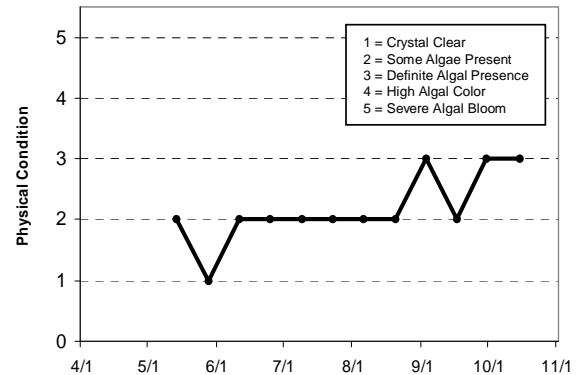
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Prior Lake, Upper Basin, Site 1
Prior Lake, Scott Co.



2008 Data

DATE	Surf Temp (°C)	Bot Temp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/14	13				9.5	20		1.6	2	2
5/28	18				2	19		4.6	1	1
6/11	19.6				15	36		3	2	1
6/25	24.3				27	37		1.2	2	2
7/9	25				41	65		1.2	2	2
7/23	26.2				63	51		1	2	2
8/6	26.1				110	66		0.7	2	2
8/20	26				99	71		0.7	2	2
9/3	22.8				75	91		0.7	3	2
9/17	19				92	84		0.7	2	2
9/30	19.3				69	71		0.7	3	2
10/15	14.5				92	94		0.9	3	2



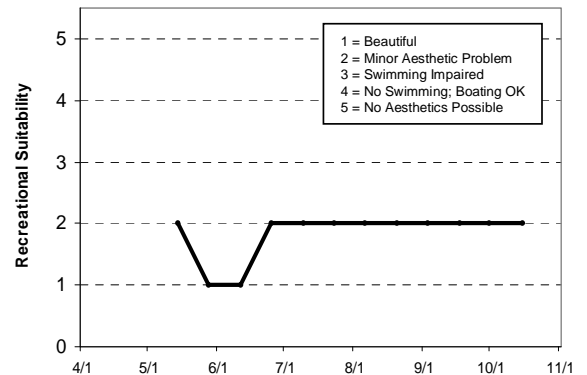
Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Total Phosphorus	C	C			D						D		
Chlorophyll a	D	D			D						C	C	
Secchi Depth	D	C	D	F	D	D	D	F	F	D	D	C	D
Lake Grade	D	D			D						D		

Year	1993	1994	1995	1996	1997	1998 Site 1	1998 Site 2	1999 Site 1	1999 Site 2	2000 Site 1	2000 Site 2	2001 Site 1	2001 Site 2
Total Phosphorus			C	C	C			D		D		D	
Chlorophyll a			C	C	D			D		D		F	
Secchi Depth	D	D	C	C	D	D		D		C		D	
Lake Grade			C	C	D			D		D		D	

Year	2002 Site 1	2002 Site 2	2003 Site 1	2004 Site 1	2005 Site 1	2006 Site 1	2007 Site 1	2008 Site 1
Total Phosphorus	D	D	C	D	C	D	C	C
Chlorophyll a	D	D	D	D	C	D	C	D
Secchi Depth	D	D	C	D	C	C	D	C
Lake Grade	D	D	C	D	C	D	D	C

Source: Metropolitan Council and STORET data



Regional Park Lake (82-0087) South Washington Watershed District

Regional Park Lake is a 16-acre lake located within the City of Cottage Grove (Washington County). The maximum depth of the lake is 5.8 m. 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.

The majority of the land within the 600-acre watershed is undeveloped. The watershed-to-lake size ratio is 38:1. The greater the ratio, the greater the potential stress on the lake from surface runoff.

The lake was monitored 7 times in 2008. 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.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	76.1	54.0	111.0	D
CLA (µg/l)	25.2	7.4	47.0	C
Secchi (m)	2.2	1.2	2.9	C
TKN (mg/l)	1.25	0.98	1.60	
			Lake Grade	C

The lake received a lake grade of C for 2008, which is similar to lake grades received in the past 4 years, but better than the D lake grades received in 1998 and 2000-2003. This year was the fourth consecutive year in which water clarity received a C grade, which is an improvement over the F grades that were recorded in 1998 and 2000-2003. A trend analysis conducted by the MPCA on the lake's Secchi transparency data revealed a statistically significant improving trend in water clarity (MPCA 2008).

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 2.9 (between 2- "some algae present" and 3- "definite algae present"). The average recreational suitability ranking was 3.9 (between 3- "swimming slightly impaired" and 4- "no swimming/boating ok").

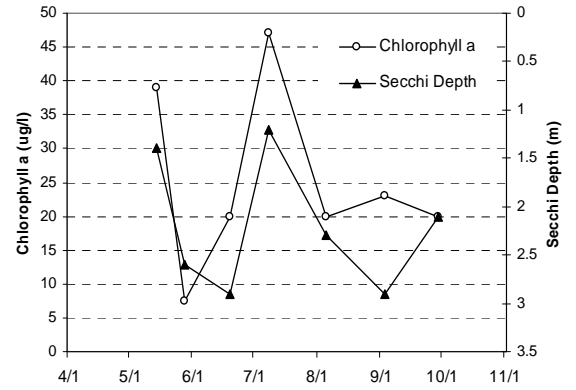
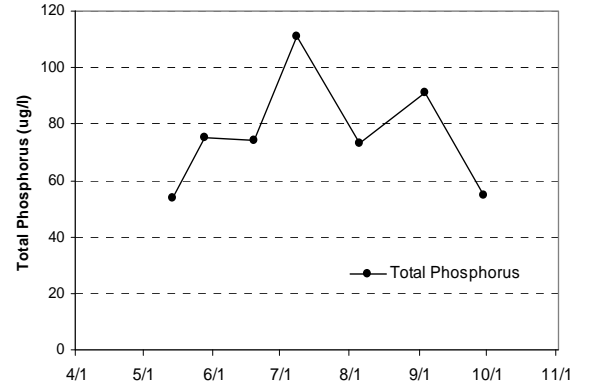
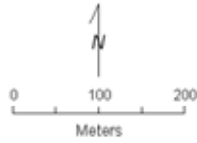
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

Regional Park Lake
Cottage Grove, Washington Co.

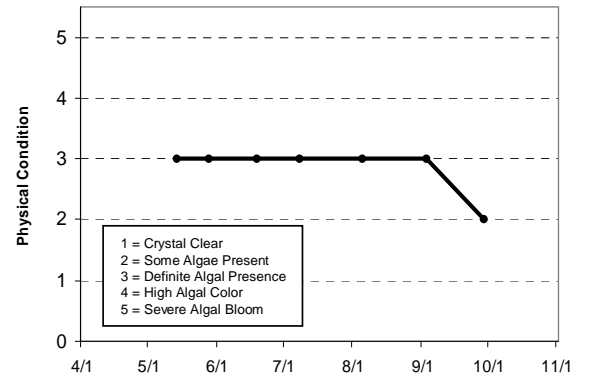
Lake ID: 820087
WD: South Washington
Volunteer: Washington
Conservation District

● Sampling site
Contours in meters



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/14	14.4	8.6	12.9	0.4	39	54		1.4	3	4
5/28	18.4	9.2	8.82	0.2	7.4	75		2.6	3	4
6/19	22.8	11.2	9.77	0.23	20	74		2.9	3	4
7/8	25.1	11.6	10.45	0.49	47	111		1.2	3	4
8/5	25.5	12.9	3.85	0.16	20	73		2.3	3	4
9/3	22.2	13.1	5.71	0.16	23	91		2.9	3	4
9/29	18.3	16.3	4.55	0.31	20	55		2.1	2	3



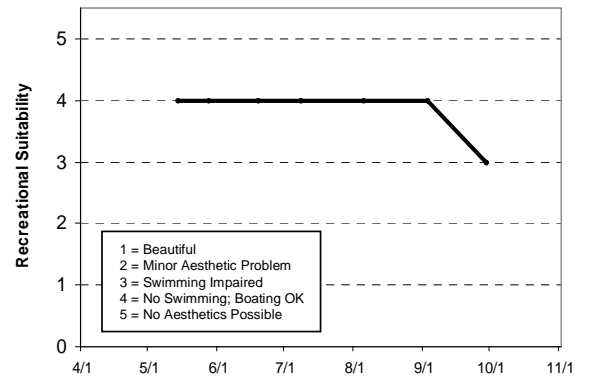
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Reitz Lake (10-0052) Carver County Environmental Services

Reitz Lake, a 79-acre lake located within Laketown Township (Carver County), is considered a Metropolitan Area “Priority Lake” because of its multi-recreational uses. A public access is located on its northeastern shore. The mean and maximum depths of the lake are 4.0 m (13 feet) and 11.0 m (36 feet). Roughly 58 percent of the lake area is considered littoral zone (area of aquatic plant dominance). The lake’s mean depth and surface area translate to an approximate volume of 1,027 ac-ft. The lake has a 3,711-acre immediate watershed, which translates to a watershed-to-lake area ratio of 47:1 (the larger the ratio the greater the potential stress put on the lake from surface runoff).

The DNR has designated the lake as being infested with Eurasian Water Milfoil (*Myriophyllum spicatum*).

This was the tenth year that Reitz Lake has been involved in the CAMP. Council staff, however, has monitored the lake, in the past. A search through the STORET nationwide water quality database for historical data on the lake provided three years of data (1985, 1991 and 1993) prior to the 1999-2006 CAMP data.

The lake was monitored 11 times between early May and early October. 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.

2008 summer (May-September) data summary

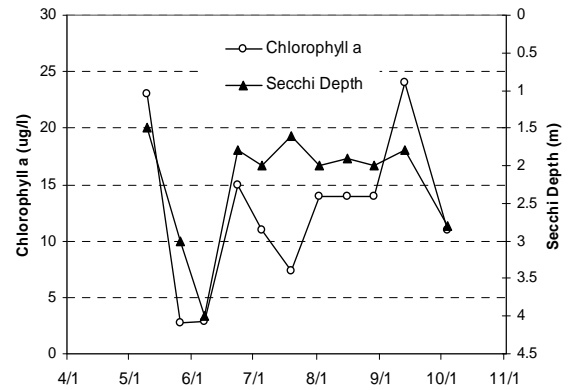
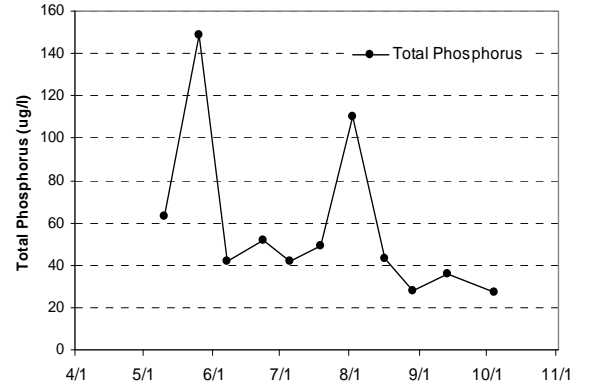
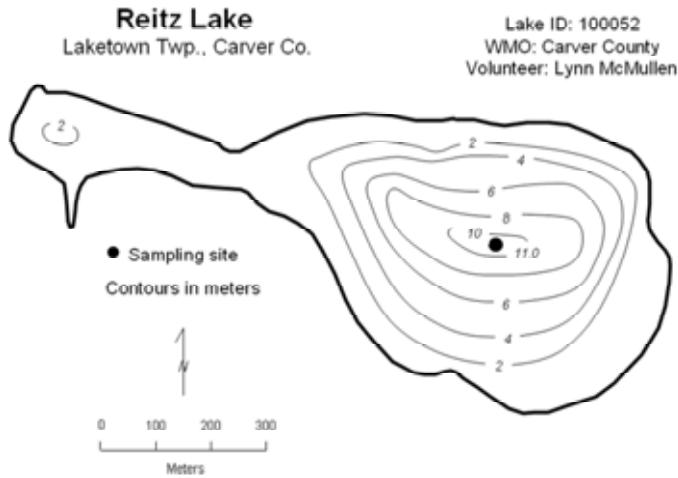
<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	61.4	28.0	149.0	C
CLA (µg/l)	12.8	2.8	24.0	B
Secchi (m)	2.2	1.5	4.0	C
TKN (mg/l)	1.69	1.10	2.10	
Lake Grade				C

The lake received a lake grade of C for 2008, which is similar to lake grades received in previous years. The recent years’ water quality is better than the water quality in the years 1985, 1991, and 1993. However, a trend analysis conducted by the MPCA on the lake’s Secchi transparency data revealed no statistically significant trend in water clarity (MPCA 2008).

Throughout the monitoring period, the volunteers’ opinions of the lake’s physical and recreational conditions were ranked on a 1-to-5 scale. The mean perceived physical condition of the lake was 1.7 (between 1- “crystal clear” and 2- “some algae present”), while the mean recreational suitability was 1.2 (between 1- “beautiful” and 2- “minor aesthetic problem”).

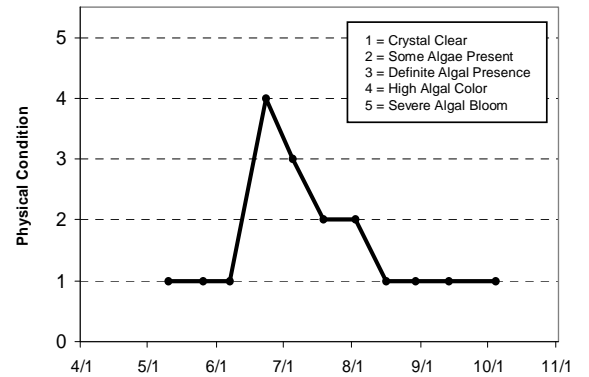
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/10	14				23	63		1.5	1	1
5/26	17				2.8	149		3	1	1
6/7	16				2.9	42		4	1	1
6/23	23				15	52		1.8	4	2
7/5	24				11	42		2	3	2
7/19	24				7.3	49		1.6	2	1
8/2	26				14	110		2	2	1
8/16	23				14	43		1.9	1	1
8/29	22				14	28		2	1	1
9/13	20				24	36		1.8	1	1
10/4	16				11	27		2.8	1	1



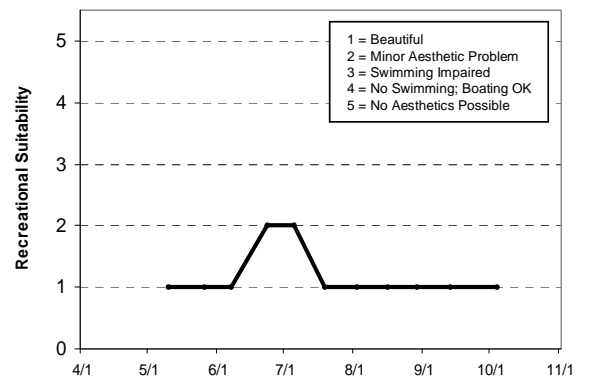
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Reshanau Lake (02-0009) Rice Creek Watershed District

Reshanau Lake is located in the City of Lino Lakes (Anoka County). The 336-acre lake has a mean and maximum depth of 3.2 m (10.5 feet) and 4.9 m (16 feet). The lake's surface area and mean depth translates to an approximate lake volume of 3,535 ac-ft. 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.

The lake was monitored 7 times in 2008. 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.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	70.3	33.0	103.0	D
CLA ($\mu\text{g/l}$)	57.2	8.2	96.0	D
Secchi (m)	0.4	0.2	0.7	F
TKN (mg/l)	2.15	1.60	2.70	
			Lake Grade	D

The lake received a lake grade of D for 2008, which is similar to the lake grades received in the previous two years. Continued monitoring is recommended to continue to build the water quality database for this lake.

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 2.2 (between 2- "some algae present" and 3- "definite algae present"). The average recreational suitability ranking was 2.7 (between 2- "minor aesthetic problem" and 3- "swimming slightly impaired").

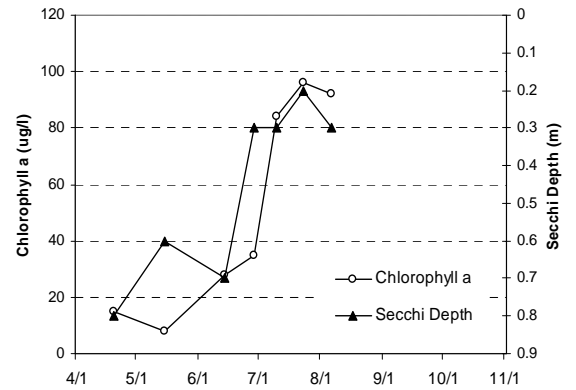
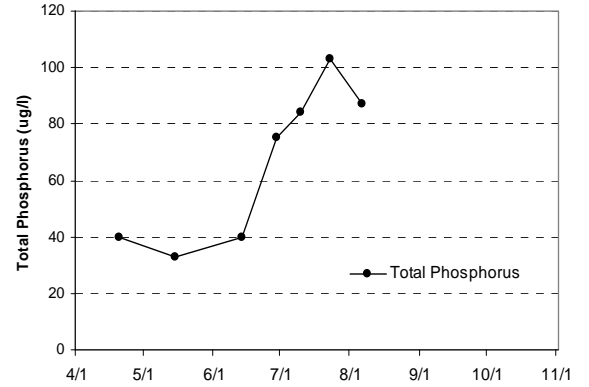
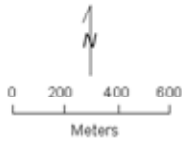
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

Reshanau Lake
Lino Lakes, Anoka Co.

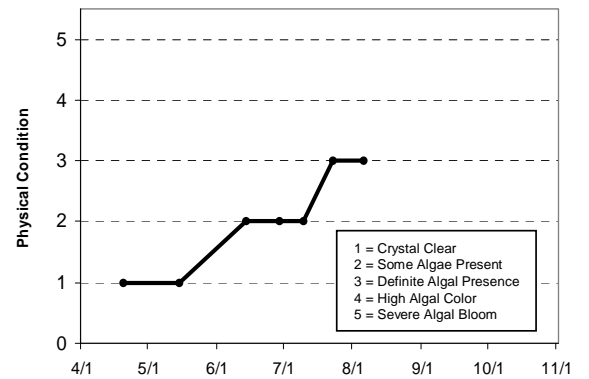
Lake ID: 20009
WD: Rice Creek
Volunteer: Lori Fredlund

● Sampling site
Contours in meters



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	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	8.3				15	40		0.8	1	1
5/15	18.1				8.2	33		0.6	1	1
6/14	25				28	40		0.7	2	3
6/29	25				35	75		0.3	2	3
7/10	25.2				84	84		0.3	2	3
7/23	25.4				96	103		0.2	3	3
8/6	25.2				92	87		0.3	3	3



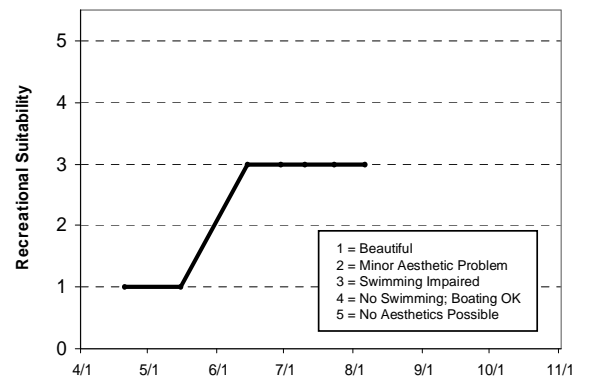
Lake Water Quality Grades Based on Summertime Averages

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												
Chlorophyll a												
Secchi Depth												
Lake Grade												

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

Source: Metropolitan Council and STORET data



Rest Area Pond (82-0514) - Valley Branch Watershed District

Rest Area Pond is a 12.6-acre lake located within West Lakeland Township (Washington County). There is little morphological information for the pond. The pond's surface area and watershed area (17,781 acres) translates to a 157:1 watershed-to-pond area ratio. Generally the larger the ratio, the greater the potential stress on the pond from surface runoff.

The pond was monitored 13 times in 2008. On each sampling day the pond was monitored for total phosphorus (TP), chlorophyll-a (CLA), total Kjeldahl nitrogen (TKN), and Secchi transparency, as well as the pond's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	214.1	92.0	351.0	F
CLA ($\mu\text{g/l}$)	87.0	13.0	230.0	F
Secchi (m)	0.5	0.2	1.0	F
TKN (mg/l)	3.60	1.60	5.90	
			Lake Grade	F

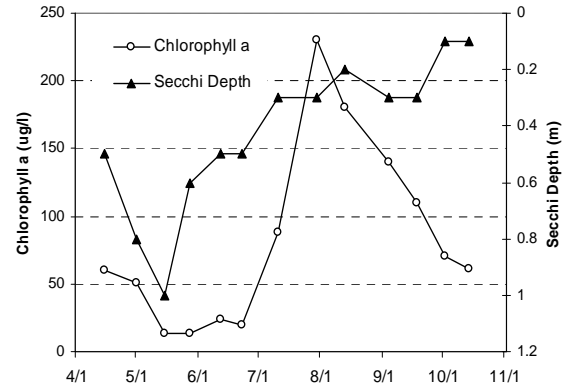
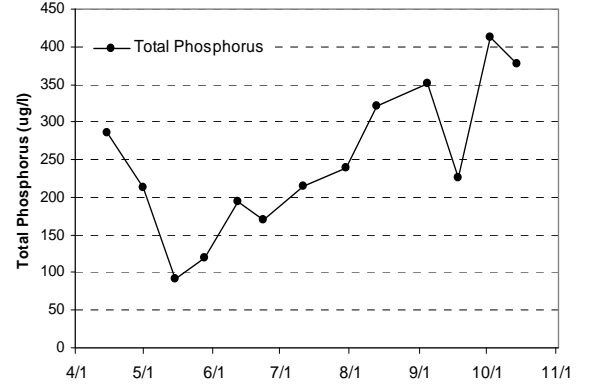
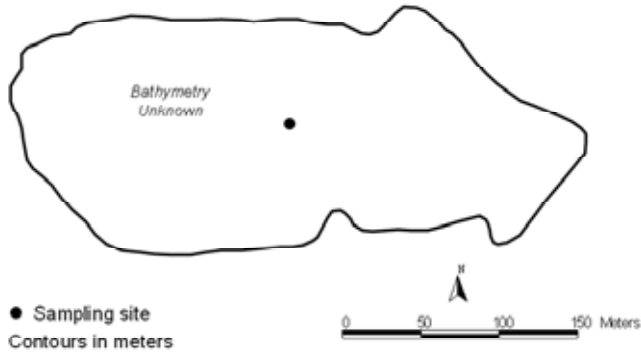
The pond received a lake grade of F for 2008, which is worse than the D lake grades received in the previous two years. The mean summer-time CLA concentration was notably higher in 2008 than the previous two years. Continued monitoring is suggested to acquire data for determining if the pond is experiencing worsening water quality conditions.

The volunteer's perceptions of the physical and recreational conditions of the pond were not recorded by the volunteer.

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.

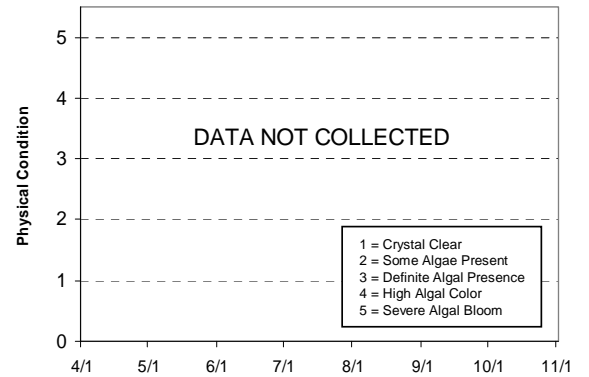
Rest Area Pond
West Lakeland Twp.,
Washington Co.

Lake ID: 820514
WD: Valley Branch
Volunteer: MnDOT



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	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	5.2				60	286		0.5		
5/1	9.2				51	213		0.8		
5/15	17.3				13	92		1		
5/28	18.9				14	120		0.6		
6/12	22.2				24	194		0.5		
6/23	23.7				20	170		0.5		
7/11	23.9				88	214		0.3		
7/30	26.7				230	239		0.3		
8/13	23.7				180	322		0.2		
9/4	20.8				140	351		0.3		
9/18	19.5				110	226		0.3		
10/2	16.3				71	413		0.1		
10/14	14.3				61	378		0.1		



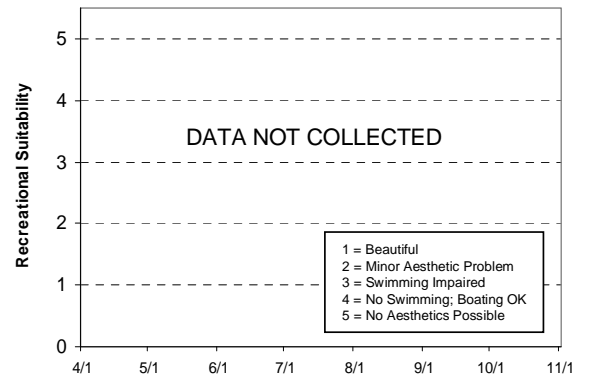
Lake Water Quality Grades Based on Summertime Averages

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
Total Phosphorus		D	F	F	
Chlorophyll a		D	C	F	
Secchi Depth		D	F	F	
Lake Grade		D	D	F	

Source: Metropolitan Council and STORET data



Rice Lake [Maple Grove] (27-0116) – Elm Creek Watershed Management Commission

Rice Lake lies within the City of Maple Grove. The lake has a surface area of 252 acres, an average depth of 1.9 m (6.2 ft), and a volume of 1570 acre-feet. The maximum depth is 3.4 m (11 ft). Because of the shallowness of the lake, the entire area is considered littoral zone, and it does not maintain a thermocline (a density gradient owed to changing water temperatures throughout the lake's water column). The MN DNR has designated the lake as being infested with Eurasian water milfoil (*Myriophyllum spicatum*).

This was the second year that Rice Lake has been involved in the CAMP. A search through the STORET nationwide water quality database for historic data showed that Secchi transparency measurements were collected along with user perception rankings for the years 1991, 1993, and 2002-2007. Dissolved oxygen measurements were collected in 1993. However, the CAMP 2007 and 2008 data are the only years of known data collected for nutrients and chlorophyll-a.

The lake was monitored 10 times between early May and mid-October 2008. On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total Kjeldahl nitrogen (TKN), and Secchi transparency (water clarity), as well as the lake's perceived physical condition and recreational suitability. The data are summarized in the figures and graphs on the following page.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	282.0	45.0	749.0	F
CLA (µg/l)	49.9	15.0	140.0	D
Secchi (m)	1.3	0.4	2.9	C
TKN (mg/l)	2.08	1.60	2.80	
Lake Grade				D

The lake received a lake grade of D for 2008 compared to last year's lake grade of F, which gives the appearance of an improvement in water quality. However, the 2008 lake grade was calculated on the basis of data collected from early May through mid-October, whereas the available 2007 data spans the period mid-June through mid-October. The 2008 data shows that the lake experienced relatively lower concentrations of TP and CLA, and greater water clarity during April, May, and early June. The 2007 data is lacking in this same time period. If the lake typically experiences better water quality during this time period every year, then the 2007 mean values would be skewed towards worse water quality because of the missing data from the earlier portion of the monitoring season. Therefore, it would be difficult to compare the overall 2008 lake water quality to that of 2007. To better understand the lake's water quality and where it may be heading, additional years of data collection are needed.

The perceived physical and recreational conditions (ranked on a 1-to-5 scale) are shown in the figures on the following page. The average user perception rankings were 3.9 for physical condition (approximately 4- "high algal color"), and 4.0 for recreational suitability (4- "no swimming – boating ok").

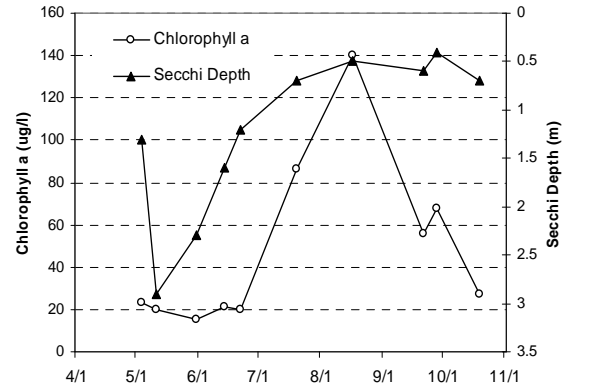
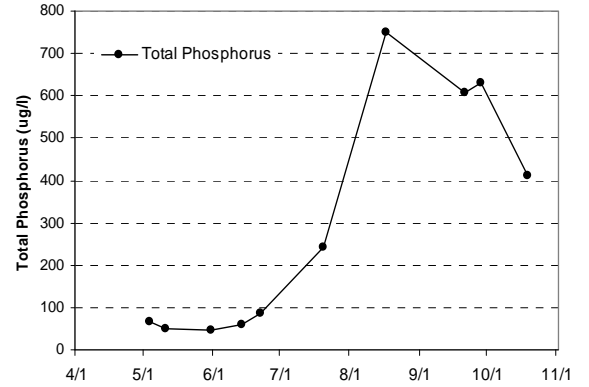
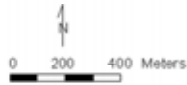
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

Rice Lake
Maple Grove, Hennepin Co.

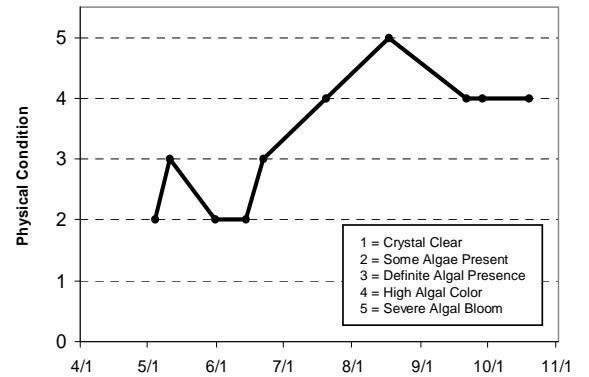
Lake ID: 270116
WMO: Elm Creek
Volunteer: George Schneider

● Sampling site
Contours in meters



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	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	12				23	68		1.3	2	3
5/11	14				20	49		2.9	3	3
5/31	20				15	45		2.3	2	2
6/14	21				21	60		1.6	2	2
6/22	24				20	87		1.2	3	3
7/20	27				86	243		0.7	4	4
8/17	26				140	749		0.5	5	4
9/21	22				56	607		0.6	4	4
9/28	18				68	630		0.4	4	3
10/19	12				27	411		0.7	4	3



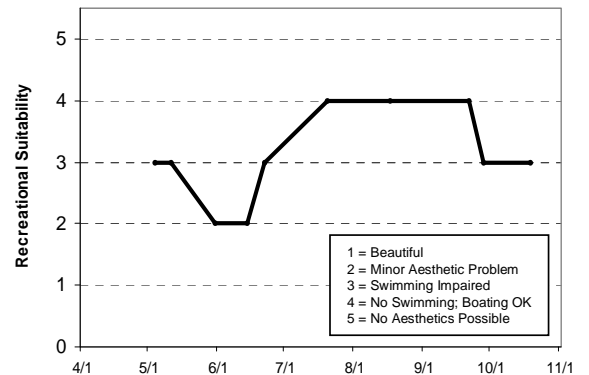
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Riley Lake (10-0002) City of Chanhassen

Riley Lake is located with the cities of Chanhassen and Eden Prairie (Carver and Hennepin counties). It is considered a Priority Lake by the Metropolitan Council for its high regional recreation value. It has a surface area of 297 acres. The maximum and mean depths are 15.0 m and 6.6 m, respectively. Roughly 34 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 has a 4,796-acre immediate watershed, which translates to a watershed-to-lake area ratio of 16:1. The larger the ratio the greater the potential stress put on the lake from surface runoff.

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

While Riley Lake has previously been monitored by Council staff, 2008 marks the sixth year the lake has been monitored through the CAMP. Riley Lake was monitored 12 times in 2008. 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.

2008 summer (May-September) data summary

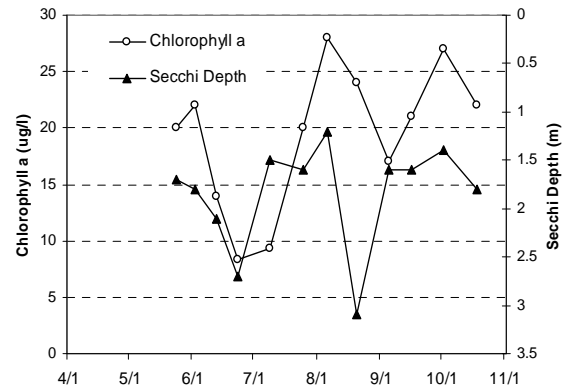
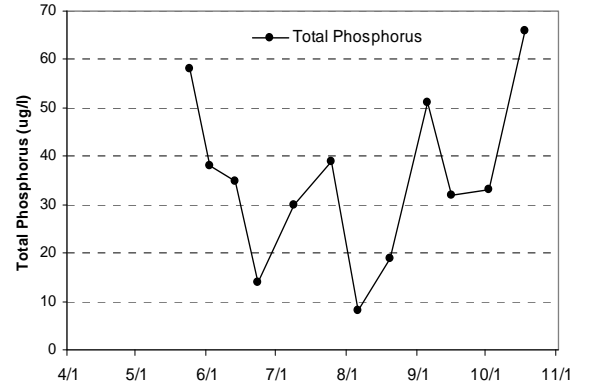
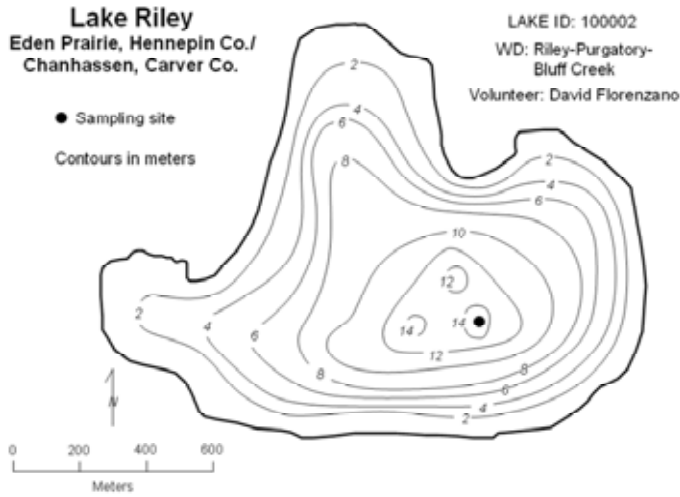
<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	32.4	8.0	58.0	C
CLA (µg/l)	18.4	8.4	28.0	B
Secchi (m)	1.9	1.2	3.1	C
TKN (mg/l)	1.78	1.40	2.10	
			Lake Grade	C

The lake received a lake grade of C for 2008, which is consistent with most years of monitoring dating back to 1980. The lake appears to be characterized as a C lake grade. A trend analysis conducted by the MPCA on the lake's Secchi transparency data revealed no statistically significant trend in water clarity (MPCA 2008).

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 3.1 (between 3- "definite algae present" and 4- "high algal color"). The average recreational suitability ranking was 2.6 (between 2- "minor aesthetic problem" and 3- "swimming slightly impaired").

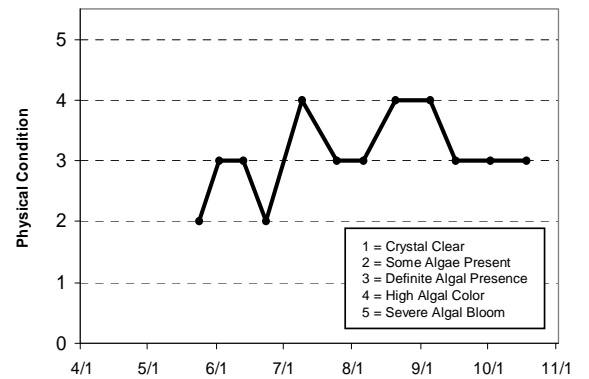
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/24	15.9				20	58		1.7	2	2
6/2	18.1				22	38		1.8	3	2
6/13	17.7				14	35		2.1	3	3
6/23	22.5				8.4	14		2.7	2	3
7/9	25.8				9.3	30		1.5	4	3
7/25	26.1				20	39		1.6	3	3
8/6	26				28	8		1.2	3	2
8/20	26.3				24	19		3.1	4	3
9/5	21.6				17	51		1.6	4	3
9/16	18.8				21	32		1.6	3	2
10/2	17.2				27	33		1.4	3	2
10/18	13.5				22	66		1.8	3	3



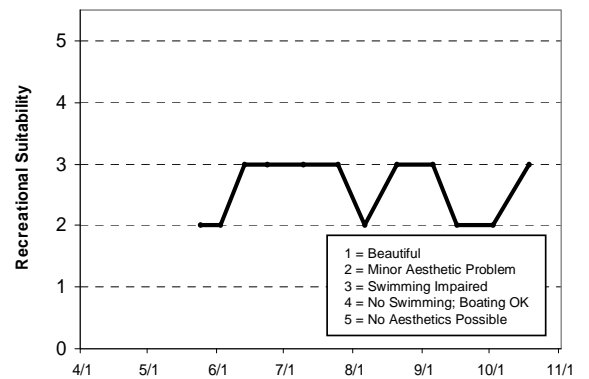
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Rogers Lake (19-0080) – Lower Mississippi River Watershed Management Organization

Rogers Lake lies within the City of Mendota Heights. The lake has a surface area of 94 acres and an average depth of 1.3 m (4.2 ft) which would give it a volume of 393 acre-feet. The maximum depth is 2.4 m (7.9 ft). 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.

This was the second year that Rogers Lake has been involved in the CAMP. A search through the STORET nationwide water quality database for historic data on the lake showed no monitoring data other than the historical CAMP data. The lake was monitored 9 times in 2008. 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.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	27.6	19.0	50.0	B
CLA (µg/l)	4.9	1.7	12.0	A
Secchi (m)	1.4	1.1	1.9	C
TKN (mg/l)	1.71	1.40	2.10	
			Lake Grade	B

The lake received a lake grade of B for 2008. To better understand the lake's water quality and where it may be heading, additional years of data collection are needed to build the water quality database.

The water clarity grade of C does not correlate well with the chlorophyll-a grade of A. A possible explanation may be that the water clarity may be affected by higher levels of total suspended solids from surface runoff from storm sewers and the surrounding urbanized watershed. It is possible for higher suspended solids loadings to decrease water clarity which would decrease light penetration thereby inhibiting algal growth.

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 2.1 (between 2- "some algae present" and 3- "definite algae present"). The average recreational suitability ranking was 2.0 ("minor aesthetic problem").

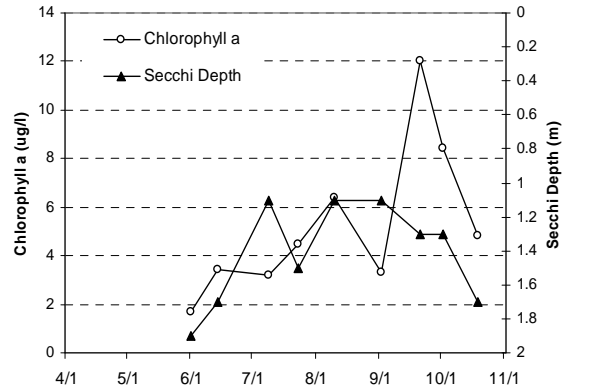
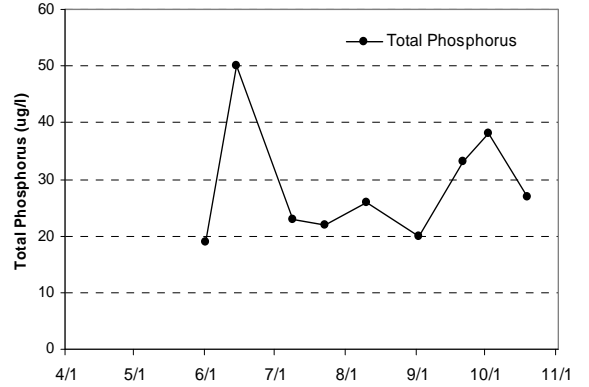
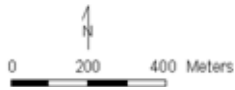
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

Rogers Lake Mendota Heights, Dakota Co.

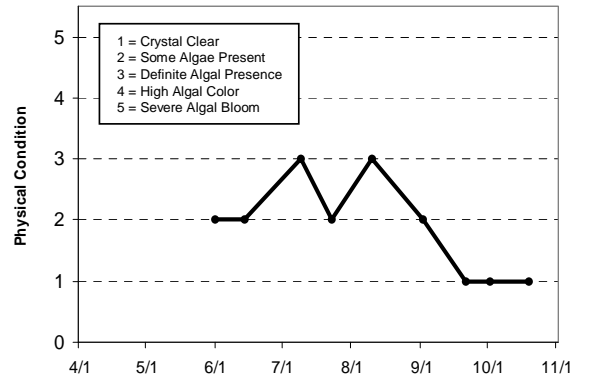
Lake ID: 190080
WMO: Lower Mississippi River
Volunteer: Doug Hennes

● Sampling site
Contours in meters



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
6/1	23.1				1.7	19		1.9	2	1
6/14	22.7				3.4	50		1.7	2	1
7/9	25.9				3.2	23		1.1	3	3
7/23	27.3				4.5	22		1.5	2	2
8/10	25.9				6.4	26		1.1	3	4
9/2	23				3.3	20		1.1	2	2
9/21	22.7				12	33		1.3	1	1
10/2	16.1				8.4	38		1.3	1	1
10/19	12.5				4.8	27		1.7	1	1



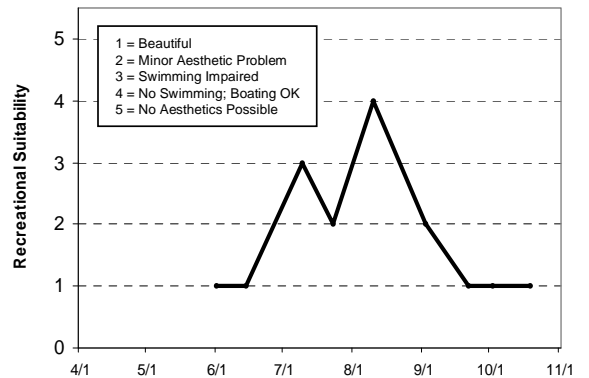
Lake Water Quality Grades Based on Summertime Averages

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
Total Phosphorus				C	B
Chlorophyll a				A	A
Secchi Depth				D	C
Lake Grade				C	B

Source: Metropolitan Council and STORET data



Rose Lake (27-0092) City of Minnetonka

Rose Lake is a small 17-acre lake located in the City of Minnetonka (Hennepin County). There is very little known morphological data available for the lake.

The lake was monitored 13 times in 2008. 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.

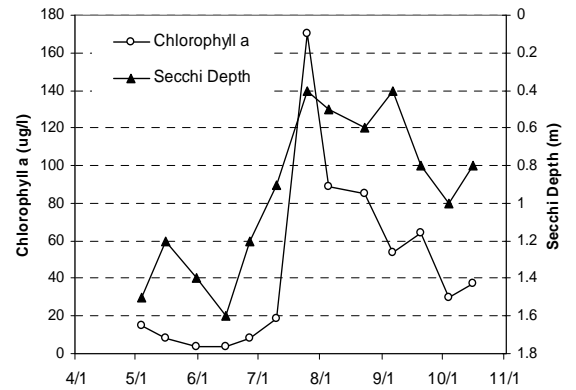
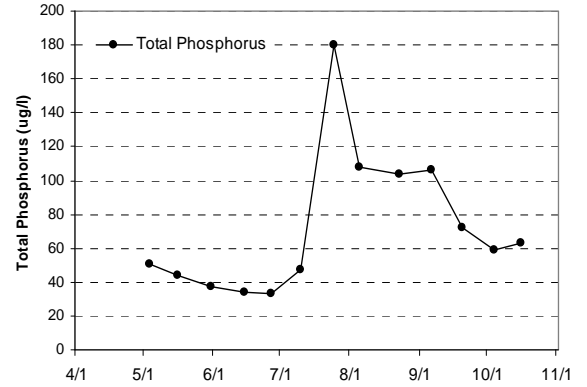
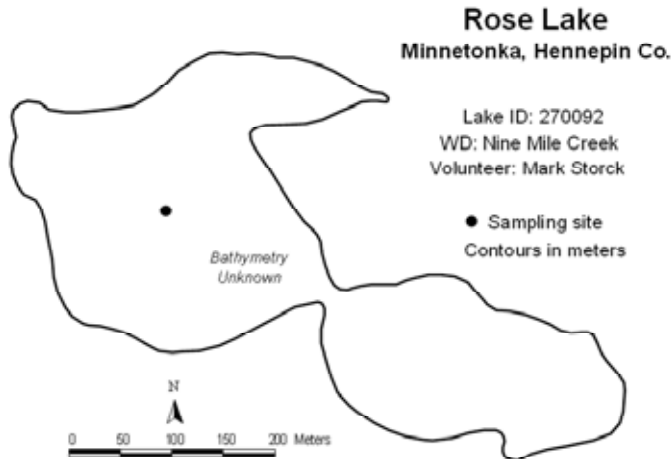
2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	74.2	33.0	180.0	D
CLA (µg/l)	47.3	3.7	170.0	C
Secchi (m)	1.0	0.4	1.6	D
TKN (mg/l)	1.59	1.30	2.10	
Lake Grade				D

The lake received a lake grade of D for 2008, which is consistent with the previous lake grades received in the previous two years. Additional monitoring is suggested to continue to build the water quality database.

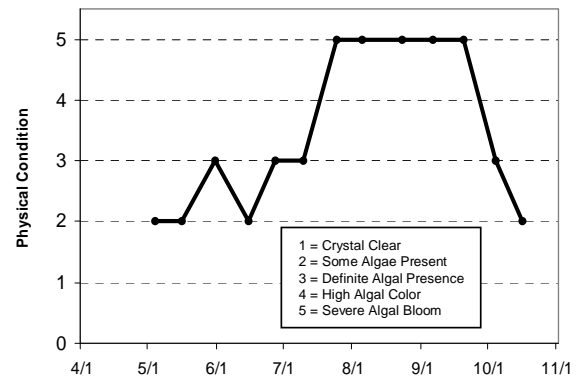
The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 3.6 (between 3- "definite algae present" and 4- "high algal color"). The average recreational suitability ranking was 4.5 (between 4- "no swimming/boating ok" and 5- "no aesthetics possible").

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.



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	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	11.7				15	51		1.5	2	1
5/16	21.1				8.3	44		1.2	2	4
5/31	22.2				3.7	37		1.4	3	5
6/15	21.6				4.1	34		1.6	2	5
6/27	24.9				7.9	33		1.2	3	5
7/10	22				19	47		0.9	3	5
7/25	22.9				170	180		0.4	5	
8/5	22.3				89	108		0.5	5	5
8/23	21.9				85	104		0.6	5	5
9/6	17.8				54	106		0.4	5	5
9/20	18				64	72		0.8	5	5
10/4	14.6				30	59		1	3	5
10/16	12.7				37	63		0.8	2	5



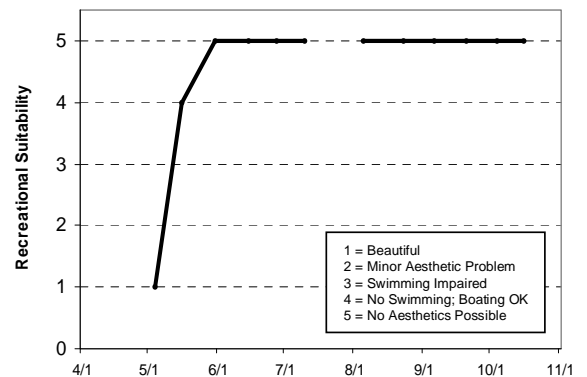
Lake Water Quality Grades Based on Summertime Averages

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												
Chlorophyll a												
Secchi Depth												
Lake Grade												

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

Source: Metropolitan Council and STORET data



Rose Lake [Site 1, north basin] (82-0012) Washington Conservation District

Rose Lake is a small lake located in the City of Lake Elmo (Washington County). There is very little known morphological data available for the lake.

This was the first year the lake was monitored via the CAMP. A search through STORET, the national water quality database, showed no historical water quality data for this lake.

Site 1 (north basin) was monitored 7 times in 2008. On each sampling day Site 1 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. Depth profiles for temperature and dissolved oxygen were also measured. The resulting data are summarized in tables and figures on the following page.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	116.0	49.0	157.0	D
CLA ($\mu\text{g/l}$)	95.6	35.0	170.0	F
Secchi (m)	0.5	0.3	0.8	F
TKN (mg/l)	2.45	0.96	3.70	
			Lake Grade	F

Site 1 received a lake grade of F for 2008. Additional monitoring is suggested to continue to build the water quality database.

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 3.6 (between 3- "definite algae present" and 4- "high algal color"). The average recreational suitability ranking was 4.0 ("no swimming/boating ok").

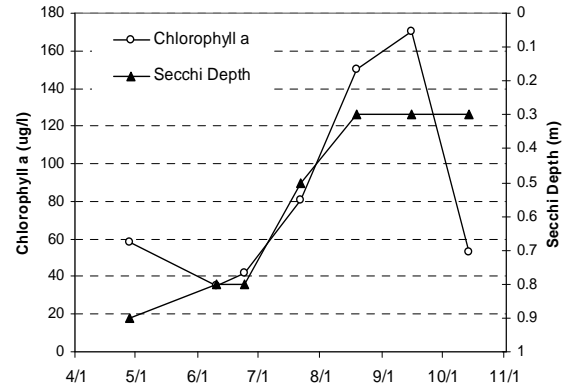
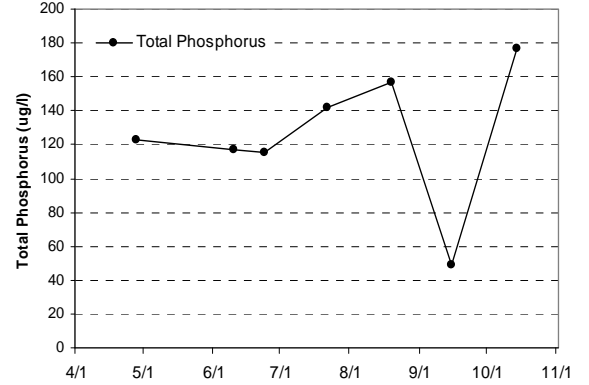
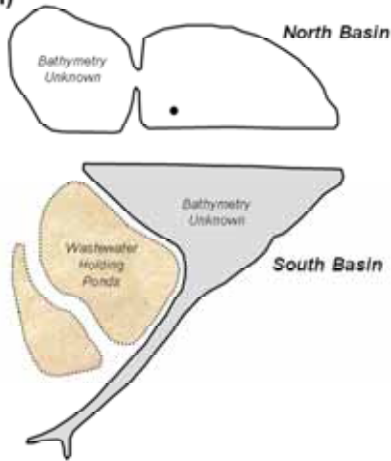
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Rose Lake (North Basin)
Lake Elmo, Washington Co.

Lake ID: 820112
WD: Valley Branch
Volunteer: Washington
Conservation District

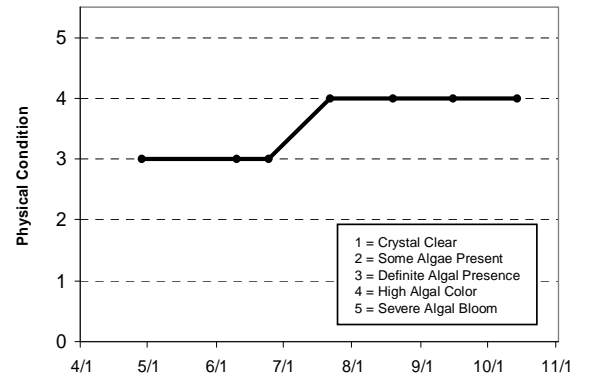
● Sampling site

Contours in meters



2008 Data

DATE	Surf Temp (°C)	Bot Temp (°C)	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	8.4	8.4	11.02	10.69	58	123		0.9	3	4
6/10	21.5	18.6	10.18	0.92	35	117		0.8	3	4
6/24	27	18.9	9.11	0.48	42	115		0.8	3	4
7/22	27.5	18.4	9.72	0.18	81	142		0.5	4	4
8/19	29.4	17.9	10.76	0.15	150	157		0.3	4	4
9/15	18	16.6	11.27	0.2	170	49		0.3	4	4
10/14	13.7	13.3	9.86	0.4	53	177		0.3	4	4



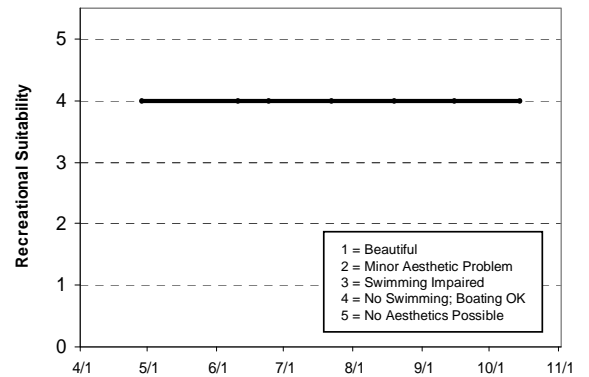
Lake Water Quality Grades Based on Summertime Averages

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												
Chlorophyll a												
Secchi Depth												
Lake Grade												

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

Source: Metropolitan Council and STORET data



Rose Lake [Site 2, south basin] (82-0012) Washington Conservation District

Rose Lake is a small lake located in the City of Lake Elmo (Washington County). There is very little known morphological data available for the lake.

This was the first year the lake was monitored via the CAMP. A search through STORET, the national water quality database, showed no historical water quality data for this lake.

Site 2 (south basin) was monitored 7 times in 2008. On each sampling day Site 2 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. Depth profiles for temperature and dissolved oxygen were also measured. The resulting data are summarized in tables and figures on the following page.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	132.0	26.0	176.0	D
CLA ($\mu\text{g/l}$)	143.8	49.0	250.0	F
Secchi (m)	0.5	0.2	0.8	F
TKN (mg/l)	3.94	1.90	7.90	
			Lake Grade	F

Site 2 received a lake grade of F for 2008. Additional monitoring is suggested to continue to build the water quality database.

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page. Each of the conditions was ranked on a scale of 1 to 5. The average physical condition ranking was 3.8 (between 3- "definite algae present" and 4- "high algal color"). The average recreational suitability ranking was 4.0 ("no swimming/boating ok").

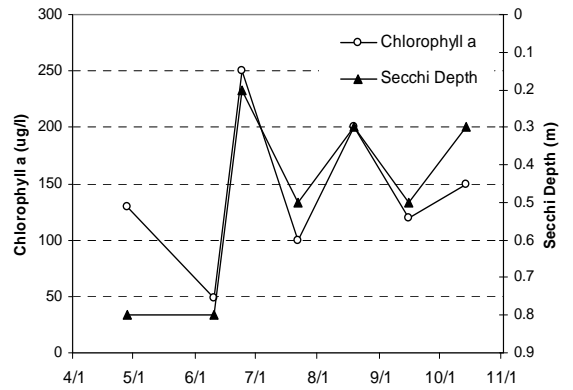
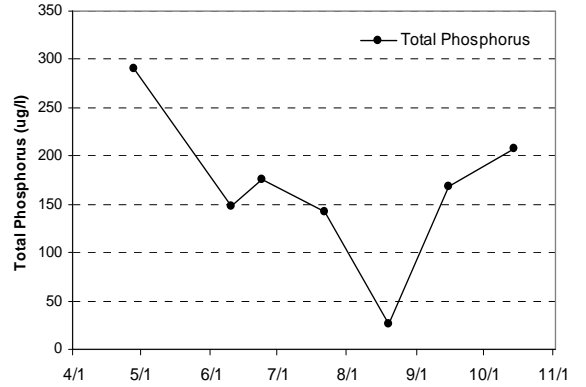
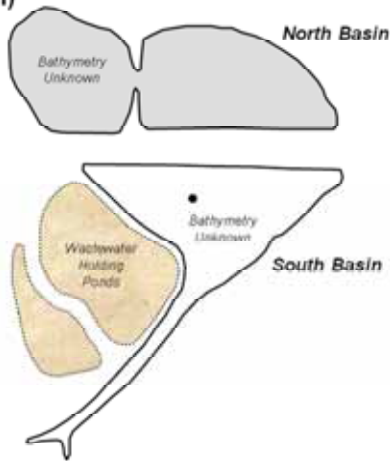
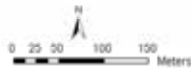
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Rose Lake (South Basin)
Lake Elmo, Washington Co.

Lake ID: 820112
WD: Valley Branch
Volunteer: Washington
Conservation District

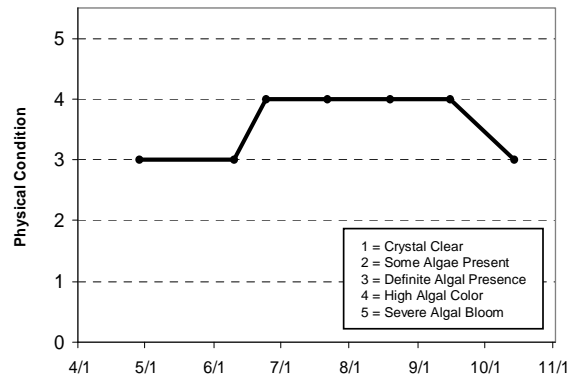
● Sampling site

Contours in meters



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	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	7.8	7.8	10.98	10.76	130	291		0.8	3	4
6/10	21	14.5	11.37	0.01	49	148		0.8	3	4
6/24	26.7	14.4	15.58	0.71	250	176		0.2	4	4
7/22	27.1	14.4	11.44	0.21	100	142		0.5	4	4
8/19	28.6	15.6	11.49	0.16	200	26		0.3	4	4
9/15	19.4	16.1	12.42	0.2	120	168		0.5	4	4
10/14	13.8	13.7	7.09	0.34	150	208		0.3	3	4



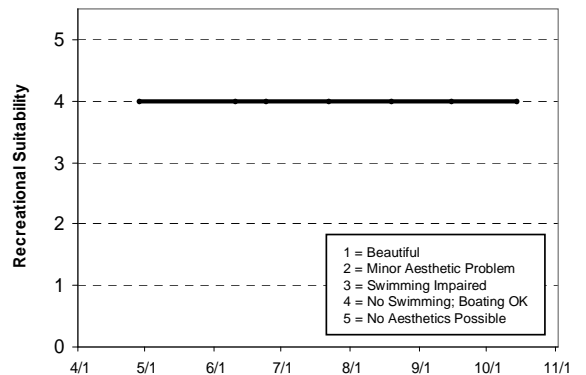
Lake Water Quality Grades Based on Summertime Averages

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												
Chlorophyll a												
Secchi Depth												
Lake Grade												

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

Source: Metropolitan Council and STORET data



Rutz Lake (10-0080) Carver County Environmental Services

Rutz Lake is a 61-acre lake located within Waconia Township (Carver County). The maximum depth of the lake is 4.0 m (roughly 13 feet). Because of the shallowness of the lake, the entire area is considered littoral zone (area of aquatic plant dominance) and it does not maintain a thermocline (a density gradient owed to changing water temperatures throughout the lake's water column).

This was the fourth year that Rutz Lake has been involved in the CAMP. The four years of CAMP data are the only known water quality data available for the lake.

The lake was monitored 5 times from mid May to early August. 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.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	168.8	104.0	233.0	F
CLA (µg/l)	50.8	14.0	75.0	D
Secchi (m)	0.5	0.4	0.6	F
TKN (mg/l)	2.56	2.40	2.80	
			Lake Grade	F

The lake received a lake grade of F for 2008, which is similar to the lake grade received for 2007, but worse than the D grades received for 2000 and 2006. Because of the limited years of data for this lake, a trend in water quality is difficult to determine with sufficient confidence. To better understand the lake's water quality and where it may be heading, more data are needed.

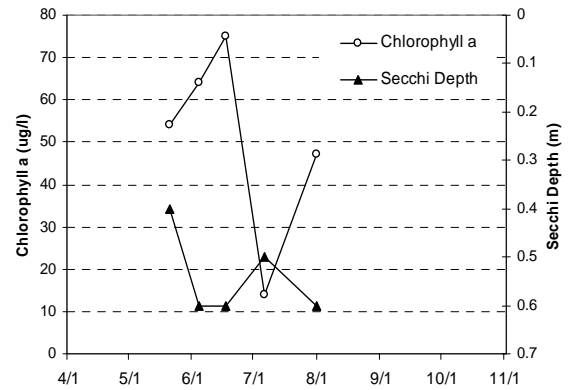
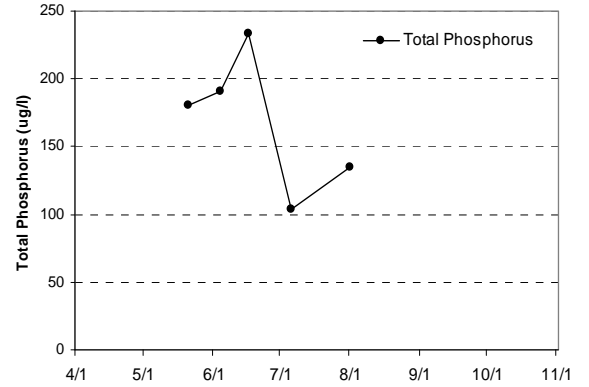
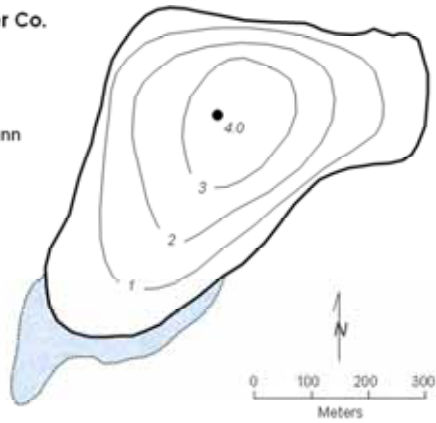
The perceived physical and recreational conditions (ranked on a 1-to-5 scale) are shown on the lake's information sheet on the next page. The average user perception rankings, were 2.6 for physical condition (between 2- "some algae present" and 3- "definite algae present"), and 3.2 for recreational suitability (between 3- "swimming slightly impaired" and 4- "no swimming – boating ok").

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.

Rutz Lake
Waconia Twp., Carver Co.

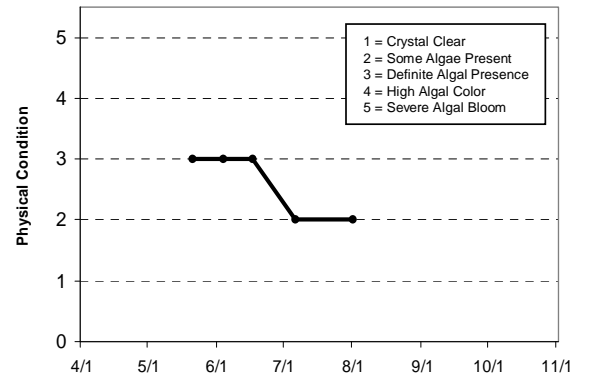
Lake ID: 100080
WMO: Carver County
Volunteer: Marty Ziermann

● Sampling site
Contours in meters



2008 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/21	18				54	181		0.4	3	4
6/4	23				64	191		0.6	3	4
6/17	24				75	233		0.6	3	2
7/6	27				14	104		0.5	2	3
8/1	29.7				47	135		0.6	2	3



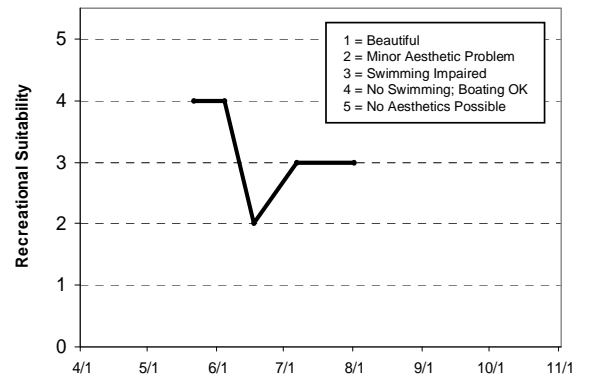
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Ryan Lake (27-0058) Shingle Creek Watershed Management Commission

Ryan Lake is located in the City of Robbinsdale (Hennepin County). The 35-acre lake has a maximum depth of approximately 10.7 m (35 ft). The watershed for the lake has an area of 5,510 acres. The surface area of the watershed and lake translate to a watershed-to-lake area ratio of 157:1. The larger the ratio the greater the potential stress on the lake from surface runoff.

A search of the STORET database revealed minimal data from 1980-1981, 1994-1995 (Secchi data), 1996, 1998, 2000 and 2002. The only years of historical data for TP, CLA and Secchi data are 1996, 1998, 2000, 2002, and 2003. While studies by Dr. Joe Shapiro were thought to have been undertaken in the mid-1980's no data were found.

The lake was monitored 13 times in 2008. 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.

2008 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	37.9	26.0	60.0	C
CLA (µg/l)	9.1	2.1	18.0	A
Secchi (m)	2.0	1.0	3.8	C
TKN (mg/l)	1.57	0.86	2.20	
			Lake Grade	B

The lake received a lake grade of B for 2008, which is similar to lake grades received in 2002 and 2003. The lake grades have fluctuated from C to B to D and back to B over the previous 13 years. Continued monitoring is suggested to continue to build the historical database.

The volunteer's perceptions of the physical and recreational conditions of the lake are shown on the next page (ranked on a scale of 1 to 5). The average user perception rankings were 1.7 for physical condition (between 1- "crystal clear" and 2- "some algae present"), and 1.6 for recreational suitability (between 1- "beautiful" and 2- "minor aesthetic problem").

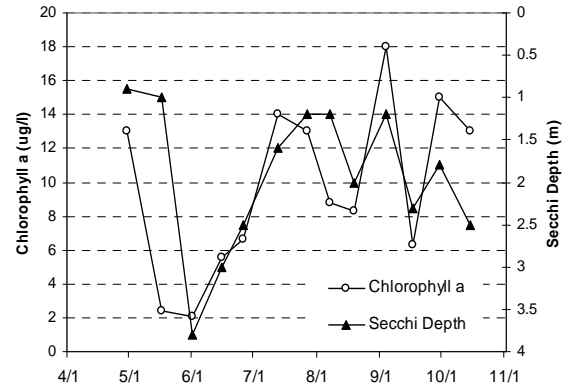
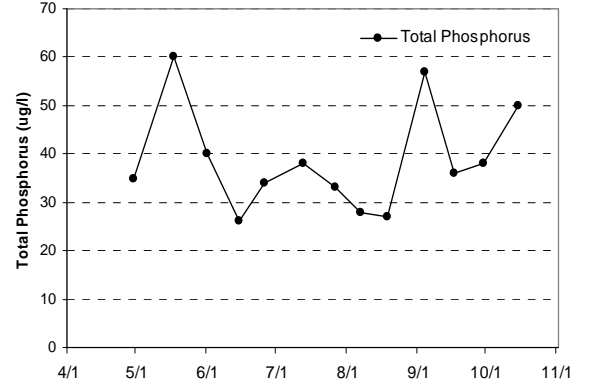
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

Ryan Lake
Brooklyn Park/Robbinsdale,
Hennepin Co.

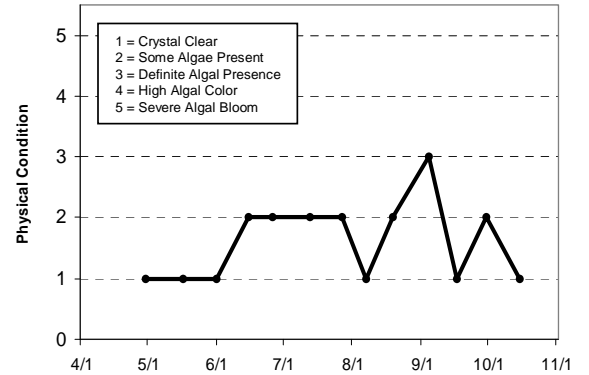
Lake ID: 270058
WMO: Shingle Creek
Volunteer: Paul Brenna

● Sampling site
Contours in meters



2008 Data

DATE	Surf Temp (°C)	Bot Temp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/30	10.9				13	35		0.9	1	
5/17	18.8				2.4	60		1	1	1
6/1	21.7				2.1	40		3.8	1	1
6/15	22.6				5.6	26		3	2	1
6/26	26.9				6.6	34		2.5	2	2
7/13	24.8				14	38		1.6	2	2
7/27	26.3				13	33		1.2	2	2
8/7	26.8				8.8	28		1.2	1	1
8/19	28.4				8.3	27		2	2	2
9/4	21				18	57		1.2	3	2
9/17	21				6.3	36		2.3	1	1
9/30	17.1				15	38		1.8	2	3
10/15	13.5				13	50		2.5	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		C		D		C	C
Chlorophyll a					B		B		C		A	A
Secchi Depth			C	C	C		B		D		C	B
Lake Grade					C		B		D		B	B

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

Source: Metropolitan Council and STORET data

