Fahlstrom Pond [east basin] (82-0005) *Washington Conservation District*

Fahlstrom Pond (east basin) is located in Afton (Washington County). There is very little morphological information available for this water body. There is no public access.

The year 2009 was the second year that this water body has been involved in the CAMP. A search of the STORET nationwide water quality database revealed no other historic monitoring data other than the 2008 CAMP data.

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 of dissolved oxygen and temperature were also collected. The resulting data are summarized in tables and figures on the following page.

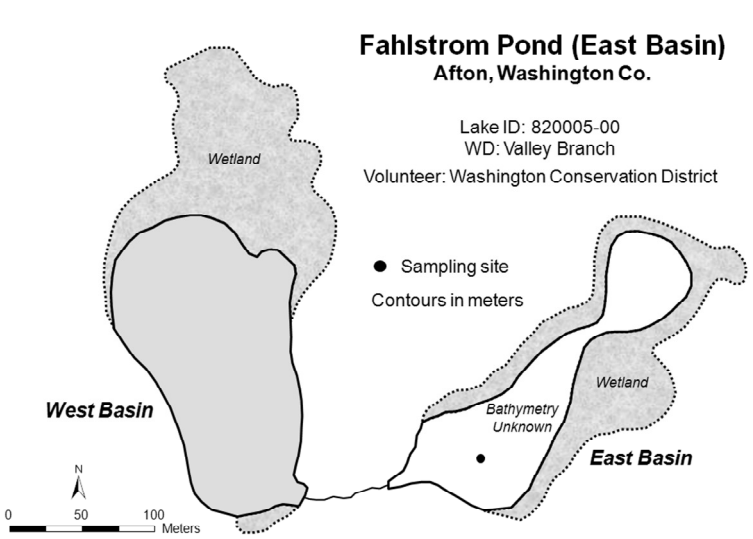
2009 summer (May-September) data summary

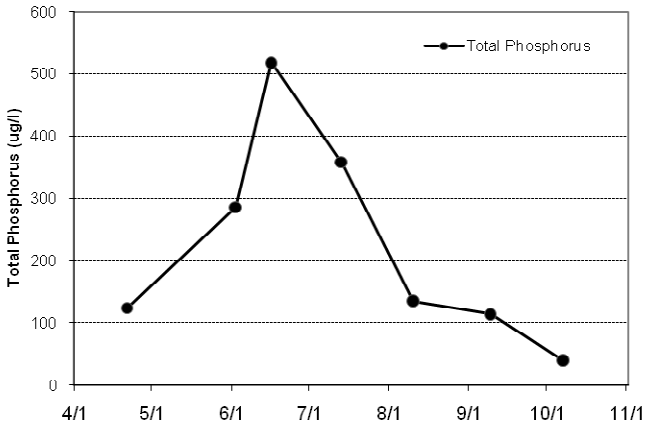
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	282.2	114.0	518.0	F
CLA (µg/l)	28.9	3.8	110.0	C
Secchi (m)	0.9	0.8	1.2	D
TKN (mg/l)	1.76	0.89	3.10	
			Lake Grade	D

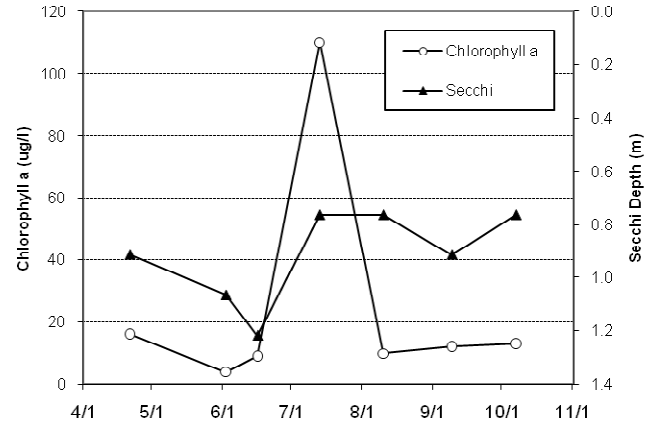
Additional monitoring data are needed to build a water quality database for this water body.

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

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

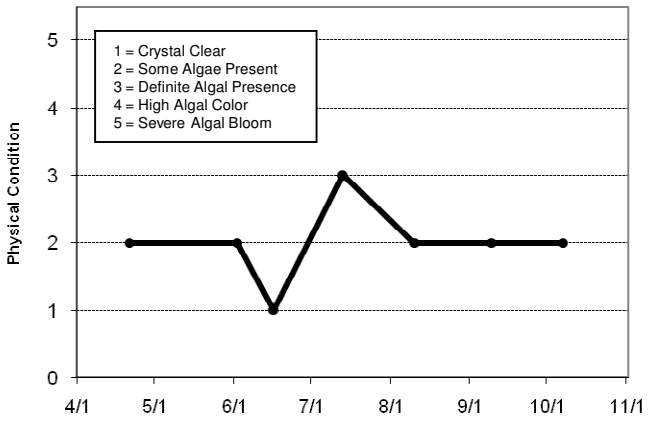






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/21	9.7	8.6	6.12	0.2	16	124		0.9	2	4
6/2	20.1	19.2	3.95	0.29	3.8	286		1.1	2	3
6/16	22.3		7.16		9	518		1.2	1	1
7/13	23.2	22.9	9.03	1.12	110	358		0.8	3	4
8/10	27.1	24.3	10.89	2.05	9.8	135		0.8	2	4
9/9	20.7	20.2	8.69	0.42	12	114		0.9	2	4
10/7	9.6		10.25		13	40		0.8	2	4

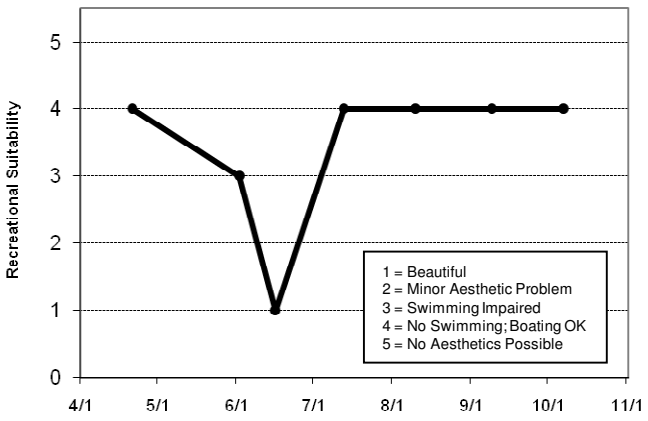


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Fahlstrom Pond [west basin] (82-0005) *Washington Conservation District*

Fahlstrom Pond (west basin) is located in Afton (Washington County). There is very little morphological information available for this water body. There is no public access.

The year 2008 was the second year that this water body has been involved in the CAMP. A search of the STORET nationwide water quality database revealed no other historic monitoring data except the 2008 CAMP data.

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 of dissolved oxygen and temperature were also collected. The resulting data are summarized in tables and figures on the following page.

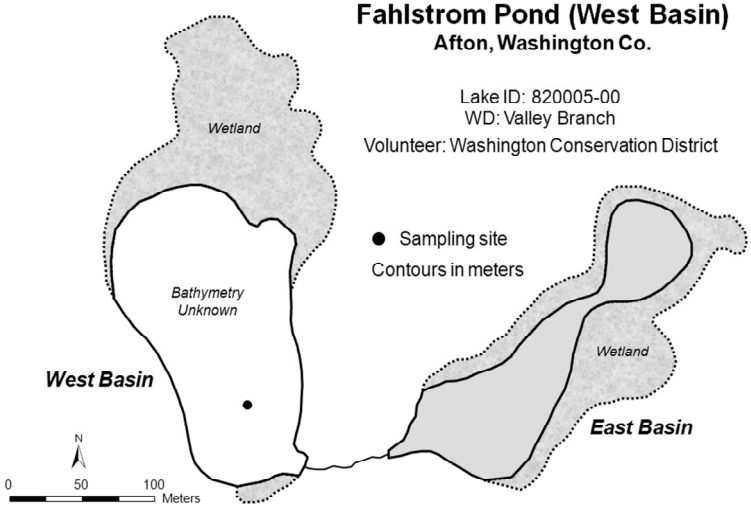
2009 summer (May-September) data summary

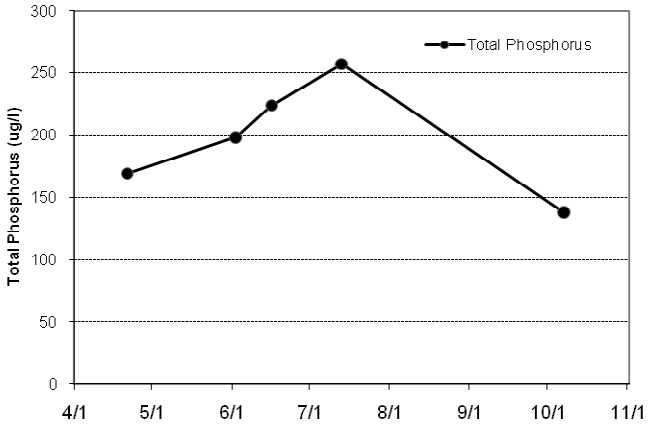
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	226.3	198.0	257.0	NA
CLA (µg/l)	21.6	3.8	32.0	NA
Secchi (m)	0.7	0.6	0.9	NA
TKN (mg/l)	1.67	1.50	1.80	
			Lake Grade	NA

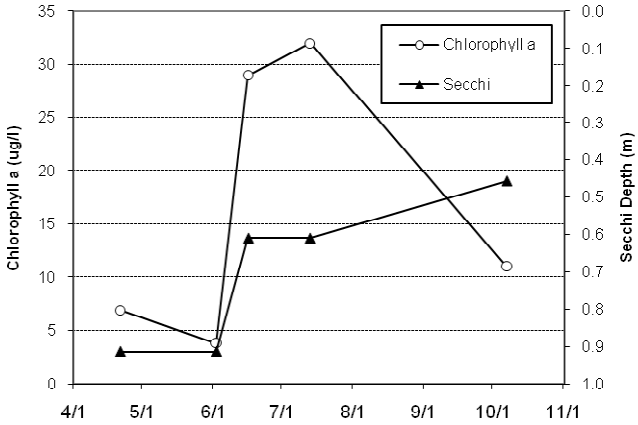
There were insufficient data to calculate a lake grade for 2009. At least 5 monitoring events are required during the summer-time period to determine water quality grades. Additional monitoring data are needed to build a water quality database for this water body.

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

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

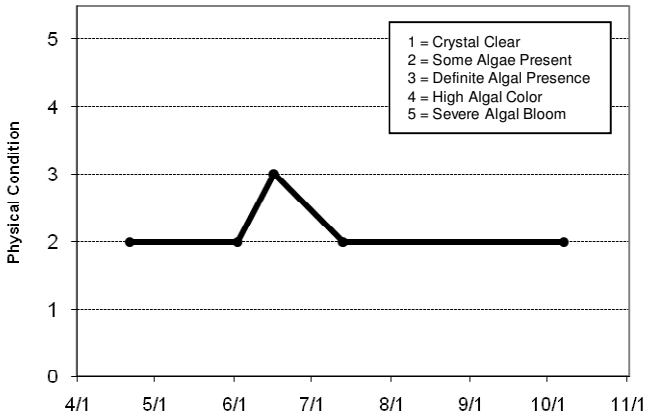






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/21	9.7	9.5	8.86	8.81	6.9	169		0.9	2	4
6/2	20.9	21	6.99	0.99	3.8	198		0.9	2	4
6/16	23.4		7.5		29	224		0.6	3	1
7/13	23.5		6.2		32	257		0.6	2	4
10/7	9.1		11.28		11	138		0.5	2	4



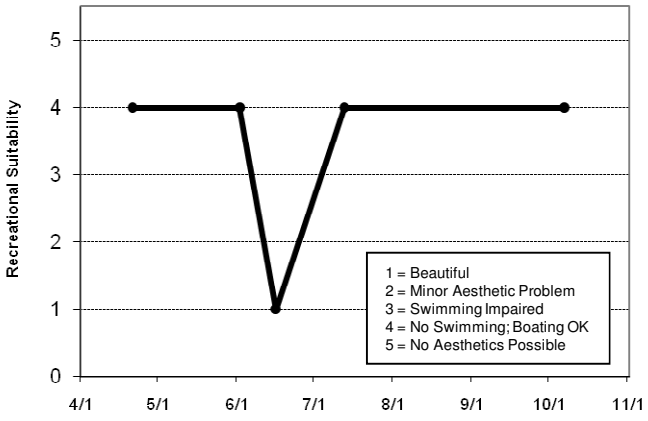
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Farquhar Lake (19-0023) *City of Apple Valley*

Farquhar Lake is located in the City of Apple Valley (Dakota County). The lake covers an area of 67 acres and has a maximum depth of 3.0 m (10 feet). The lake's mean depth of 1.4 m (4.6 feet) and surface area translates to an approximate lake volume of 290 ac-ft. Because the maximum depth is only 3.0 m, the entire lake area is considered littoral (the 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).

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	229.4	60.0	786.0	F
CLA (µg/l)	82.1	14.0	210.0	F
Secchi (m)	0.5	0.2	1.0	F
TKN (mg/l)	2.80	1.30	4.30	
			Lake Grade	F

The lake received a lake grade of F for 2009, which is consistent with the lake grades received over the past decade.

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

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

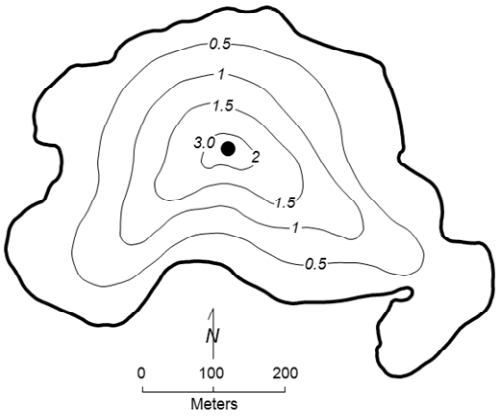
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

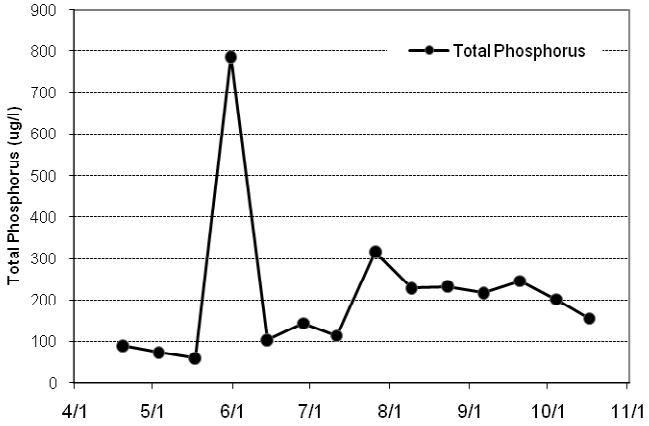
Farquar Lake

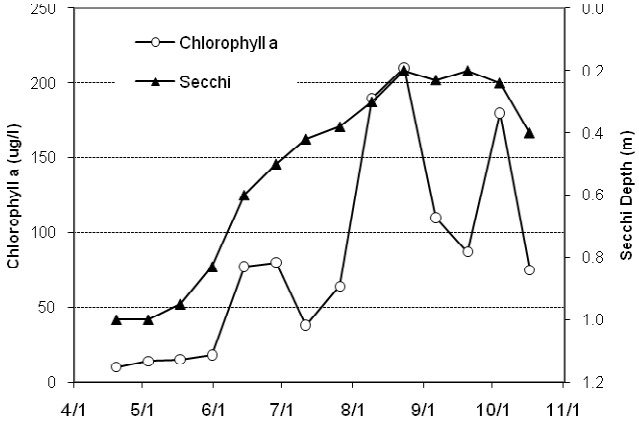
Apple Valley, Dakota Co.

Lake ID: 190023-00
WMO: Vermillion River
Volunteer: Jeff Christianson

● Sampling site
Contours in meters

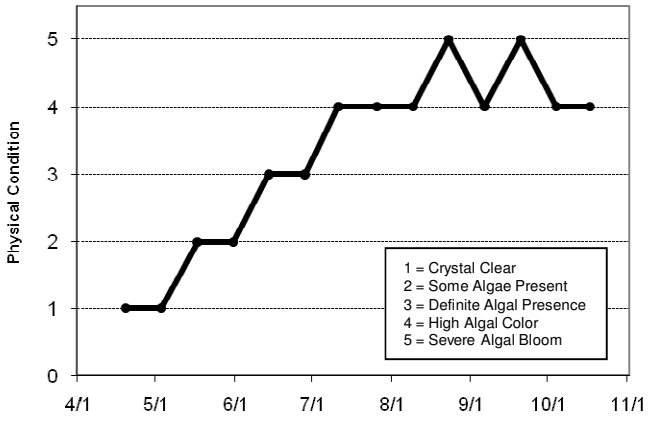






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/19	13.3				9.8	90		1.0	1	1
5/3	14.9				14	74		1.0	1	1
5/17	20.1				15	60		1.0	2	1
5/31	21.4				18	786		0.8	2	3
6/14	22.5				77	104		0.6	3	3
6/28	23				80	144		0.5	3	3
7/11	25.1				38	114		0.4	4	3
7/26	23				64	316		0.4	4	3
8/9	24.7				190	229		0.3	4	3
8/23	23.8				210	233		0.2	5	3
9/6	24.2				110	217		0.2	4	3
9/20	23				87	246		0.2	5	3
10/4	12.4				180	202		0.2	4	
10/17	6.5				75	156		0.4	4	3

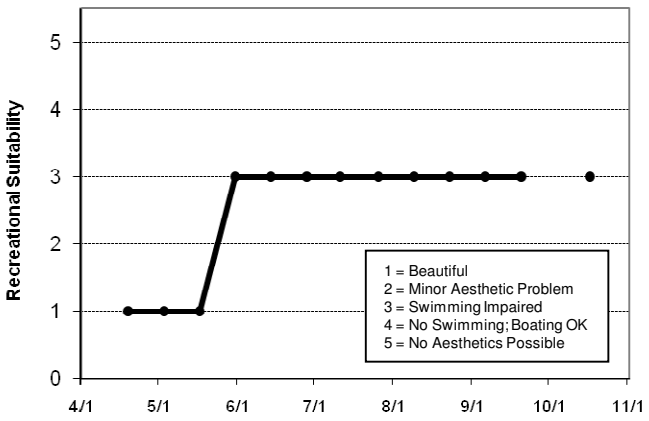


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Fireman's Lake (10-0226) *Carver County Environmental Services*

Fireman's Lake is located within the City of Chaska. This lake has an area of 8 acres and a maximum depth of 7.0 m (23 feet). Roughly 88 percent of the lake's surface area is considered littoral zone (area of aquatic plant dominance). The DNR has designated the lake as being infested with Eurasian Water Milfoil (*Myriophyllum spicatum*).

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	32.1	14.0	132.0	C
CLA (µg/l)	3.7	1.1	6.9	A
Secchi (m)	3.5	2.4	4.6	A
TKN (mg/l)	0.69	0.41	2.50	
			Lake Grade	B

The lake received a lake grade of B for 2009, which is lower than the typical A grade. The TP grade was C, which is the lowest grade this lake has received for this parameter. But the TP summer-time mean was greatly influenced by a single elevated concentration of TP observed on September 17, 2010. The reason for this spike in TP is unknown.

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

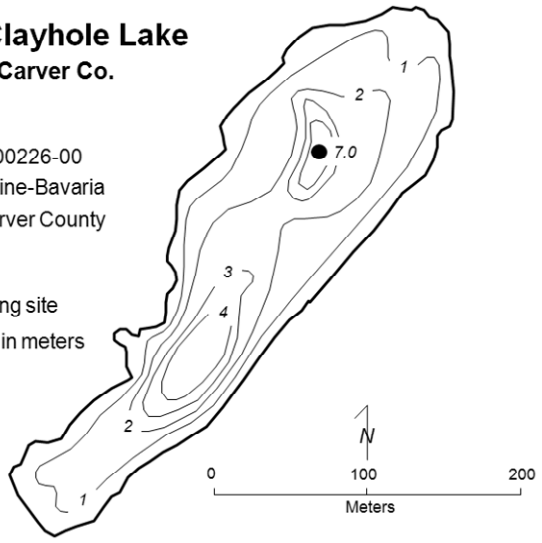
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fishery survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

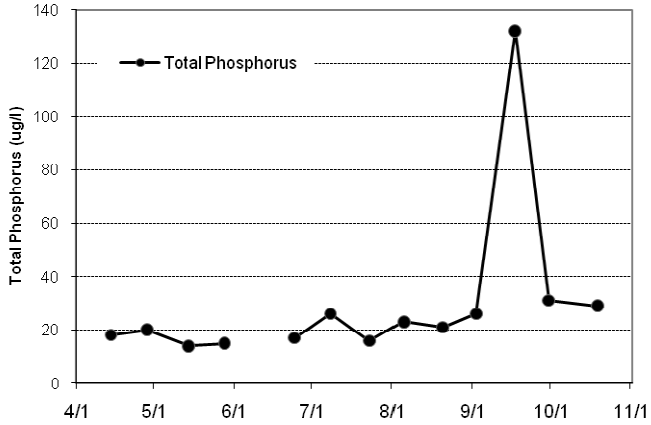
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

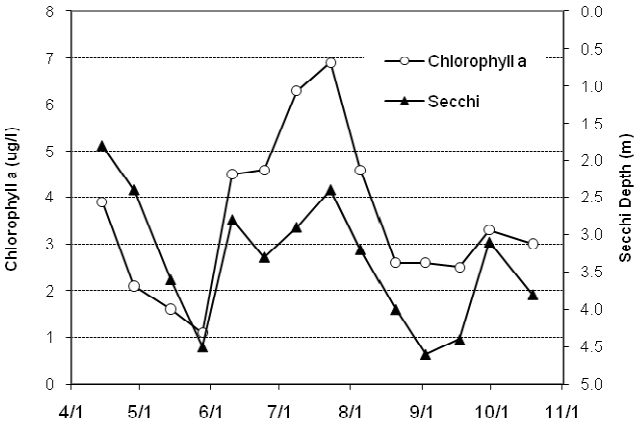
Fireman's Clayhole Lake

Chaska, Carver Co.

Lake ID: 100226-00
WMO: Hazeltine-Bavaria
Volunteer: Carver County

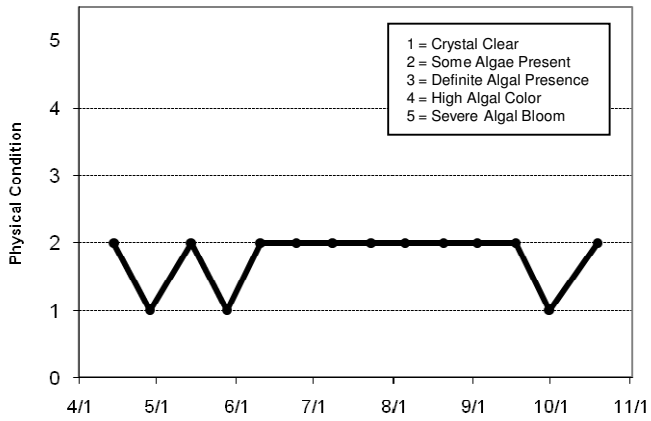






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/14	10.44		9.48		3.9	18		1.8	2	2
4/28	12.8		11.12		2.1	20		2.4	1	1
5/14	17.28		9.69		1.6	14		3.6	2	1
5/28	19.22		9.87		1.1	15		4.5	1	1
6/10	17.77		4.64		4.5			2.8	2	2
6/24	26.06		9.63		4.6	17		3.3	2	2
7/8	25.08		16.17		6.3	26		2.9	2	3
7/23	23.63		15.4		6.9	16		2.4	2	2
8/5	24.42		14.67		4.6	23		3.2	2	2
8/20	24.11		7.73		2.6	21		4.0	2	2
9/2	21.64		8.64		2.6	26		4.6	2	2
9/17	24.32		10.72		2.5	132		4.4	2	2
9/30	17.84		4.56		3.3	31		3.1	1	1
10/19	9.62		10.3		3	29		3.8	2	2

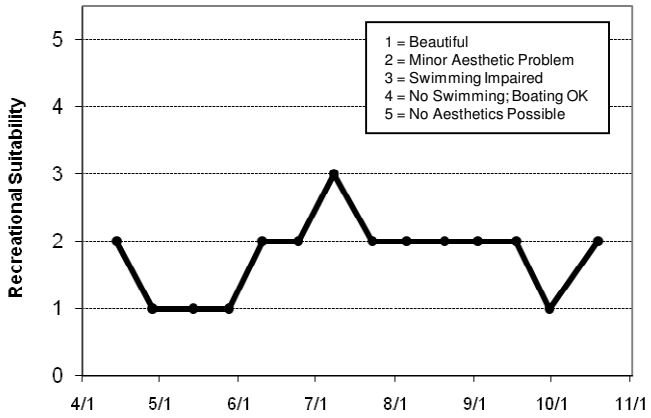


Lake Water Quality Grades Based on Summertime Averages

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

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



Source: Metropolitan Council and STORET data

Fish Lake [Scott County] (70-0069) *Prior Lake - Spring Lake Watershed District*

Fish Lake is located in Spring Lake Township (Scott County). It is considered a Priority Lake by the Metropolitan Council for its high regional recreation value (METC 2007). The lake has a surface area of 171 acres. The lake has a mean and a maximum depth of 4.4 m (14 feet) and 8.5 m (28 feet). The MPCA has listed the lake as impaired for mercury content in fish.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	36.8	20.0	57.0	C
CLA (µg/l)	21.6	11.0	45.0	C
Secchi (m)	1.4	0.6	1.9	C
TKN (mg/l)	1.39	1.00	1.90	
			Lake Grade	C

The lake received a lake grade of C for 2009. The lake appears to be represented by a lake grade of C given the historical water quality database.

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

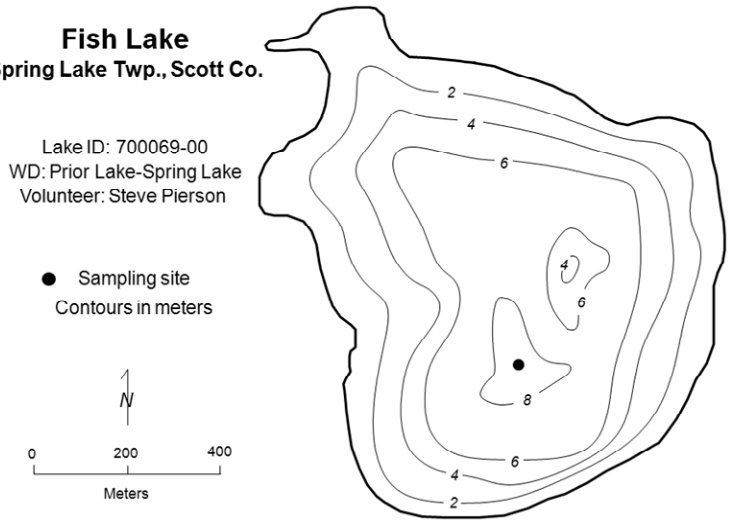
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

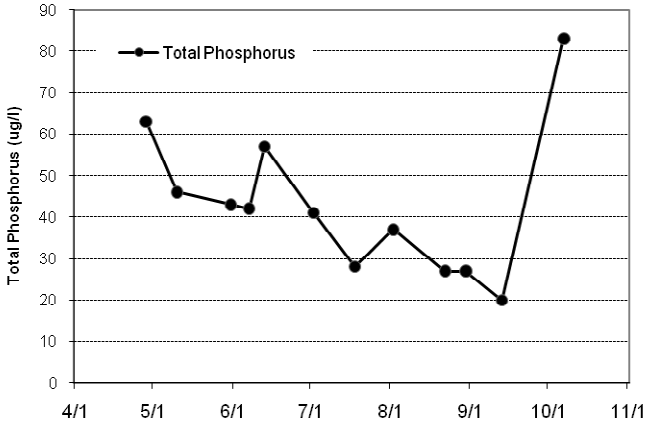
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

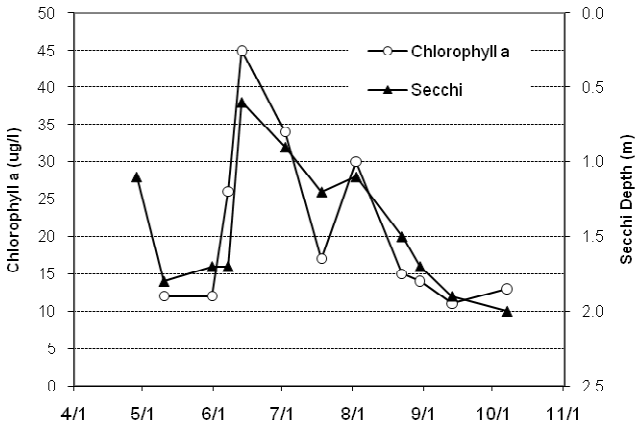
Fish Lake

Spring Lake Twp., Scott Co.

Lake ID: 700069-00
WD: Prior Lake-Spring Lake
Volunteer: Steve Pierson

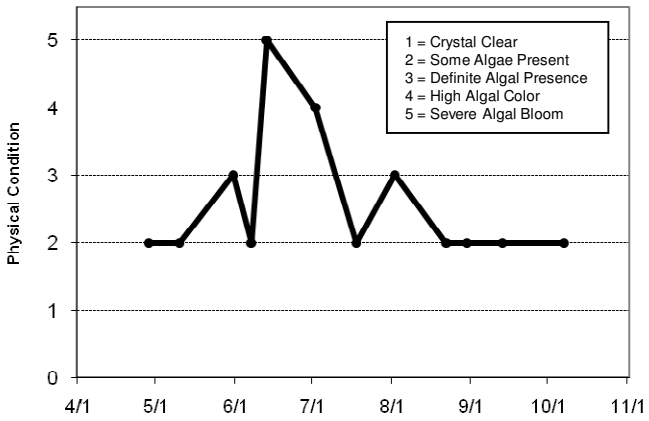






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/28	11.9					63		1.1	2	1
5/10	15.1				12	46		1.8	2	2
5/31	20.6				12	43		1.7	3	2
6/7	18.1				26	42		1.7	2	2
6/13	20.9				45	57		0.6	5	3
7/2	23				34	41		0.9	4	2
7/18	20.7				17	28		1.2	2	2
8/2	22.7				30	37		1.1	3	2
8/22	23.2				15	27		1.5	2	2
8/30	22.3				14	27		1.7	2	2
9/13	25.6				11	20		1.9	2	1
10/7	13.8				13	83		2.0	2	2

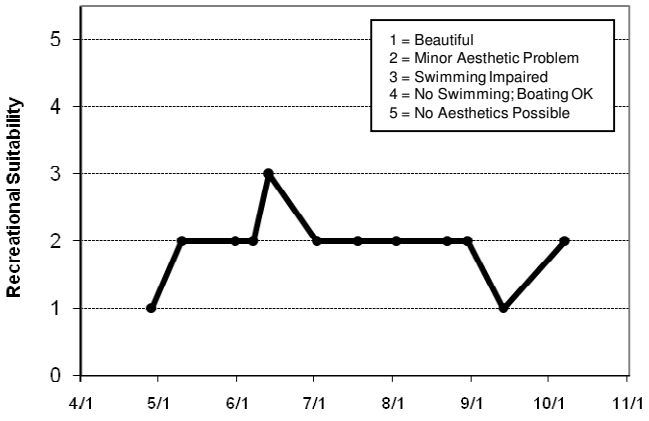


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Fish Lake [Washington County] (82-0064) *Carnelian - Marine - St. Croix Watershed District*

Fish Lake is located in City of Scandia in Washington County. The lake has a surface area of 72 acres, and a maximum and mean depth of 3.0 m (10 feet) and 1.5 m (5 feet), respectively. The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	74.4	60.0	101.0	D
CLA (µg/l)	24.4	12.0	59.0	C
Secchi (m)	1.5	0.5	2.3	C
TKN (mg/l)	1.24	0.98	1.70	
			Lake Grade	C

The lake received a lake grade of C for 2009, which continues the improvement in water quality that this lake has been experiencing over the past decade. This was the third year in a row that this lake received a lake grade of C. Continued monitoring is suggested to determine if the improvement in water quality is on-going trend.

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

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

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

Fish Lake
Scandia, Washington Co.

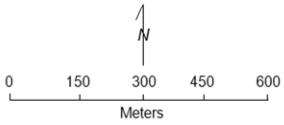
LAKE ID: 820064-00

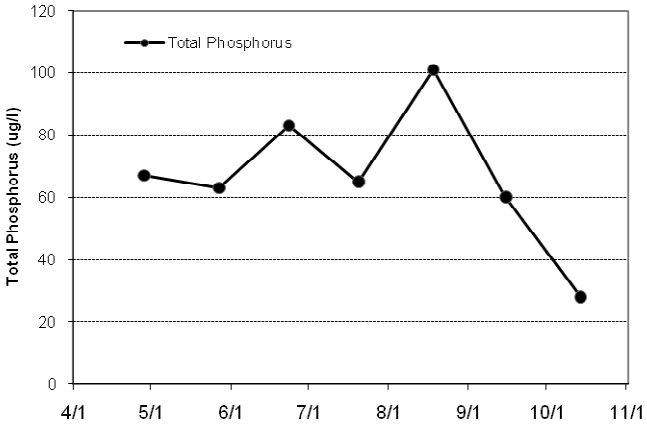
WD: Carnelian-Marine-St. Croix

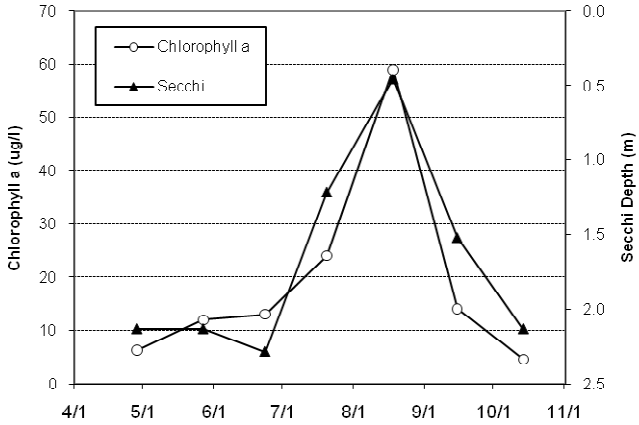
Volunteer: Washington Conservation District

● Sampling site

Contours in meters

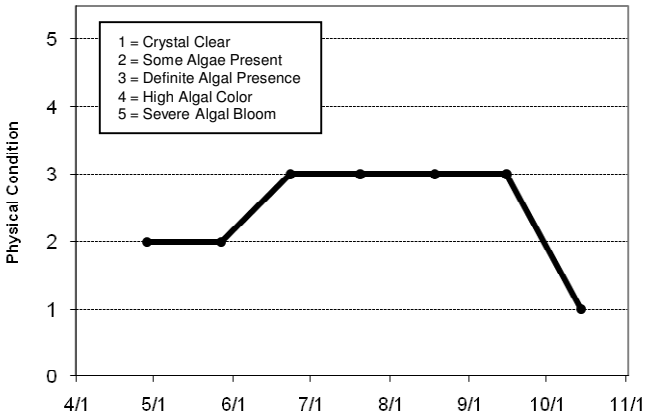






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/28	13.8	12.8	10.17	0.19	6.3	67		2.1	2	2
5/27	18.8	18.8	6.23	6.1	12	63		2.1	2	3
6/23	27.2	23.9	8.3	0.08	13	83		2.3	3	3
7/20	22.2	21	9.69	0.11	24	65		1.2	3	4
8/18	23.5	23.5	5.6	0.11	59	101		0.5	3	4
9/15	23.1	23	7.05	0.11	14	60		1.5	3	3
10/14	6.9	6.9	11.16	7.05	4.6	28		2.1	1	1



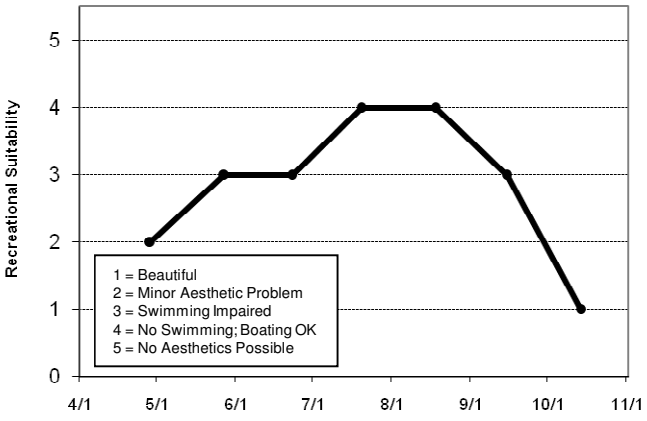
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council and STORET data



Lake Forest (62-0187) *Rice Creek Watershed District*

Lake Forest is located within the City of New Brighton (Ramsey County). Little morphological information is available for the lake.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	171.1	97.0	295.0	F
CLA (µg/l)	104.7	6.4	370.0	F
Secchi (m)	0.7	0.2	1.4	F
TKN (mg/l)	3.15	1.60	5.40	
			Lake Grade	F

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

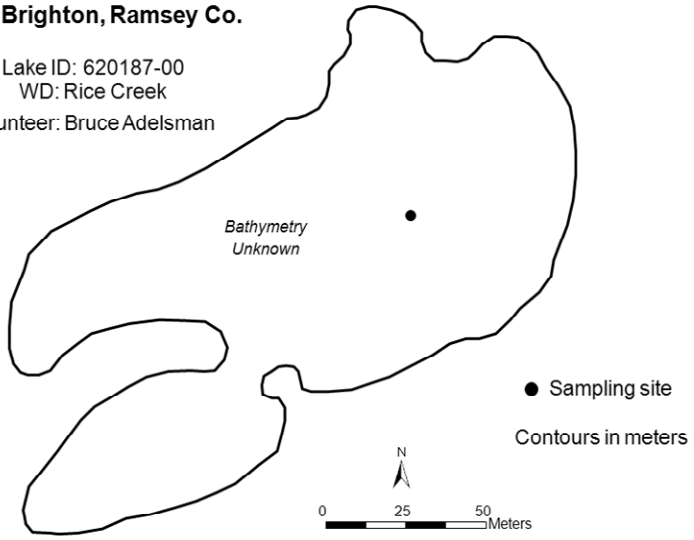
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

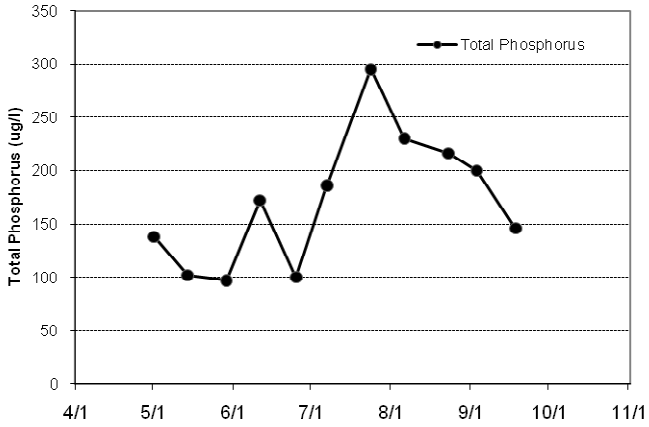
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

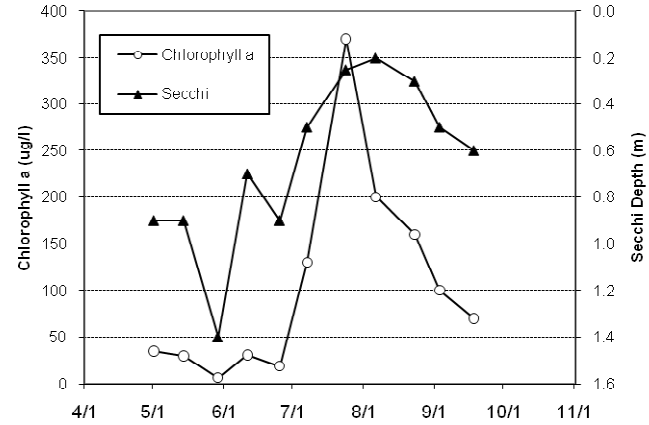
Lake Forest

New Brighton, Ramsey Co.

Lake ID: 620187-00
WD: Rice Creek
Volunteer: Bruce Adelsman

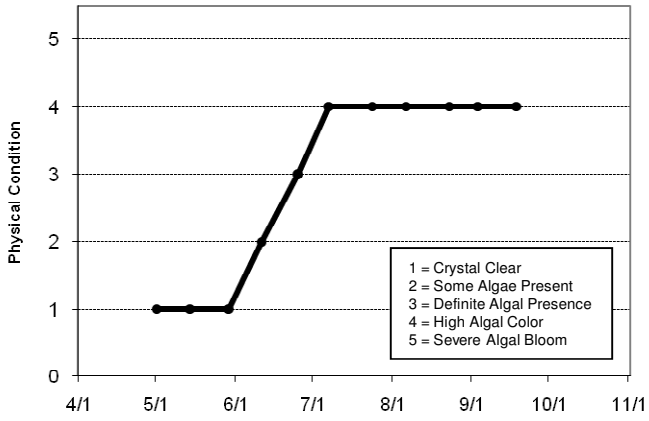






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/1	14.2				35	138		0.9	1	2
5/14	16.9				30	102		0.9	1	1
5/29	19.9				6.4	97		1.4	1	2
6/11	18.6				31	172		0.7	2	2
6/25	29.4				19	100		0.9	3	3
7/7	25.1				130	186		0.5	4	3
7/24	22.6				370	295		0.3	4	3
8/6	24				200	230		0.2	4	4
8/23	22.2				160	216		0.3	4	4
9/3	21.9				100	200		0.5	4	4
9/18	23.1				70	146		0.6	4	4

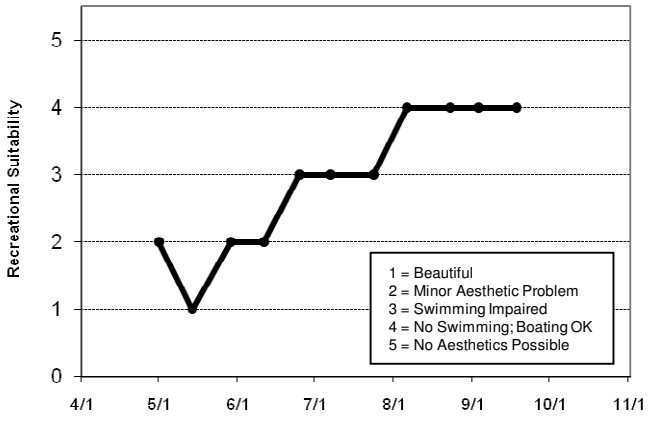


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Forest Lake [East Basin] (82-0159) *Comfort Lake-Forest Lake Watershed District*

Forest Lake is located in the City of Forest Lake (Washington County). It is divided into three distinct basins. The entire lake is considered a Priority Lake by the Metropolitan Council for its high regional recreation value (METC 2007). The MN DNR has designated the lake as being infested with Flowering rush (*Butomus umbellatus*). The MPCA has listed the lake as impaired for polychlorinated biphenyl (PCB) content in fish.

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

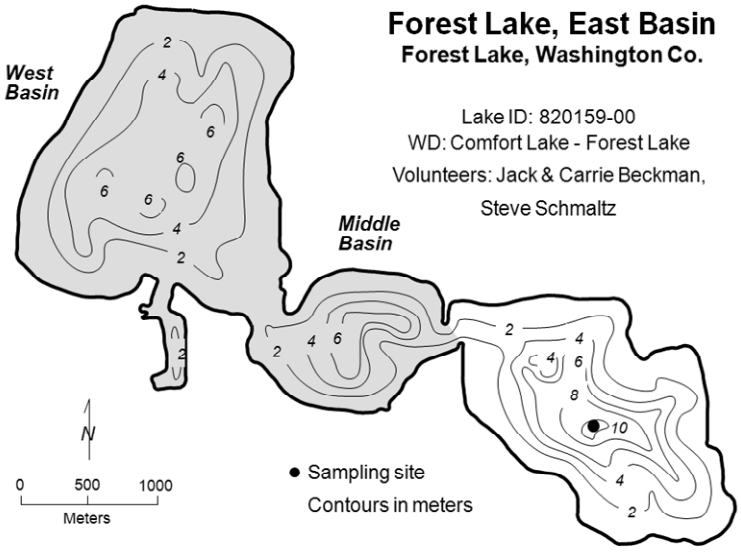
2009 summer (May-September) data summary

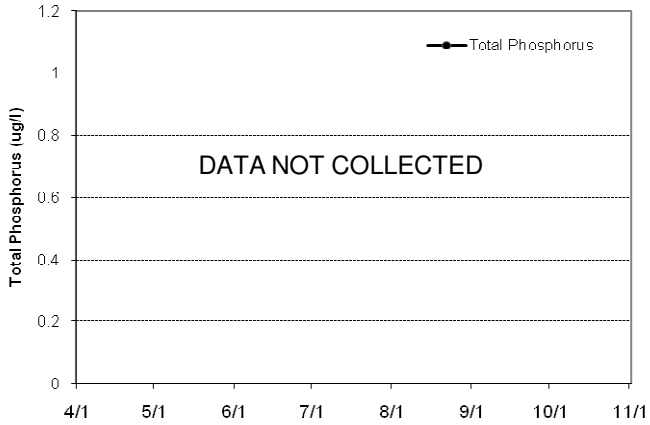
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)				
CLA (µg/l)				
Secchi (m)	2.2	1.6	3.0	C
TKN (mg/l)				
			Lake Grade	N/A

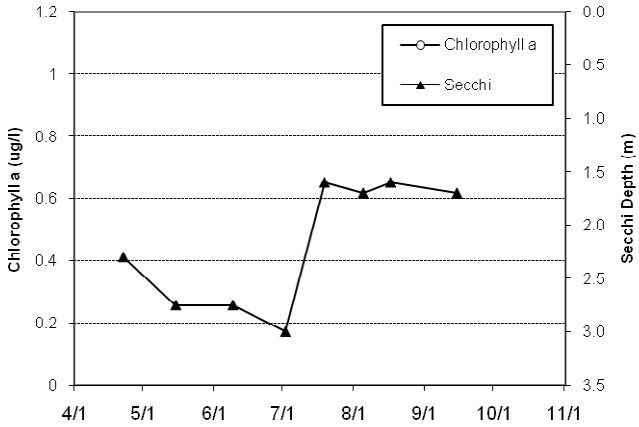
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

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

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

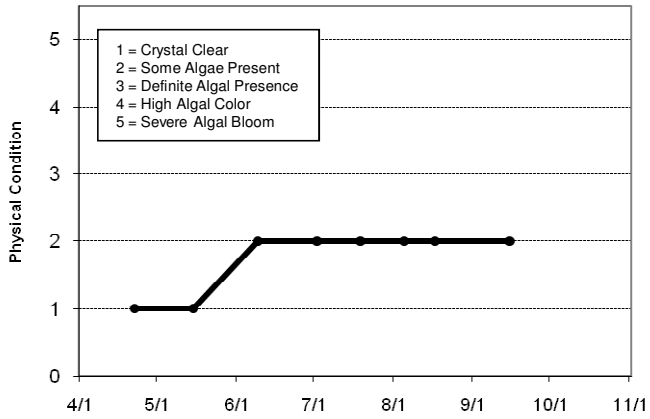






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/22								2.3	1	1
5/15								2.8	1	1
6/9								2.8	2	1
7/2								3.0	2	1
7/19								1.6	2	1
8/5								1.7	2	1
8/17								1.6	2	1
9/15								1.7	2	2

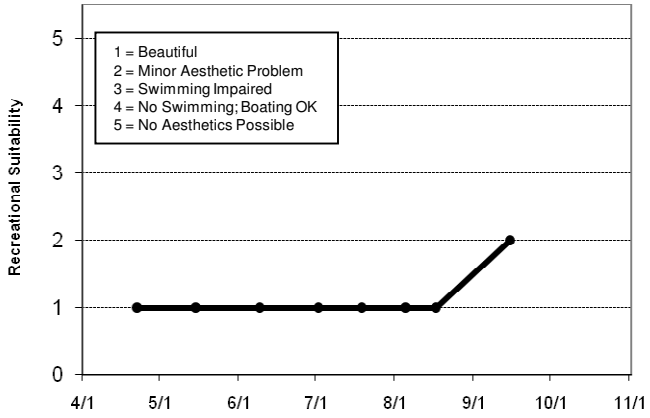


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Forest Lake [Middle Basin] (82-0159) *Comfort Lake-Forest Lake Watershed District*

Forest Lake is located in the City of Forest Lake (Washington County). It is divided into three distinct basins. The entire lake is considered a Priority Lake by the Metropolitan Council for its high regional recreation value (METC 2007). The MN DNR has designated the lake as being infested with Flowering rush (*Butomus umbellatus*). The MPCA has listed the lake as impaired for polychlorinated biphenyl (PCB) content in fish.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)				
CLA (µg/l)				
Secchi (m)	2.6	2.1	3.5	B
TKN (mg/l)				
			Lake Grade	N/A

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

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

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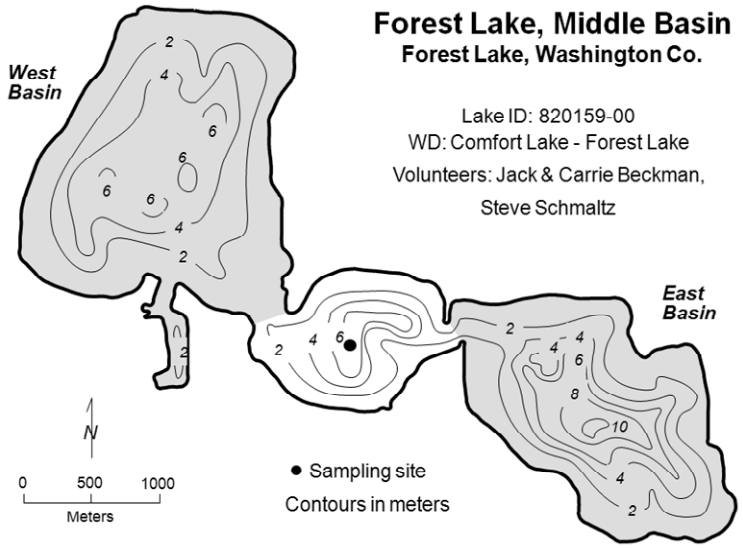
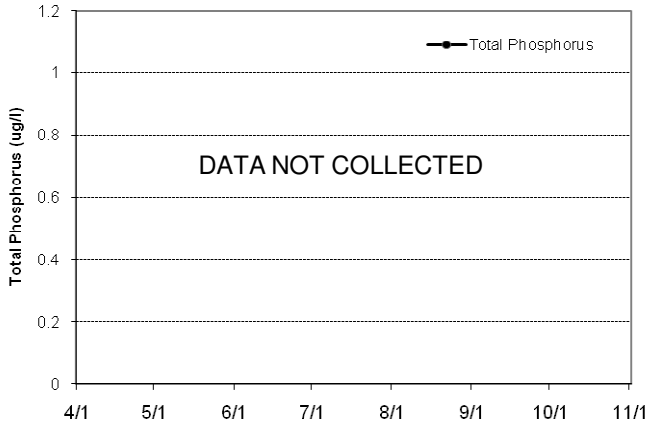
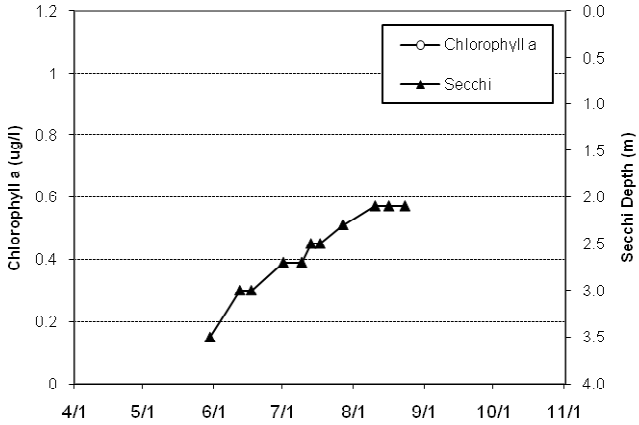
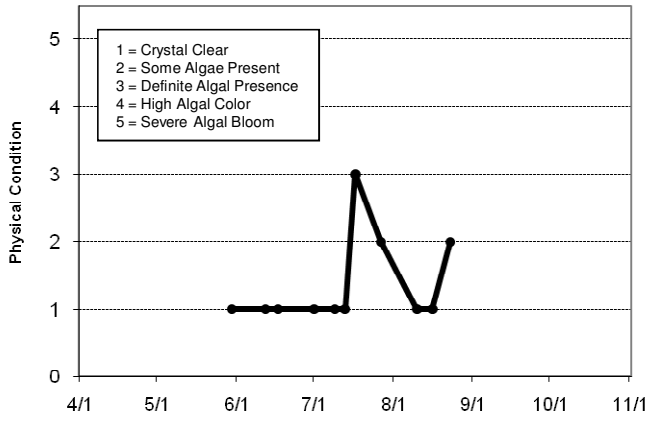






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/30								3.5	1	1
6/12								3.0	1	
6/17								3.0	1	
7/1								2.7	1	
7/9								2.7	1	
7/13								2.5	1	
7/17								2.5	3	
7/27								2.3	2	
8/10								2.1	1	
8/16								2.1	1	
8/23								2.1	2	1

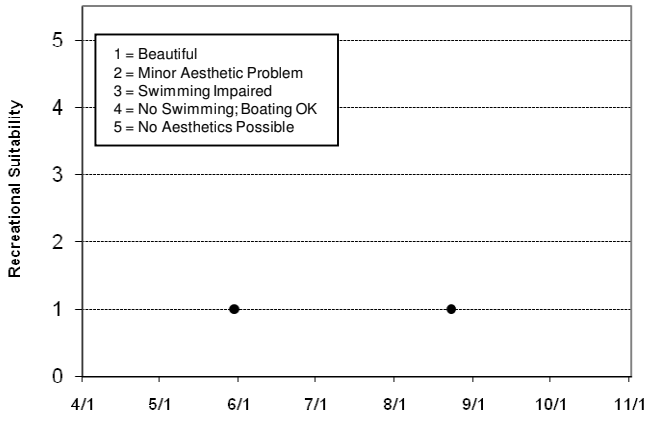


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Forest Lake [West Basin] (82-0159) *Comfort Lake-Forest Lake Watershed District*

Forest Lake is located in the City of Forest Lake (Washington County). It is divided into three distinct basins. The entire lake is considered a Priority Lake by the Metropolitan Council for its high regional recreation value (METC 2007). The MN DNR has designated the lake as being infested with Flowering rush (*Butomus umbellatus*). The MPCA has listed the lake as impaired for polychlorinated biphenyl (PCB) content in fish.

The lake has a surface area of 2,249 acres but the west basin has an area of 1,109 acres. The western basin has mean and maximum depths of 3.0 m and 6.7 m. The total volume of the whole lake is 24,986 ac-ft. Sixty eight percent of the lake's surface area is considered littoral, (the shallow [0-15 feet] area dominated by aquatic plants). The 4,285-acre watershed translates to a watershed-to-lake area ratio of 2:1 (the greater the ratio, the greater the potential stress on the lake from surface runoff). The lake has several public accesses.

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

2009 summer (May-September) data summary

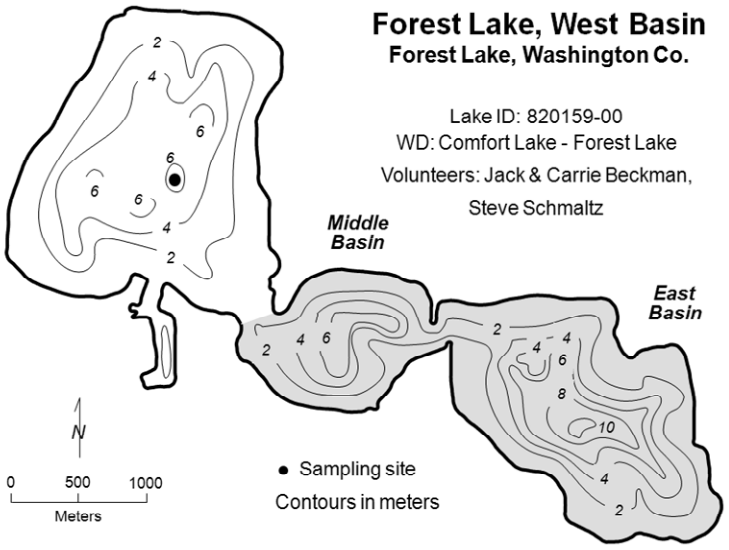
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	24.5	10.0	37.0	B
CLA (µg/l)	9.9	2.9	20.0	A
Secchi (m)	1.9	1.0	3.0	C
TKN (mg/l)	0.76	0.57	0.92	
			Lake Grade	B

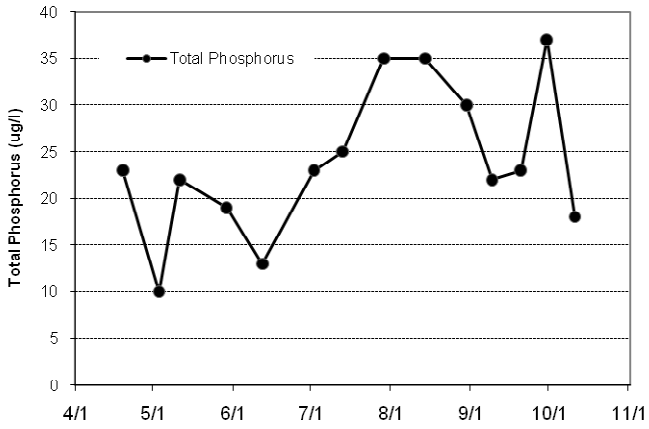
The lake received a lake grade of B for 2008. The water quality of the lake fluctuates between lake grades of B and C over the years.

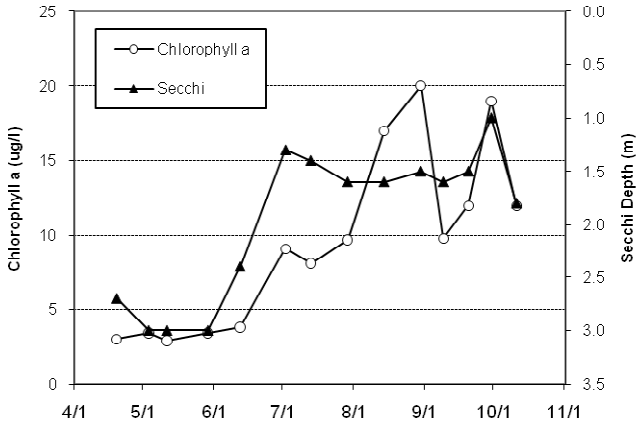
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

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

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

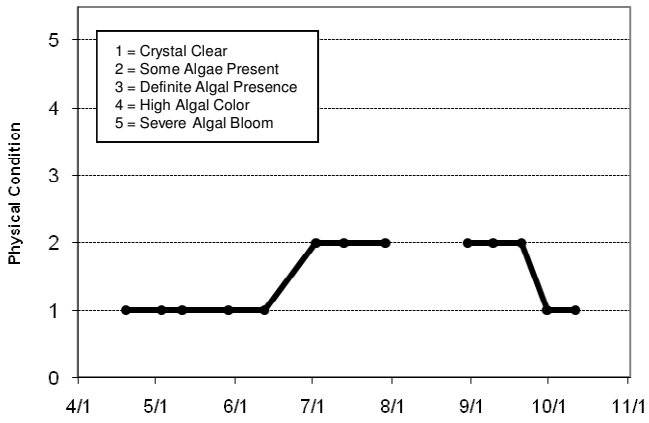






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/19	11.9				3	23		2.7	1	1
5/3	12.8				3.4	10		3.0	1	1
5/11	15.9				2.9	22		3.0	1	1
5/29	19.1				3.4	19		3.0	1	1
6/12	20.9				3.8	13		2.4	1	1
7/2	21.1				9.1	23		1.3	2	
7/13	24.2				8.1	25		1.4	2	1
7/29	23.1				9.7	35		1.6	2	1
8/14	25.2				17	35		1.6		1
8/30	21.8				20	30		1.5	2	1
9/9	21.2				9.8	22		1.6	2	1
9/20	20.1				12	23		1.5	2	1
9/30	15.9				19	37		1.0	1	1
10/11	8.7				12	18		1.8	1	1

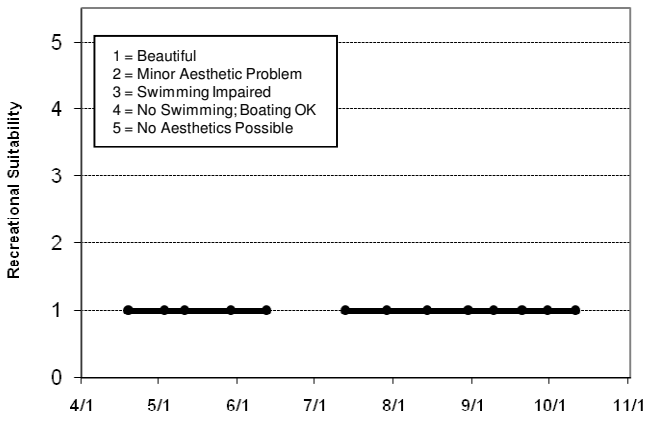


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Friedrich's Pond Lake (82-0108) *Valley Branch Watershed District*

Friedrich's Pond is a 14.5-acre lake located within the City of Lake Elmo (Washington County). There is little morphological information available for the lake. The lake's surface area and watershed size (360 acres) translates to a 25:1 watershed-to-lake size ratio. Generally the larger the ratio, the greater the potential stress on the lake from surface runoff.

Only one monitoring event occurred in 2009, so a lake grade was not calculated.

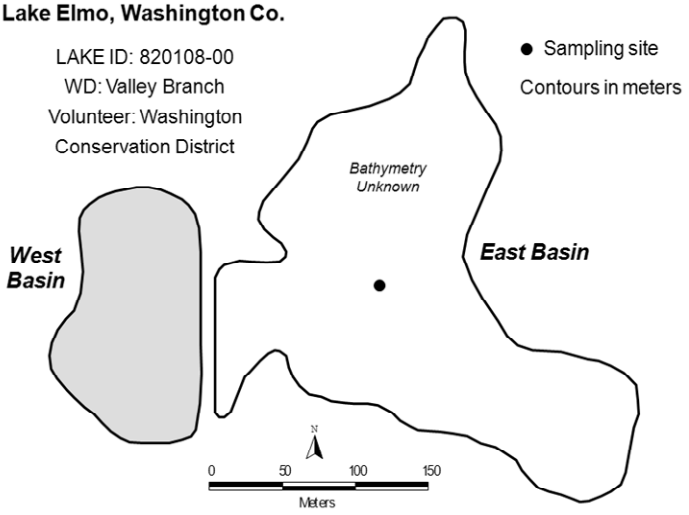
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

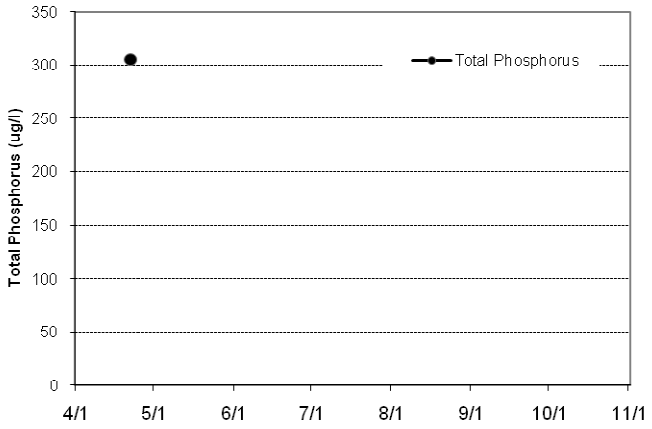
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

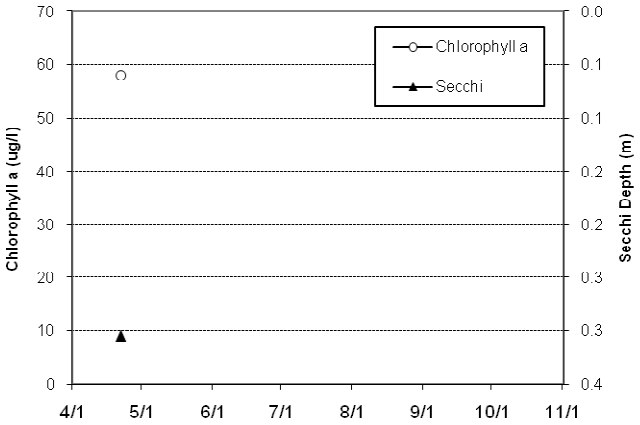
Friedrich's Pond (East Basin)

Lake Elmo, Washington Co.

LAKE ID: 820108-00
WD: Valley Branch
Volunteer: Washington Conservation District

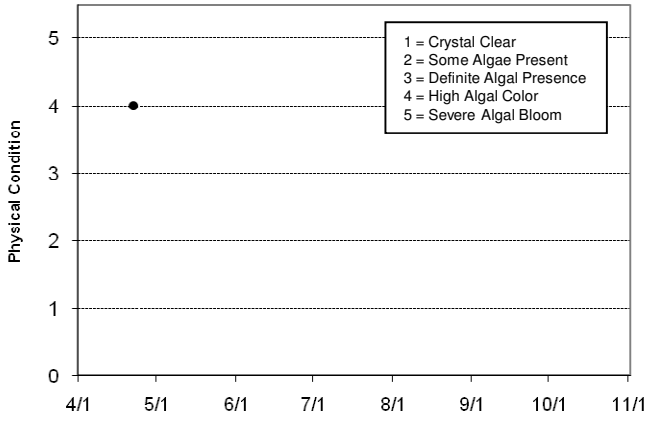






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/22	15.1		15.18		58	305		0.3	4	4

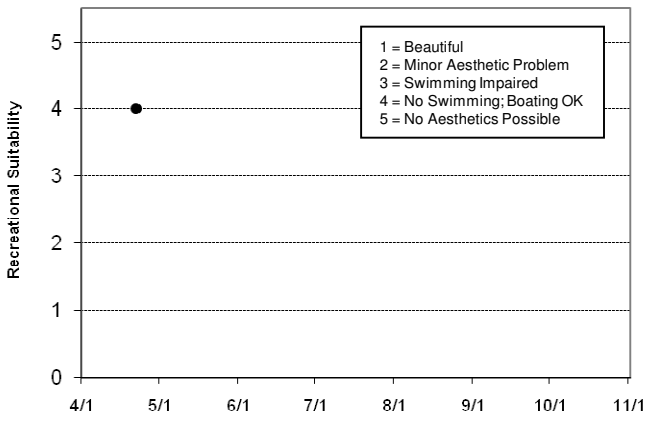


Lake Water Quality Grades Based on Summertime Averages

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	2009
Total Phosphorus			F	F	F	
Chlorophyll a			F	F	C	
Secchi Depth			F	F	F	
Lake Grade			**F**	**F**	**D**	**NA**



Source: Metropolitan Council and STORET data

George Lake (2-0091) *Anoka County Parks*

George Lake is located within Oak Grove Township (Anoka County). The lake has a surface area of 488 acres and a maximum depth of 9.8 m (32 ft). It is considered a Priority Lake by the Metropolitan Council for its high regional recreation value (METC 2007).

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	26.2	12.0	78.0	B
CLA (µg/l)	7.0	3.2	12.0	A
Secchi (m)	2.9	2.1	4.2	B
TKN (mg/l)	0.81	0.66	1.10	
			Lake Grade	B

The lake received a lake grade of B for 2009.

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 3.8 for physical condition (between 3- "definite algae present" and 4- "high algal color"), and 4.3 for recreational suitability (between 4- "no swimming/boating ok" and 5- "no aesthetics possible").

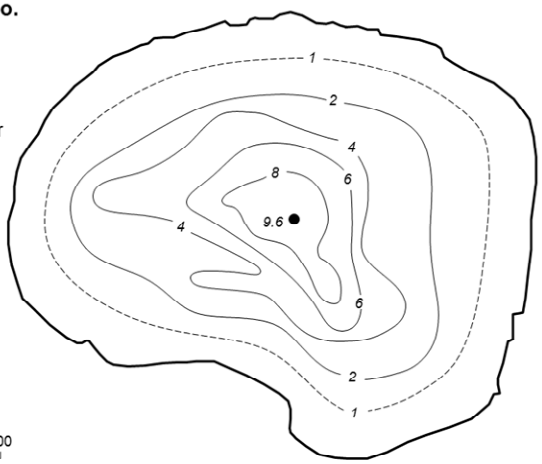
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

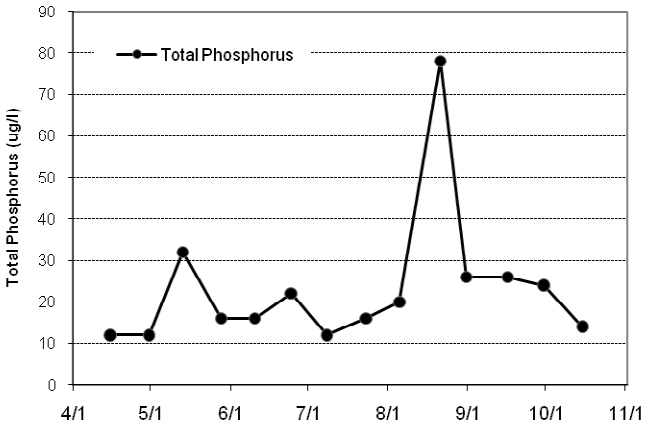
Lake George
Oak Grove, Anoka Co.

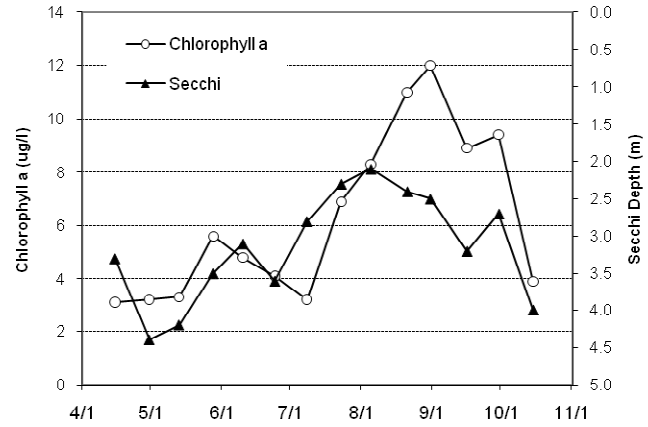
LAKE ID: 20091-00
WMO: Upper Rum River
Volunteer:
Andy Nelson

● Sampling site

Contours in meters

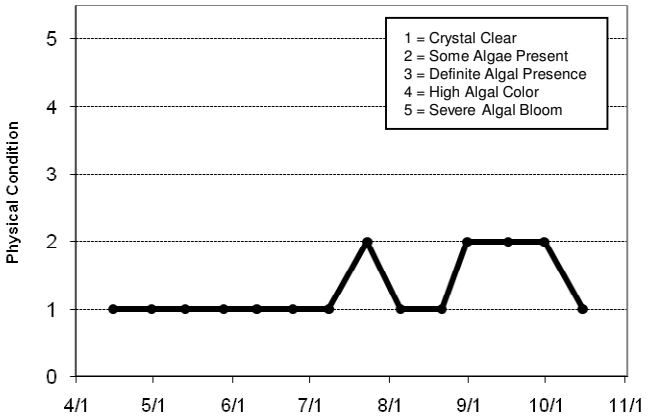






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/15	9.5				3.1	12		3.3	1	1
4/30	11				3.2	12		4.4	1	1
5/13	17.2				3.3	32		4.2	1	1
5/28	17.5				5.6	16		3.5	1	1
6/10	16.5				4.8	16		3.1	1	1
6/24	27.2				4.1	22		3.6	1	1
7/8	22.9				3.2	12		2.8	1	1
7/23	21.8				6.9	16		2.3	2	1
8/5	22.2				8.3	20		2.1	1	1
8/21	21.3				11	78		2.4	1	1
8/31	20.7				12	26		2.5	2	1
9/16	23				8.9	26		3.2	2	1
9/30	15.6				9.4	24		2.7	2	
10/15	7.6				3.9	14		4.0	1	1



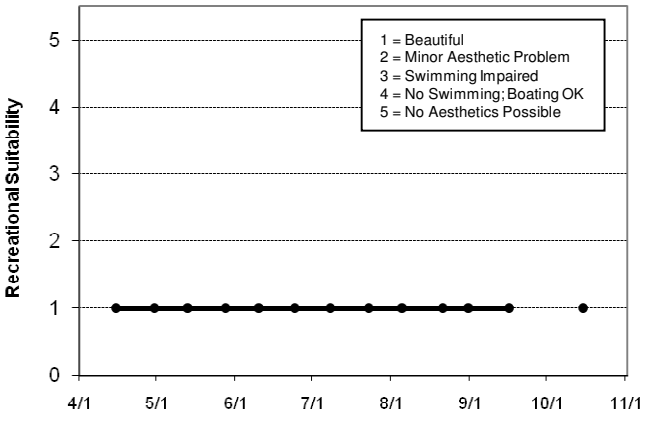
Lake Water Quality Grades Based on Summertime Averages

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

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

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

Source: Metropolitan Council



George Watch Lake (2-0005) *Rice Creek Watershed District*

George Watch Lake is located in the City of Lino Lakes (Anoka County). The 528-acre lake has a mean and maximum depth of 1.5 m (5 feet) and 2.0 m (6.5 feet). The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column. The major land uses within the lake's immediate watershed are undeveloped and park land.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	121.8	69.0	234.0	D
CLA (µg/l)	13.3	3.4	27.0	B
Secchi (m)	0.5	0.2	0.7	F
TKN (mg/l)	2.01	1.60	2.80	
			Lake Grade	D

The lake received a lake grade of D for 2009, which is consistent with previous lake grades received in the past. The historical lake grades seem to indicate that the lake water quality has fluctuated between an F and D lake grade throughout the 20+ years of data. The TP and Secchi grades have remained fairly consistent throughout the monitoring years with respect to the more variable CLA grades.

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

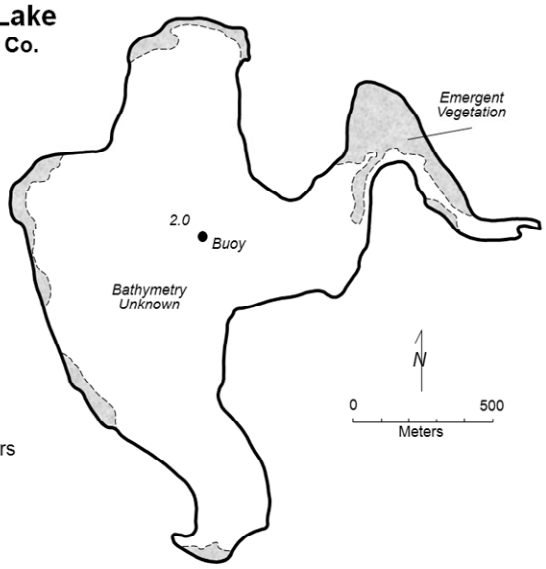
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

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

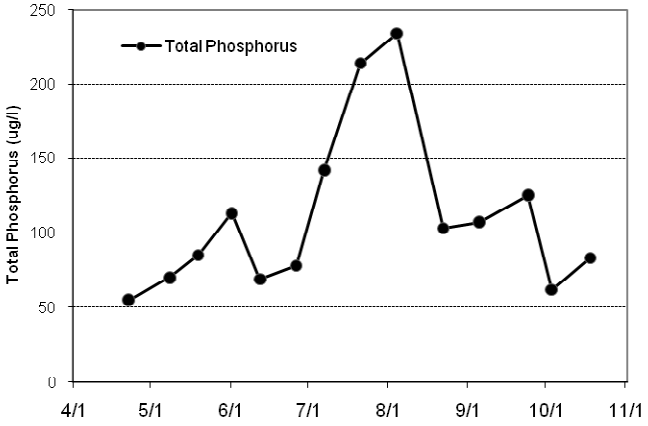
George Watch Lake
Lino Lakes, Anoka Co.

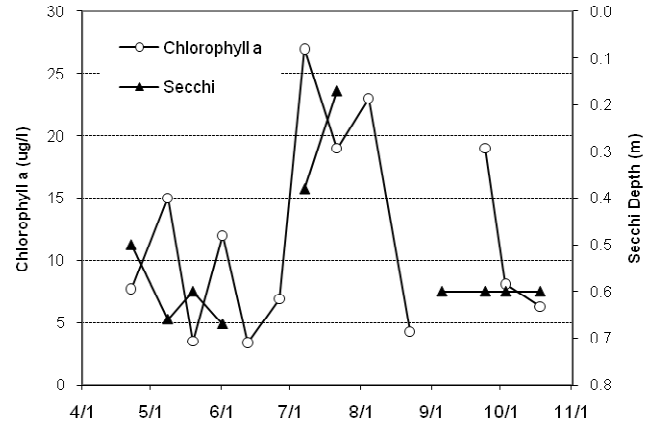
Lake ID: 20005-00
WD: Rice Creek

Volunteer:
Wargo Nature
Center



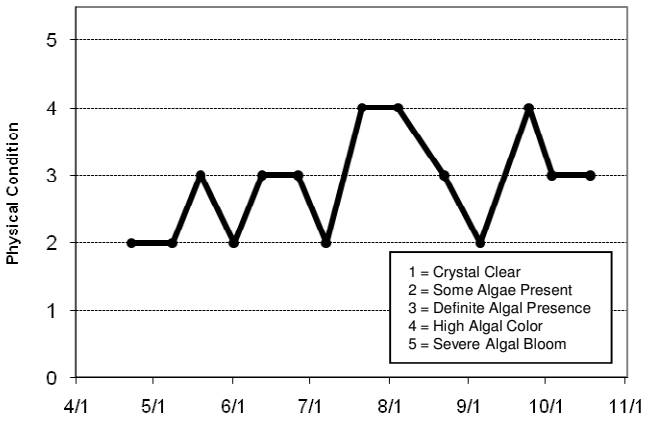
● Sampling site
Contours in meters





2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/22	14.1				7.7	55		0.5	2	4
5/8					15	70		0.7	2	4
5/19	21.1				3.5	85		0.6	3	2
6/1	22.5				12	113		0.7	2	4
6/12	21.5				3.4	69			3	4
6/26	24.5				6.9	78			3	4
7/7	26.7				27	142		0.4	2	4
7/21	24.5				19	214		0.2	4	4
8/4	24.2				23	234			4	4
8/22	19				4.3	103			3	4
9/5	20					107		0.6	2	4
9/24	22.9				19	125		0.6	4	4
10/3	9.4				8.1	62		0.6	3	4
10/18	8.9				6.3	83		0.6	3	4

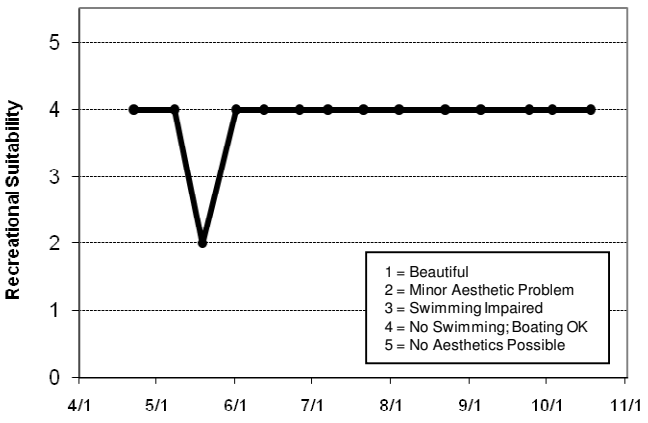


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

German Lake (82-0056) *Carnelian – Marine Watershed District*

German Lake is located in City of Scandia (Washington County). It has an area of 109 acres. There is little known morphological data available for the lake.

On each sampling day the lake was monitored for secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)				
CLA (µg/l)				
Secchi (m)	1.5	1.1	2.0	C
TKN (mg/l)				
			Lake Grade	N/A

Continued monitoring is suggested to continue building the water quality database for the lake.

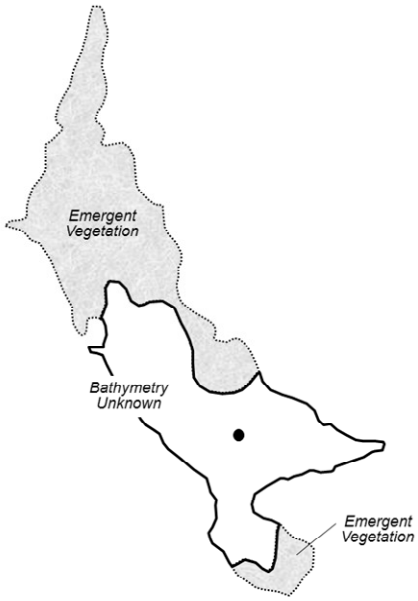
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

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

German Lake

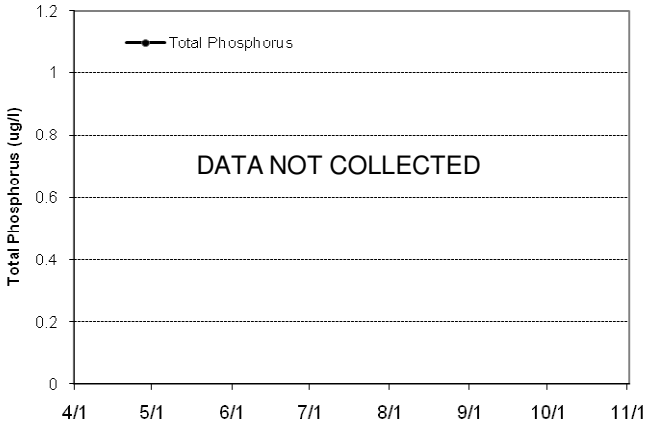
Scandia, Washington Co.

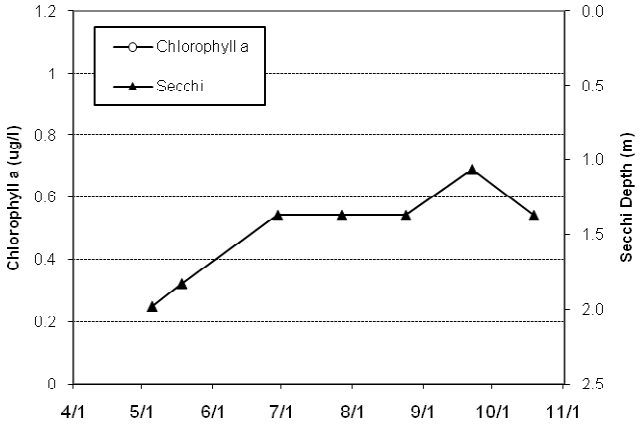
Lake ID: 820056-00
WD: Carnelian-Marine-St. Croix
Volunteer: Washington Conservation District



● Sampling site
Contours in meters

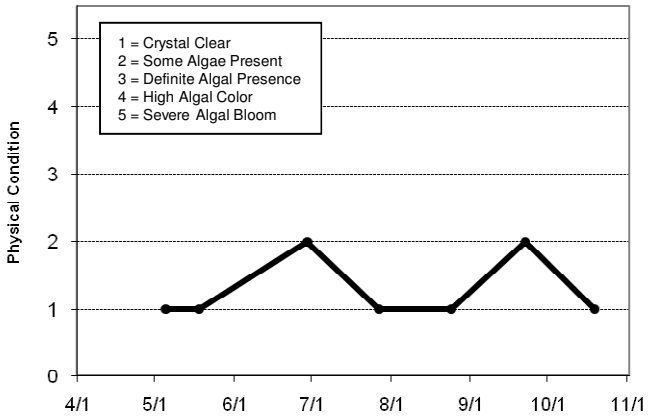
N
0 200 400 600
Meters





2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
5/5	15.7	14.3	10.75	2.27				2.0	1	1
5/18	15	15	10.96	10.1				1.8	1	1
6/29	21.9	21.9	5.74	5.12				1.4	2	2
7/27	23.6	22.4	9.48	1.17				1.4	1	1
8/24	21.7	20.3	9.99	0.24				1.4	1	1
9/22	21.4	21.4	5.6	0.37				1.1	2	3
10/19	8.1	7.2	15.75	11.5				1.4	1	1

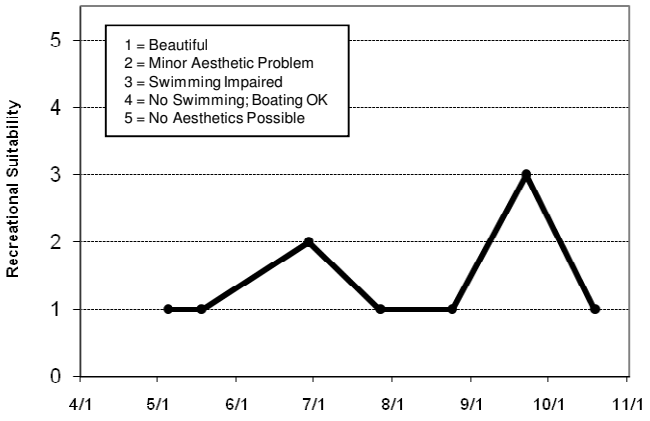


Lake Water Quality Grades Based on Summertime Averages

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

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



Source: Metropolitan Council and STORET data

Goetschel Pond (82-0313) *Valley Branch Watershed District*

Goetschel Lake is located in Grant Township (Washington County). The lake has a surface area of 22-acres. The lake has a mean and a maximum depth of 1.2 m (4 feet) and 4.2 m (14 feet). The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column. The lake has a 2,812-acre watershed which yields a watershed-to-lake area ratio of 122:1. The larger the ratio the greater the potential stress on the lake from surface runoff.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	33.2	25.0	41.0	C
CLA (µg/l)	7.0	4.4	9.8	A
Secchi (m)	0.9	0.5	1.5	D
TKN (mg/l)	0.97	0.88	1.10	
			Lake Grade	C

The lake received a lake grade of C for 2008, which is the lowest grade received by the lake in its 8-year monitoring history. The lower grade was driven by a lower mean Secchi depth in 2009 compared to previous years. Continued monitoring is suggested to determine if there is a developing trend in the lake's water quality.

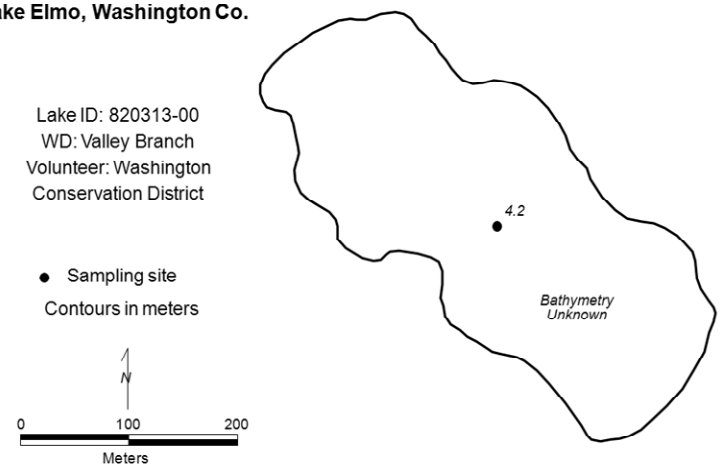
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

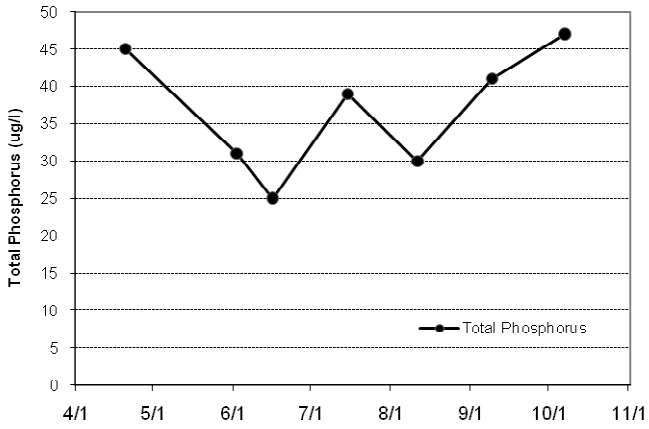
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

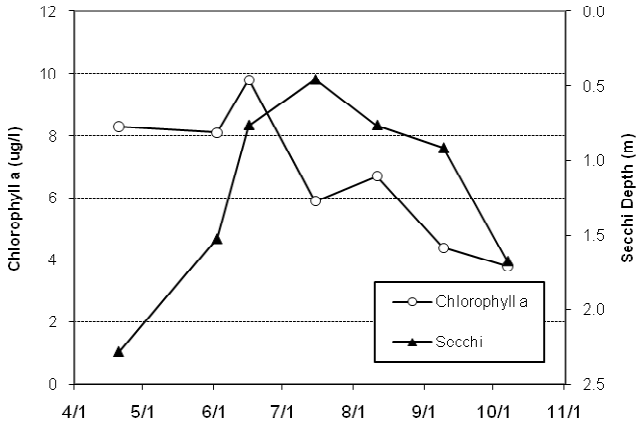
Goetschel Pond

Lake Elmo, Washington Co.

Lake ID: 820313-00
WD: Valley Branch
Volunteer: Washington Conservation District

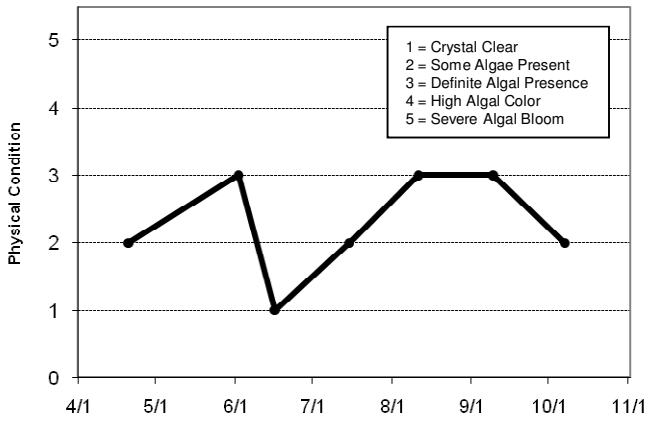






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/20	13.8	13.5	8.55	4.76	8.3	45		2.3	2	3
6/2	19.8	15.7	10.37	0.09	8.1	31		1.5	3	4
6/16	22.2	17.4	11.28	0.52	9.8	25		0.8	1	4
7/15	21.6	21.6	6.7	5.23	5.9	39		0.5	2	4
8/11	24.6	20.4	5.99	0.2	6.7	30		0.8	3	4
9/9	23.1	22	12.99	0.06	4.4	41		0.9	3	4
10/7	11.1	10.1	12.06	9.01	3.8	47		1.7	2	3

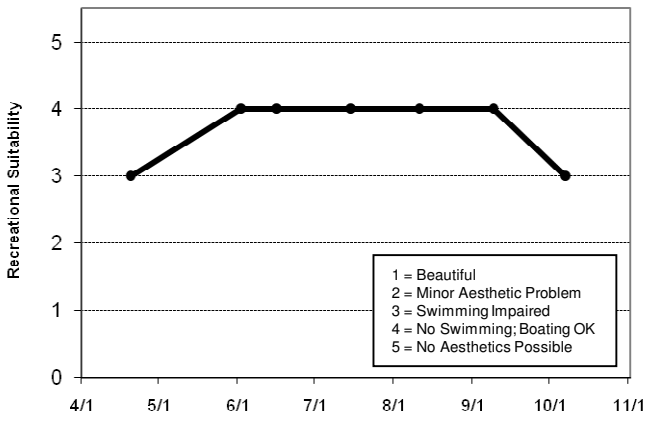


Lake Water Quality Grades Based on Summertime Averages

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

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



Source: Metropolitan Council and STORET data

Goggins Lake (82-0077) *Browns Creek Watershed District*

Goggins Lake is located within May Township (Washington County). It has a surface area of a 11 acres. Little bathymetric information is available for the lake but the maximum depth is approximately 4.0 m (13 feet). The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

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

2009 summer (May-September) data summary

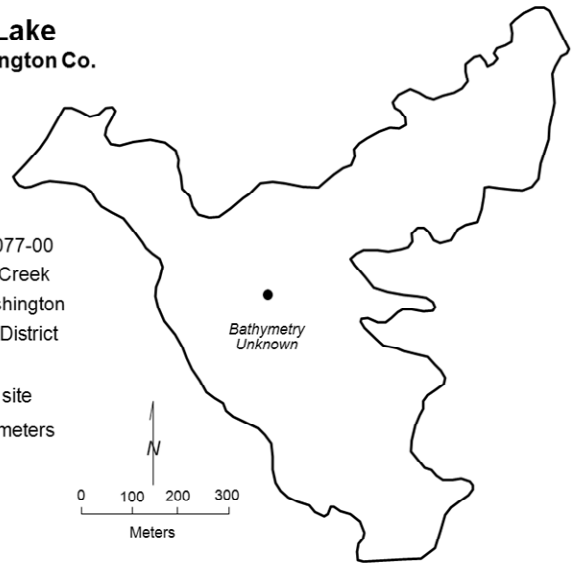
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	100.8	59.0	152.0	D
CLA (µg/l)	39.5	9.7	87.0	C
Secchi (m)	1.0	0.5	2.6	D
TKN (mg/l)	2.41	1.70	3.70	
			Lake Grade	D

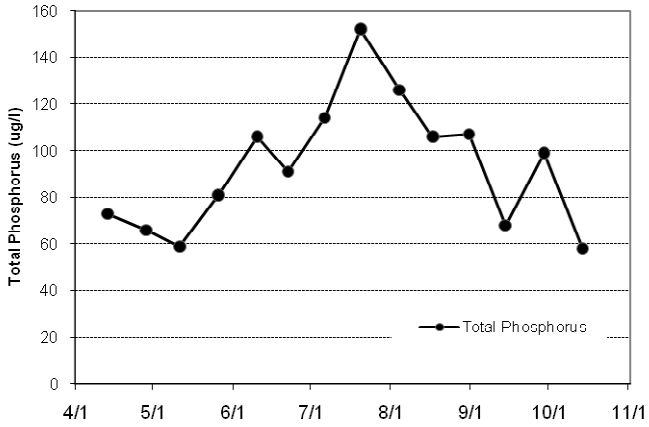
The lake received a lake grade of D for 2008 which is consistent with those received in some previous years. The lake's water quality seems to be represented by a lake grade of C or D, depending on the year. To better understand the quality of the lake and what direction it may be heading, continued monitoring is suggested.

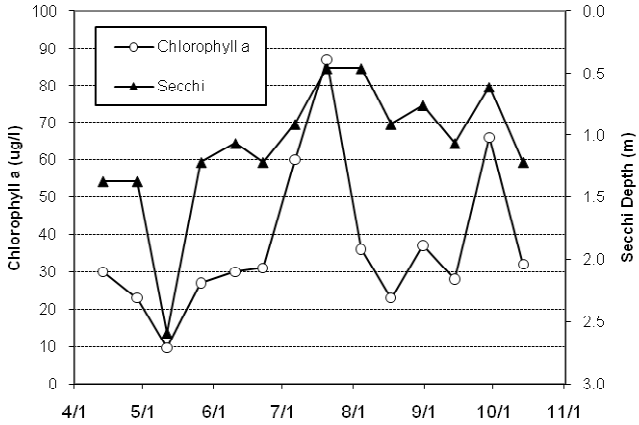
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

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.

Goggins Lake
May Twp., Washington Co.

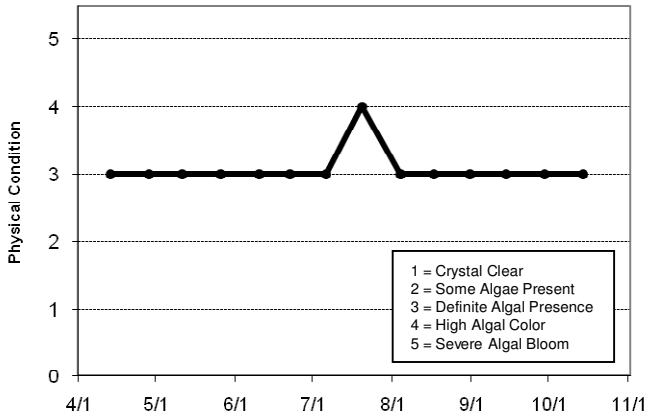






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/13	9.3	8.9	12.85	0.17	30	73	90	1.4	3	4
4/28	11.9	11.7	10.78	0.03	23	66	61	1.4	3	4
5/11	14.7	14.3	8.87	0.11	9.7	59	81	2.6	3	4
5/26	19.1	18.7	8.98	0.09	27	81	69	1.2	3	4
6/10	16.5	15.5	8.07	0.09	30	106	117	1.1	3	4
6/22	24	16.9	9.92	0.13	31	91		1.2	3	4
7/6	23.4	19.3	13.04	0.11	60	114	110	0.9	3	4
7/20	20.2	19.2	12.86	0.11	87	152	141	0.5	4	4
8/4	22.8	20.9	8.92	0.04	36	126	128	0.5	3	4
8/17	24.1	22.4	6.01	0.06	23	106	133	0.9	3	4
8/31	19.9	19.7	7.53	0.09	37	107	103	0.8	3	4
9/14	23.2	21.2	8.66	0.09	28	68	111	1.1	3	4
9/29	15	15.7	7.36	0.09	66	99	91	0.6	3	4
10/14	7	7.3	12.96	0.11	32	58	48	1.2	3	4

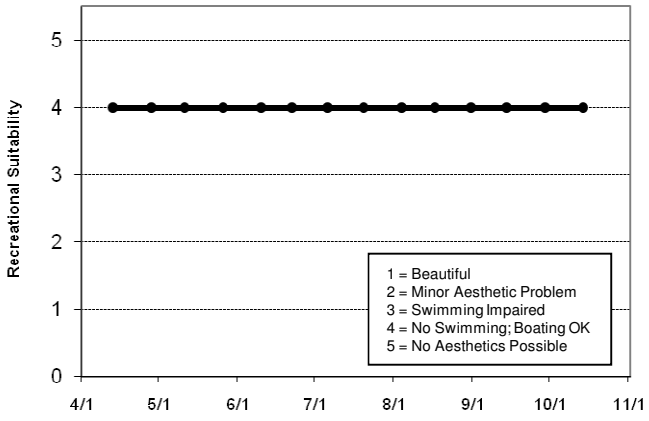


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Golden Lake (2-0045) *Rice Creek Watershed District*

Golden Lake is located in the City of Circle Pines (Anoka County). The mean and maximum depths of the lake are 2.5 m (8 feet) and 7.3 m (24 feet), respectively. The lake has a surface area of 57 acres and a watershed area of 7,680 acres, giving a watershed-to-lake area ratio of 135:1, which is quite large. The greater the ratio, the greater the potential stress on the lake from surface runoff.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	49.5	28.0	115.0	C
CLA (µg/l)	12.4	5.6	24.0	B
Secchi (m)	2.2	1.3	3.2	C
TKN (mg/l)	1.64	1.50	2.00	
			Lake Grade	C

The lake received a lake grade of C for 2009. The year 2009 was the second year in a row that a letter grade of B was received for CLA, which is an indicator of improved water quality with respect to algal abundance. Golden Lake has a fairly extensive water quality database. The lake's water quality grade has fluctuated between C, D, and F throughout 20+ years of monitoring data. However, continued monitoring is suggested to determine if the recent apparent improvements in CLA concentrations are an indication of potential improving water quality.

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

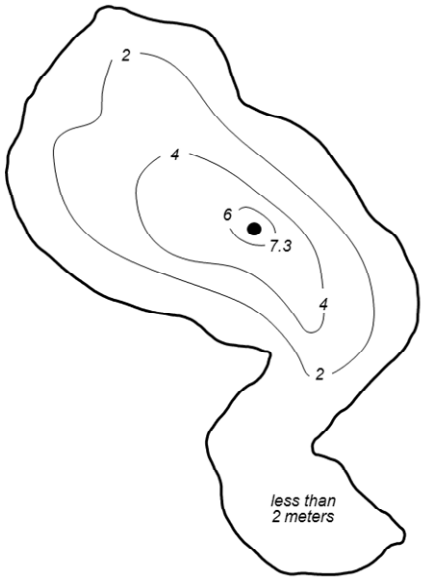
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

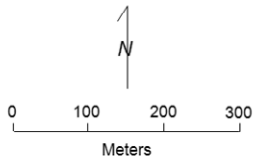
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

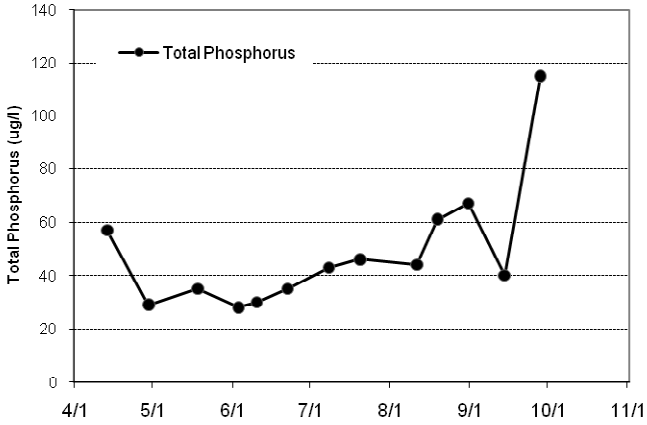
Golden Lake
Circle Pines, Anoka Co.

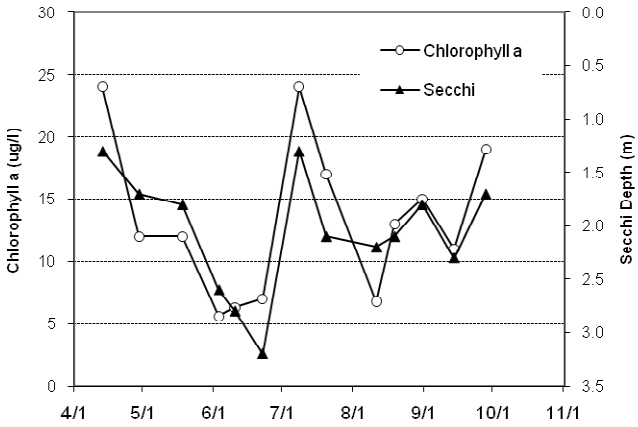
Lake ID: 20045-00
WD: Rice Creek
Volunteer: Dave Phipps

● Sampling site
Contours in meters



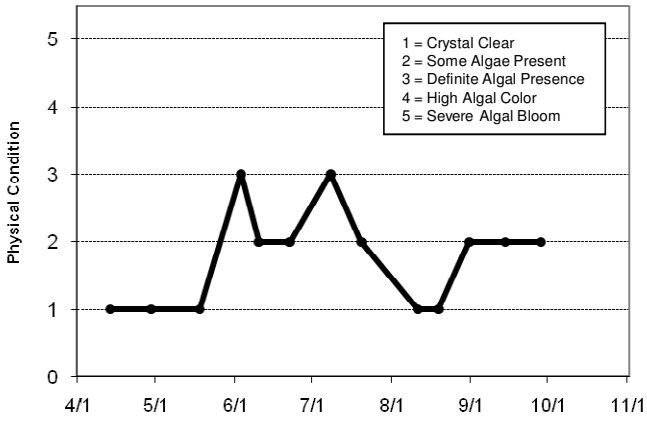






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/13	9.9				24	57		1.3	1	1
4/29	12.7				12	29		1.7	1	1
5/18	17				12	35		1.8	1	1
6/3	19.5				5.6	28		2.6	3	2
6/10	17.9				6.3	30		2.8	2	2
6/22	26.5				7	35		3.2	2	2
7/8	23.3				24	43		1.3	3	2
7/20	21				17	46		2.1	2	2
8/11	27.8				6.8	44		2.2	1	1
8/19	23.1				13	61		2.1	1	1
8/31	22.7				15	67		1.8	2	2
9/14	23.5				11	40		2.3	2	2
9/28	18.7				19	115		1.7	2	2

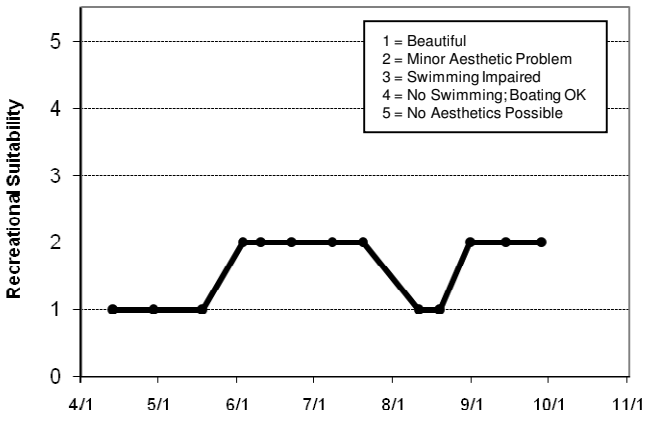


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Goose Lake (10-0089) *Carver County Environmental Services*

Goose Lake is located in Waconia Township (Carver County). It has a surface area of 407-acres. The maximum depth of the lake is 3.0 m; therefore the entire lake area is considered littoral zone which is the 0-15 feet depth area of the lake dominated by aquatic vegetation. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	104.0	56.0	150.0	D
CLA (µg/l)	106.0	66.0	150.0	F
Secchi (m)	0.4	0.3	0.4	F
TKN (mg/l)	3.44	1.60	4.40	
			Lake Grade	F

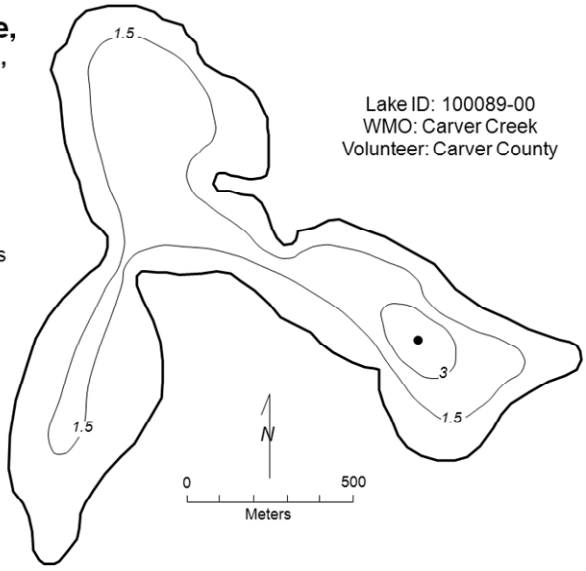
The lake received a lake grade of F for 2008 which is consistent with its historical database. The lake has experienced variability in water quality over the long term (i.e. grades ranging from C to F), with F grades being predominant for the past 6 years. To better understand the quality of the lake and what direction it may be heading, continued monitoring is suggested.

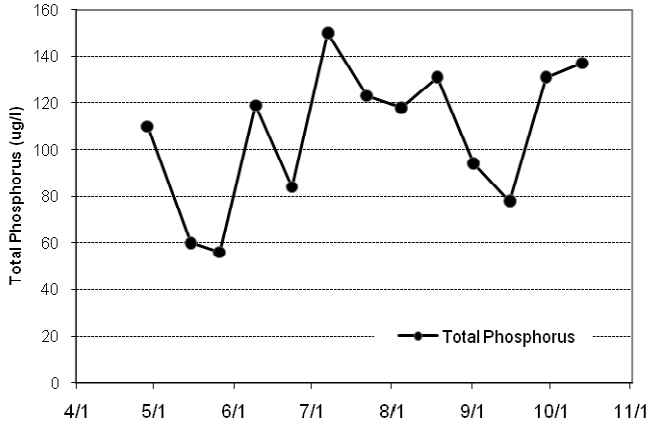
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

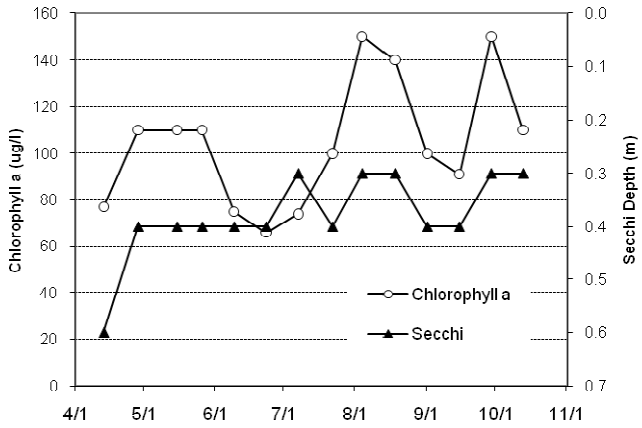
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

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

Goose Lake,
Waconia Twp., Carver Co.

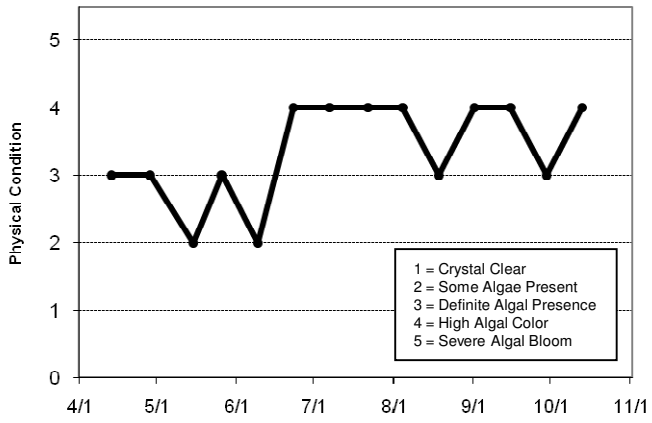






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/13	9.27		10		77			0.6	3	3
4/28	12.08		14.4		110	110		0.4	3	3
5/15	15.67		10.03		110	60		0.4	2	3
5/26	18.97		8.54		110	56		0.4	3	4
6/9	15.83		8.73		75	119		0.4	2	4
6/23	27.7		12.24		66	84		0.4	4	4
7/7	26.44		14.33		74	150		0.3	4	4
7/22	21.35		12.45		100	123		0.4	4	4
8/4	23.25		10.26		150	118		0.3	4	4
8/18	23.4		7.85		140	131		0.3	3	3
9/1	20.33		11.25		100	94		0.4	4	4
9/15	23		12.69		91	78		0.4	4	4
9/29	15.3		10.7		150	131		0.3	3	3
10/13	6.27		14.28		110	137		0.3	4	4

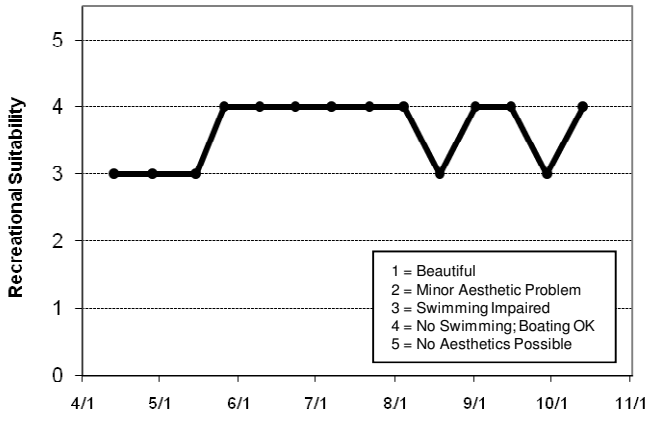


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Goose Lake (82-0059) *Carnelian - Marine - St. Croix Watershed District*

Goose Lake is located in the City of Scandia (Washington County). The lake has a surface area of 83 acres. The lake has a maximum and mean depth of 7.6 m (25 feet) and 2.4 m (8 feet), respectively.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	52.5	31.0	81.0	C
CLA (µg/l)	28.0	14.0	51.0	C
Secchi (m)	1.6	0.9	2.4	C
TKN (mg/l)	1.48	1.20	1.80	
			Lake Grade	C

The lake received a lake grade of C for 2008, which is similar to the lake grades received in the past. The lake's overall water quality seems to be represented by a lake grade of C given the historical water quality database.

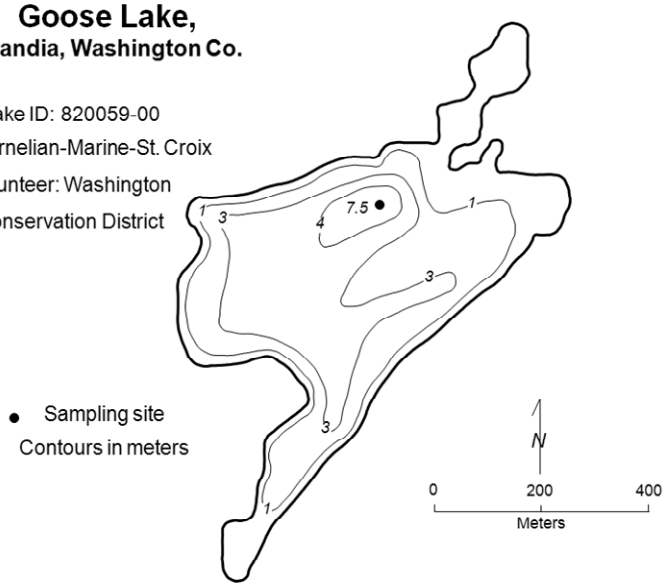
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

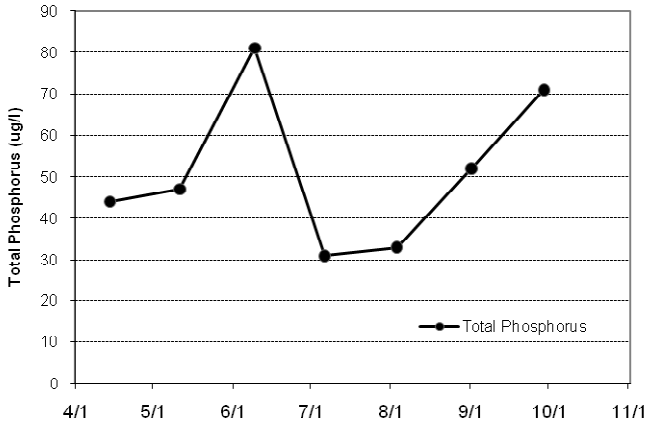
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

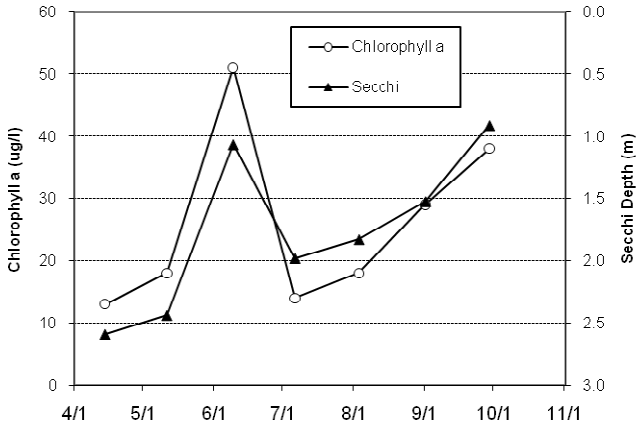
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Goose Lake,
Scandia, Washington Co.

Lake ID: 820059-00
WD: Carnelian-Marine-St. Croix
Volunteer: Washington
Conservation District

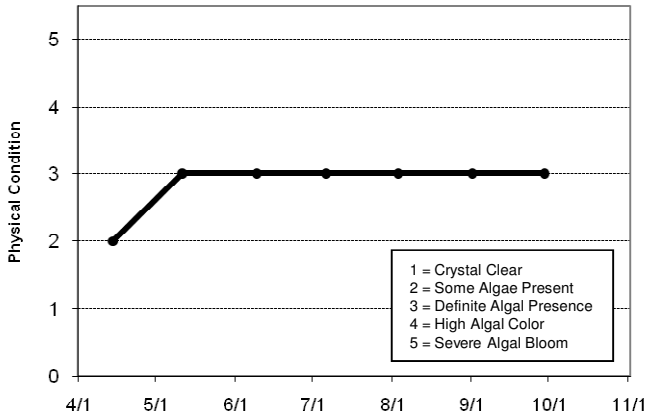






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/14	9.5	8.1	11.63	10	13	44		2.6	2	2
5/11	16.4	12.8	9.98	0.14	18	47		2.4	3	4
6/9	18	16.2	8.94	0.09	51	81		1.1	3	4
7/6	25.2	15.8	10.01	0.07	14	31		2.0	3	3
8/3	22.4	17.9	7.48	0.11	18	33		1.8	3	3
9/1	20.7	19.8	7.55	0.02	29	52		1.5	3	2
9/29	16.8	17	6.42	0.09	38	71		0.9	3	4

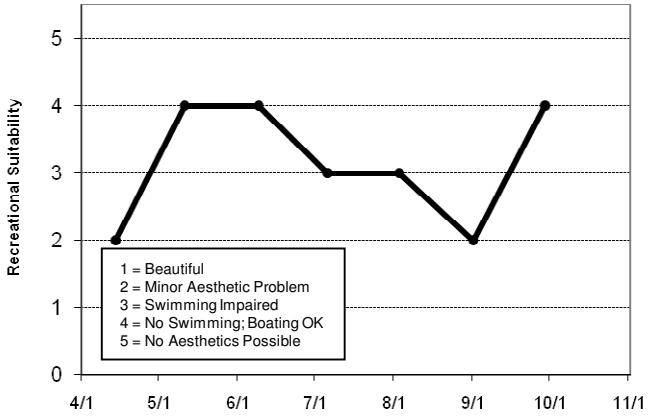


Lake Water Quality Grades Based on Summertime Averages

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			C	D	C	C	C					
Chlorophyll a			C	B	C	C	C					
Secchi Depth			D	C	C	C	C					
Lake Grade			**C**	**C**	**C**	**C**	**C**					

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



Source: Metropolitan Council and STORET data

Goose Lake [north basin] (82-0113-01) *Valley Branch Watershed District*

Goose Lake is located in the City of Lake Elmo (Washington County). The year 2009 was the second year that Goose Lake was monitored via the CAMP. The lake is split into two basins by county highway 10. The north basin is Site #1 of Goose Lake. The depth of the north basin at the sampling location is 1.8 m (6 ft). There is no other bathymetric information available for the lake. A search via STORET revealed no historical monitoring data prior to 2008.

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

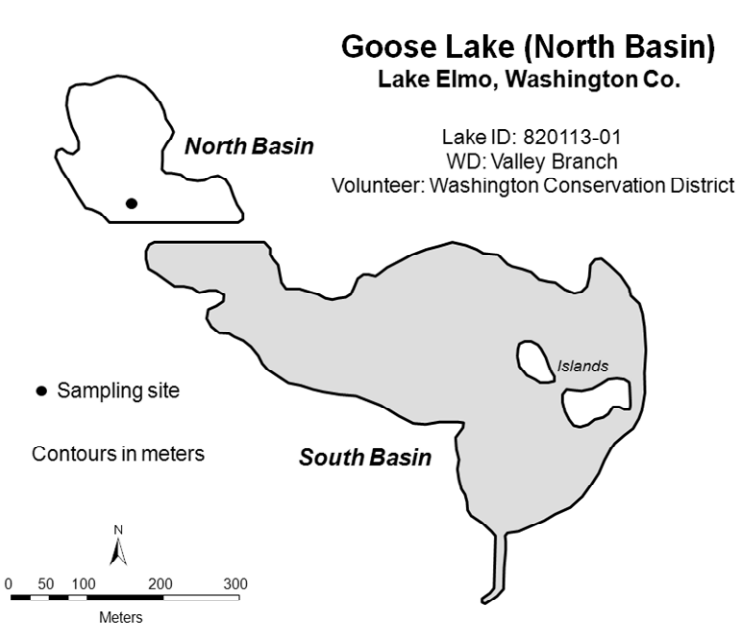
2009 summer (May-September) data summary

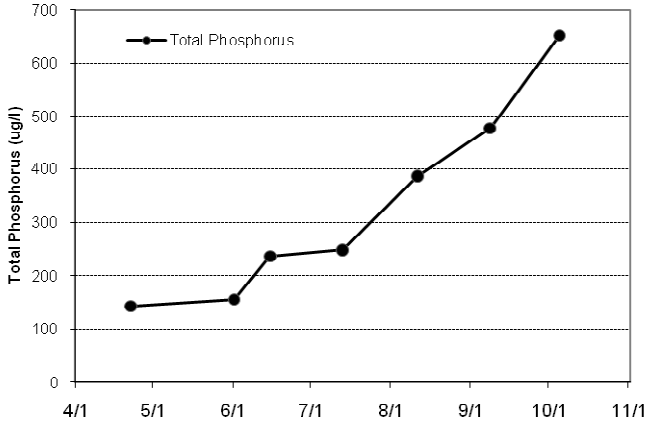
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	300.4	155.0	477.0	F
CLA (µg/l)	196.2	41.0	310.0	F
Secchi (m)	0.3	0.2	0.5	F
TKN (mg/l)	3.84	1.80	5.60	
			Lake Grade	F

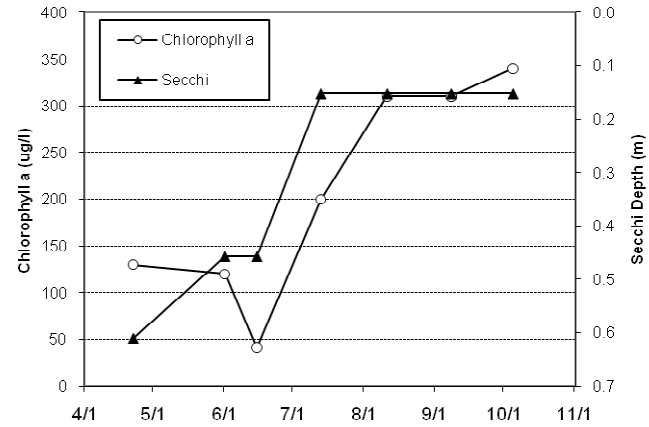
The north basin received a lake grade of F for 2009. Continued monitoring is suggested to build an historical water quality database for this lake site.

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

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

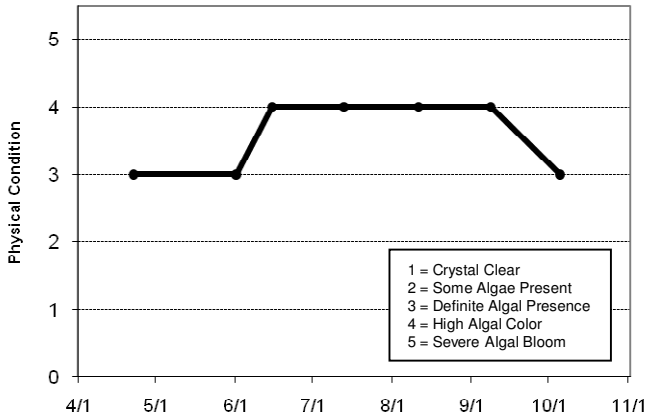






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/22	12.1	11.8	11.32	0.11	130	143		0.6	3	4
6/1	24	19.4	14.63	0.09	120	155		0.5	3	4
6/15	24.4	17.9	11.3	0.08	41	236		0.5	4	5
7/13	27.7	23.5	17.59	0.23	200	248		0.2	4	4
8/11	24	22.1	9.09	0.11	310	386		0.2	4	4
9/8	21.9	20.6	10.65	0.14	310	477		0.2	4	4
10/5	12.9	11.2	14.95	0.13	340	652		0.2	3	4



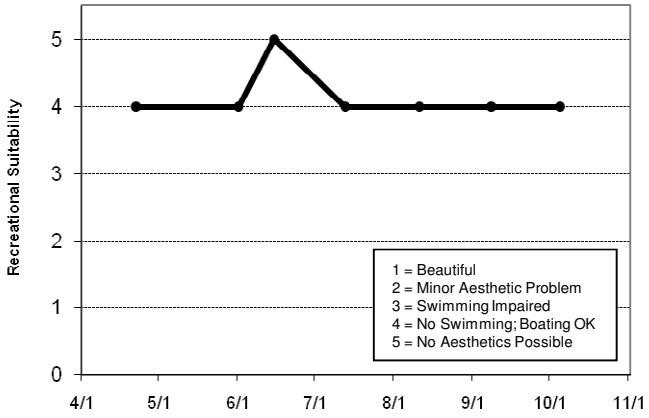
Lake Water Quality Grades Based on Summertime Averages

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	2009
Total Phosphorus					F	F
Chlorophyll a					F	F
Secchi Depth					F	F
Lake Grade					**F**	**F**

Source: Metropolitan Council and STORET data



Goose Lake [south basin] (82-0113-02) *Valley Branch Watershed District*

Goose Lake is located in the City of Lake Elmo (Washington County). The year 2009 was the second year that Goose Lake was monitored via the CAMP. The lake is split into two basins by county highway 10. The south basin is Site #2 of Goose Lake. The depth of the south basin at the sampling location is 2.1 m (7 ft). There is no other bathymetric information available for the lake. A search via STORET revealed no historical monitoring data prior to 2008.

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

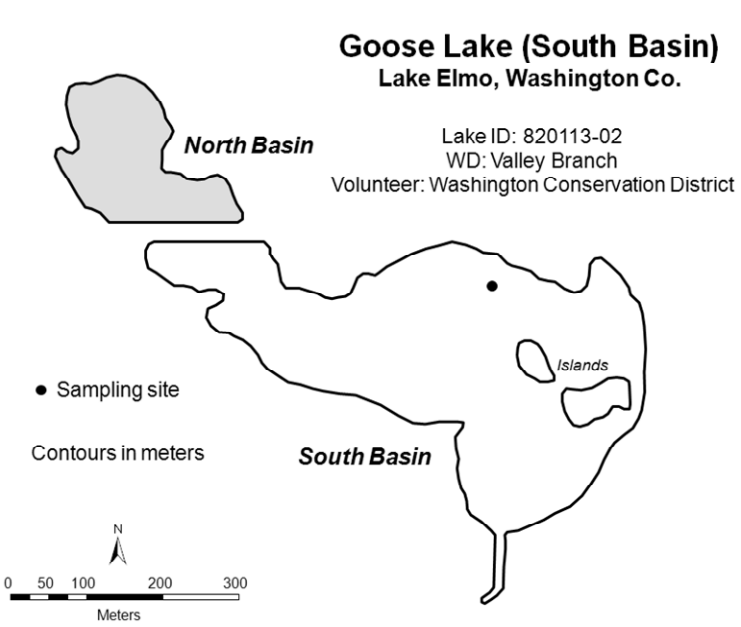
2009 summer (May-September) data summary

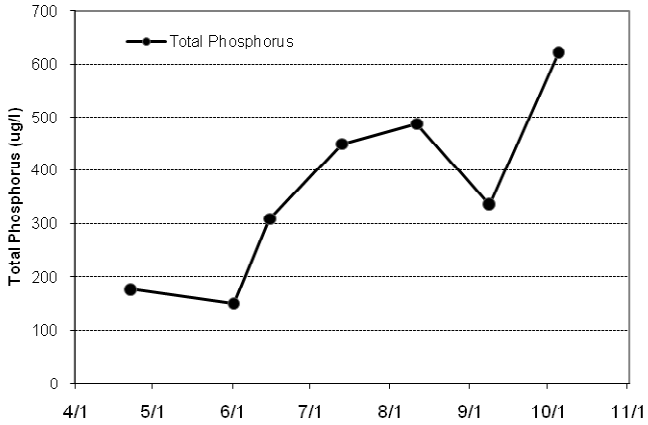
Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	346.4	150.0	488.0	F
CLA (µg/l)	454.0	350.0	580.0	F
Secchi (m)	0.1	0.1	0.2	F
TKN (mg/l)	14.68	4.10	48.00	
			Lake Grade	F

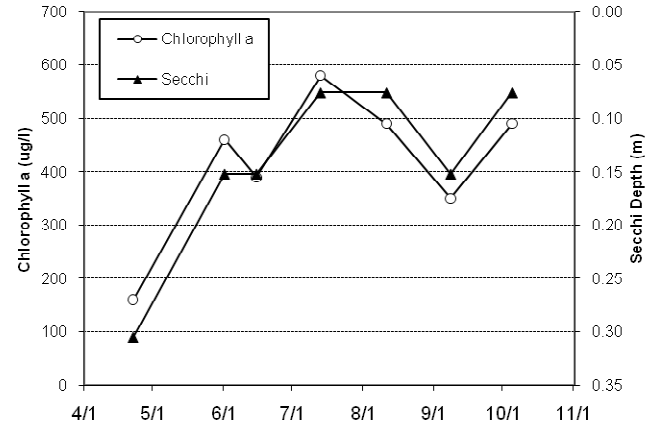
The south basin received a lake grade of F for 2009. Continued monitoring is suggested to build an historical water quality database for this lake site.

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

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

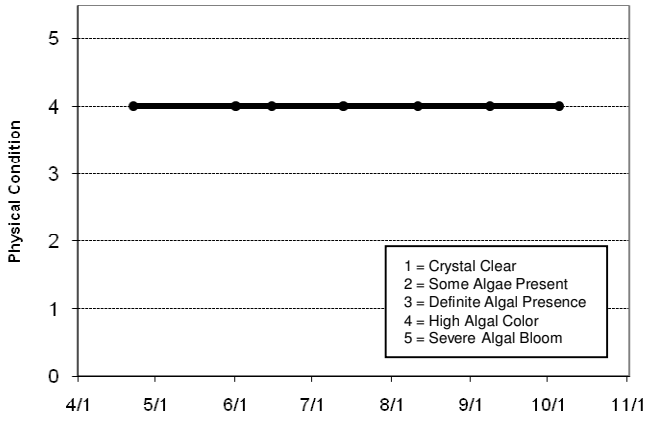






2009 Data

DATE	Surf Tmp (ºC)	Bot Tmp (ºC)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/22	11.1	10.9	12.26	0.13	160	176		0.3	4	4
6/1	23.1	19.5	15.42	6.99	460	150		0.2	4	4
6/15	22.5	16.8	13.39	0.04	390	308		0.2	4	5
7/13	23.8	22.2	11.35	0.09	580	450		0.1	4	4
8/11	24.6	22.8	6.39	0.09	490	488		0.1	4	5
9/8	22.6	20.1	12.86	0.16	350	336		0.2	4	4
10/5	12.9	10.9	16.25	0.11	490	622		0.1	4	5

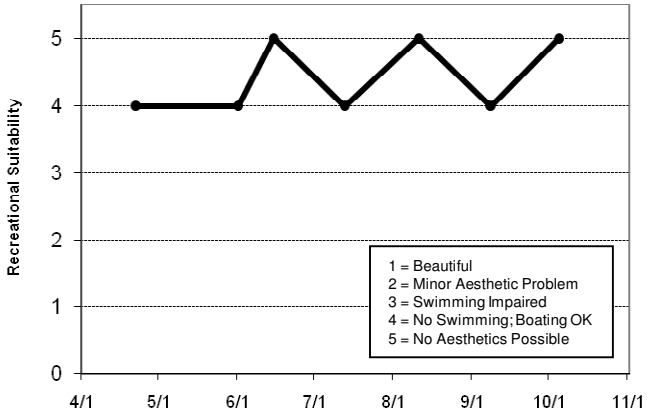


Lake Water Quality Grades Based on Summertime Averages

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

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

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



Source: Metropolitan Council and STORET data

Grace Lake (10-0218) *Carver County Environmental Services*

Grace Lake is a 22-acre lake located near the City of Chaska (Carver County). The lake has a maximum depth of 6.7 m (22 feet). A search through the STORET nationwide water quality database for historical data provided no data other than CAMP data.

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

2009 summer (May-September) data summary

Parameter	*Mean*	*Minimum*	*Maximum*	*Grade*
TP (µg/l)	112.3	49.0	306.0	D
CLA (µg/l)	56.6	3.1	120.0	D
Secchi (m)	0.8	0.3	2.4	D
TKN (mg/l)	2.14	0.50	2.90	
			Overall Grade	D

The lake received a lake grade of D for 2009 which is consistent with its historical database. Further monitoring is suggested for this lake to develop an historical water quality database.

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

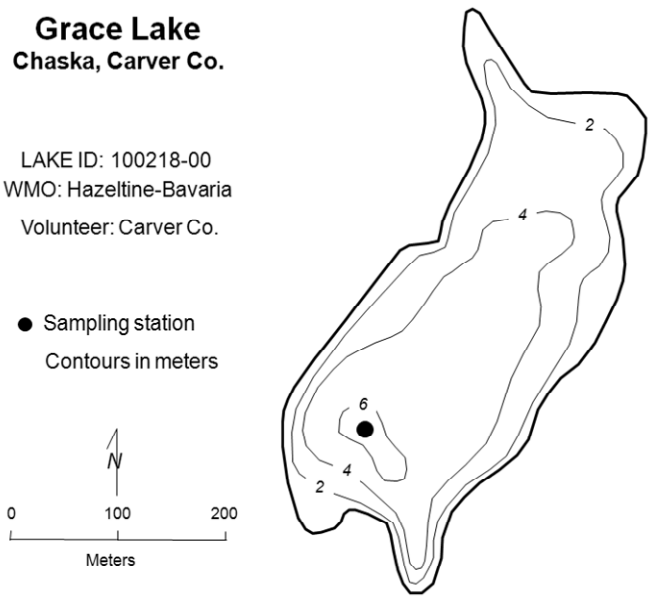
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 297-4916 or by downloading the information off the Internet at http://www.dnr.state.mn.us/lakefind/.

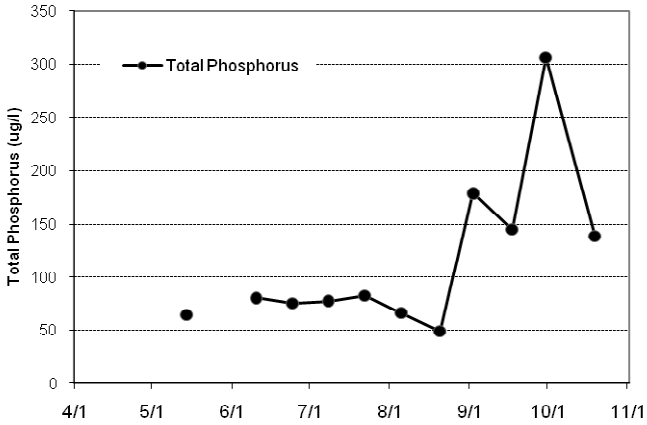
If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

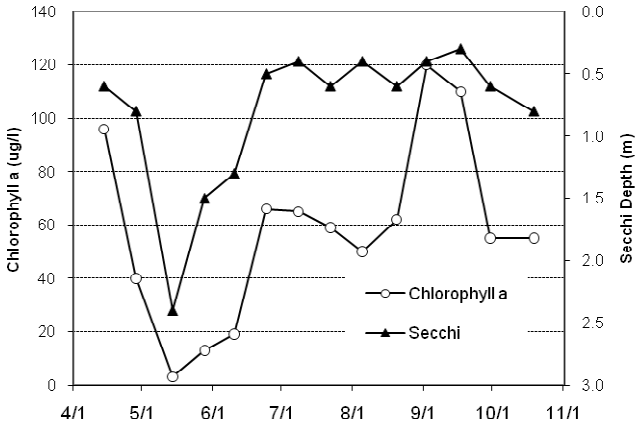
Grace Lake
Chaska, Carver Co.

LAKE ID: 100218-00
WMO: Hazeltine-Bavaria
Volunteer: Carver Co.

● Sampling station
Contours in meters

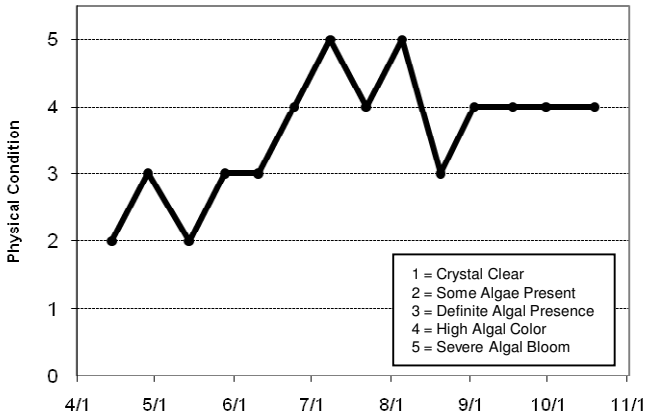






2009 Data

	Surf Tmp	Bot Tmp	Surf DO	Bot DO	CLA	Surf TP	Bot TP	Secchi		
DATE	(ºC)	(ºC)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(m)	PC	RS
4/14	10.4		14.7		96			0.6	2	2
4/28	12.24		10.6		40			0.8	3	3
5/14	15.34		5.47		3.1	64		2.4	2	2
5/28	18.67		9.58		13			1.5	3	3
6/10	17.05		8.2		19	80		1.3	3	4
6/24	26.69		18.56		66	75		0.5	4	4
7/8	24.57		14.37		65	77		0.4	5	5
7/22	24.98		14.66		59	82		0.6	4	4
8/5	23.78		13.05		50	66		0.4	5	5
8/20	22.39		5.6		62	49		0.6	3	4
9/2	20.38		9.82		120	179		0.4	4	4
9/17	22.81		15.25		110	145		0.3	4	4
9/30	16.87		1.23		55	306		0.6	4	4
10/19	8.3		11		55	139		0.8	4	4

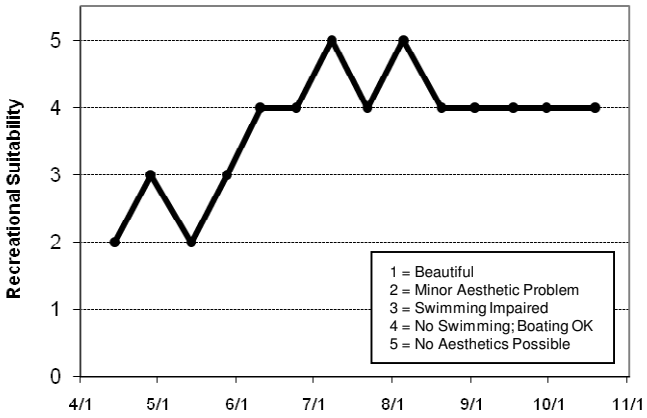


Lake Water Quality Grades Based on Summertime Averages

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												F
Chlorophyll a												C
Secchi Depth												D
Lake Grade												**D**

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



Source: Metropolitan Council and STORET data