

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.

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.

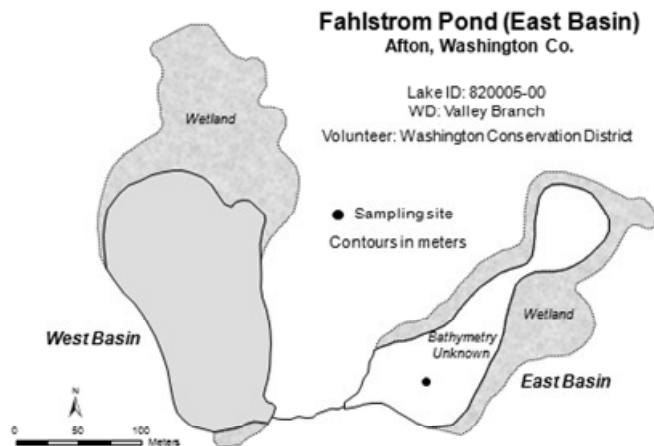
2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	351.7	262.0	422.0	
CLA (µg/l)	161.0	93.0	250.0	
Secchi (m)	0.4	0.3	0.5	
TKN (mg/l)	4.13	3.40	4.70	
				Lake Grade

There were insufficient data to calculate a lake grade for 2010. 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.

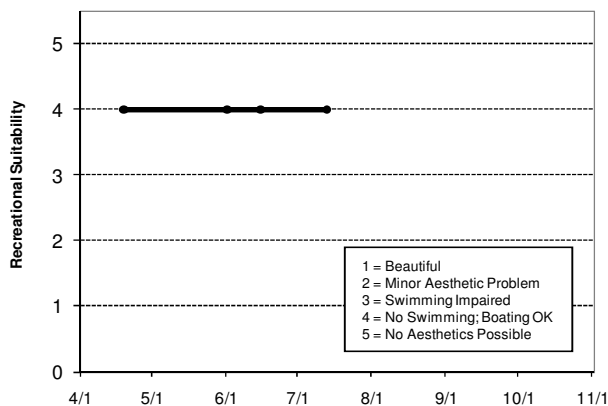
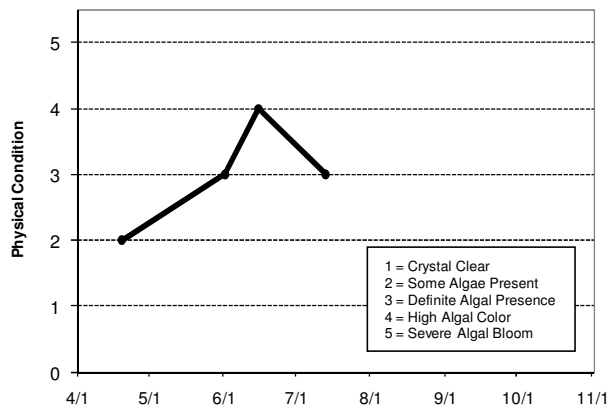
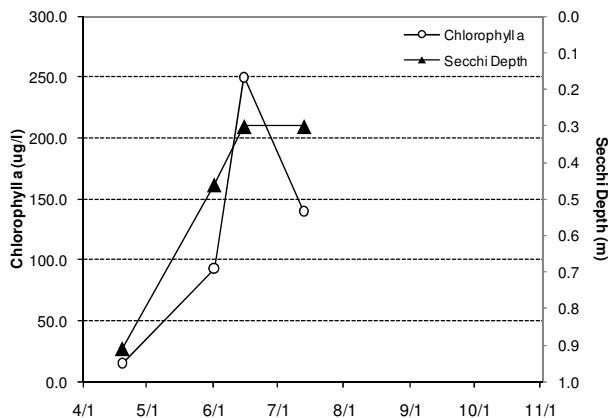
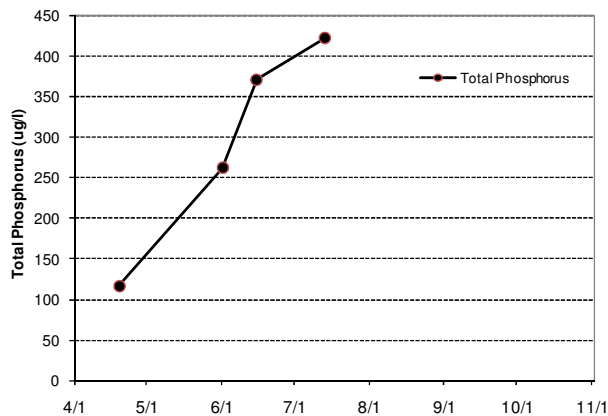
Throughout the monitoring period, the volunteer’s opinions of the lake’s physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

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.



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/19	18.1	17.1	9.7	1.2	15.0	117		0.9	2	4
6/1	25.6	23.3	15.7	0.1	93.0	262		0.5	3	4
6/15	18.9		7.4		250.0	371		0.3	4	4
7/13	24.9	22.9	6.3	1.2	140.0	422		0.3	3	4



Lake Water Quality Grades Based on Summertime Averages

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

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

Year	2004	2005	2006	2007	2008	2009	2010
Total Phosphorus							F
Chlorophyll a							C
Secchi Depth							D
Lake Grade						NA	D NA

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.

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.

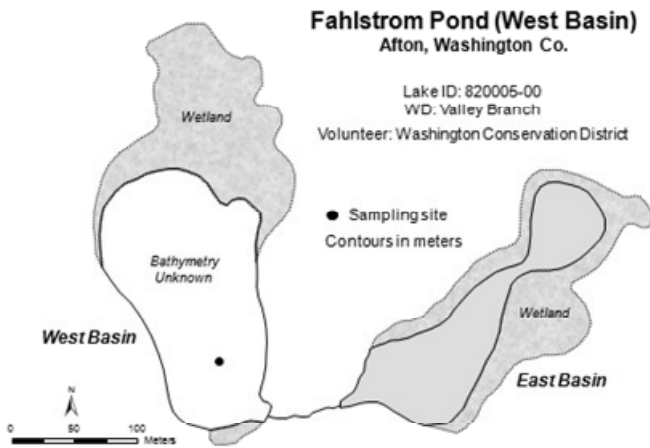
2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	299.0	216.0	382.0	
CLA (µg/l)	33.3	15.0	59.0	
Secchi (m)	0.6	0.6	0.8	
TKN (mg/l)	1.20	1.00	1.30	
				Lake Grade

There were insufficient data to calculate a lake grade for 2010. 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.

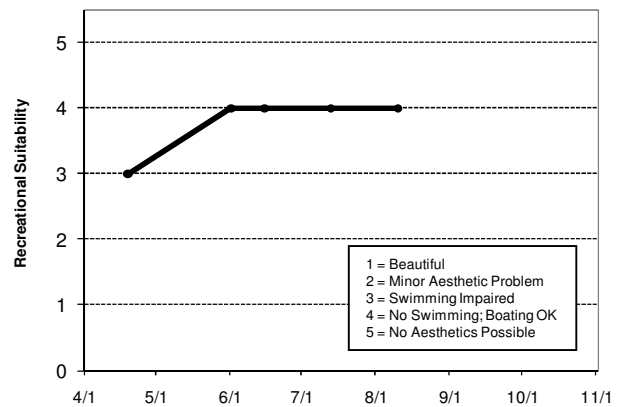
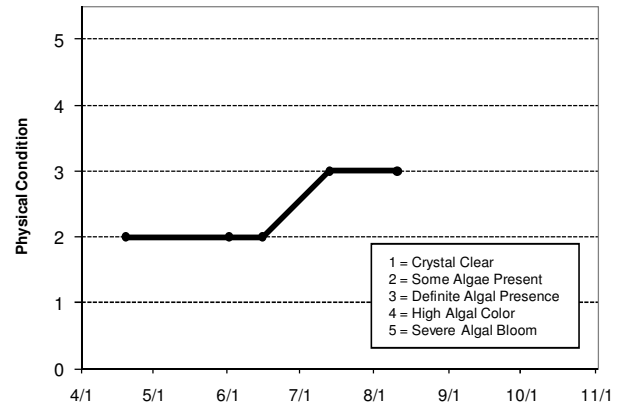
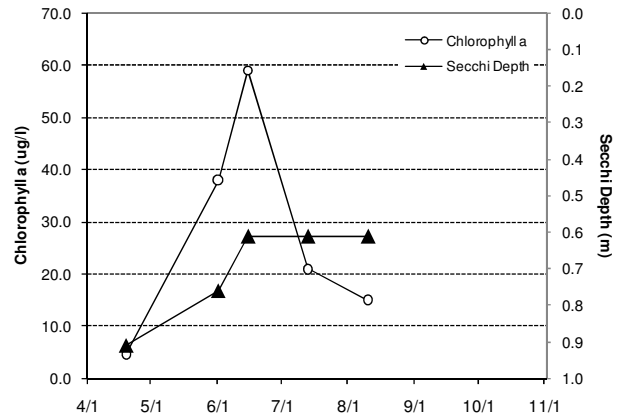
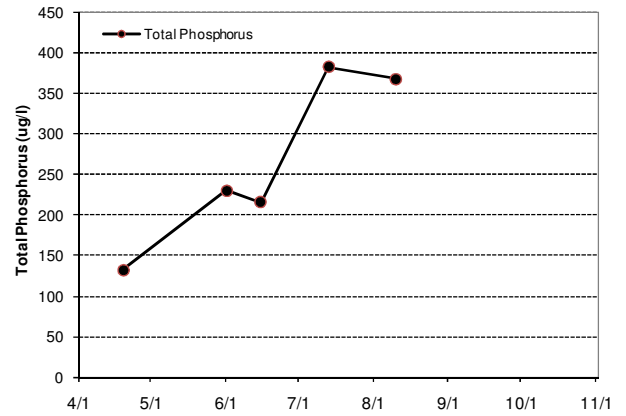
Throughout the monitoring period, the volunteer’s opinions of the lake’s physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

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.



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/19	16.7	15.9	7.8	7.3	4.7	132		0.9	2	3
6/1	26.1	25.5	10.3	0.2	38.0	230		0.8	2	4
6/15	20.1		11.5		59.0	216		0.6	2	4
7/13	25.0	24.6	4.7	1.0	21.0	382		0.6	3	4
8/10	28.1		1.7		15.0	368		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												
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	2010
Total Phosphorus							
Chlorophyll a							
Secchi Depth							
Lake Grade				NA	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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	104.7	66.0	147.0	D
CLA ($\mu\text{g/l}$)	76.1	17.0	150.0	D
Secchi (m)	0.6	0.4	0.8	F
TKN (mg/l)	2.55	1.70	4.50	
Lake Grade				D

The lake received a lake grade of F for 2010, 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.

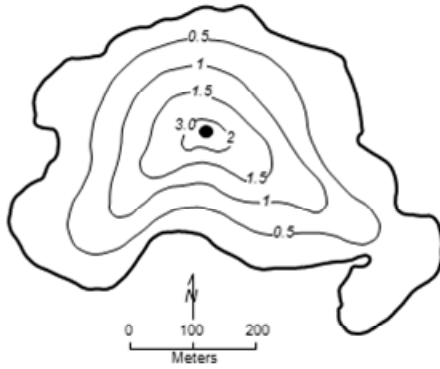
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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

● Samplingsite
Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/18	19.1				26.0	74		0.8	2	1
5/2	15.4				47.0	102		0.8	2	1
5/16	18.7				22.0	68		0.7	2	1
5/31	26.6				17.0	66		0.7	2	2
6/13	20.5				57.0	90		0.7	3	3
6/27	26.1				32.0	99		0.6	3	3
7/10	28.2				72.0	103		0.6	4	3
7/25	30.9				100.0	104		0.5	4	3
8/8	31.4				150.0	114		0.4	4	3
8/22	28.3				130.0	131		0.4	4	3
9/5	18.2				140.0	147		0.4	3	3
9/19	17.6				70.0	128		0.5	4	3
10/3	16.1				46.0	105		0.6	3	3
10/13	16.3				60.0	104		0.6	3	3

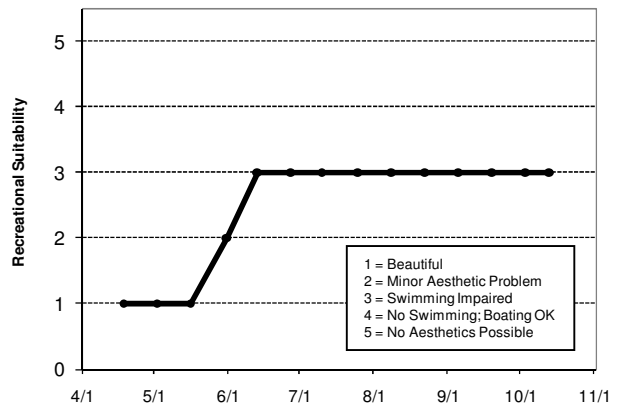
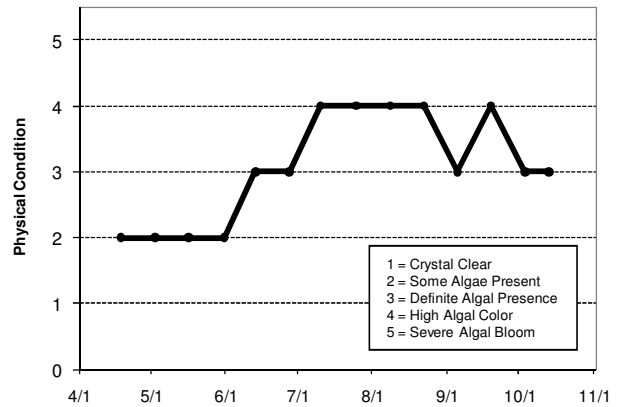
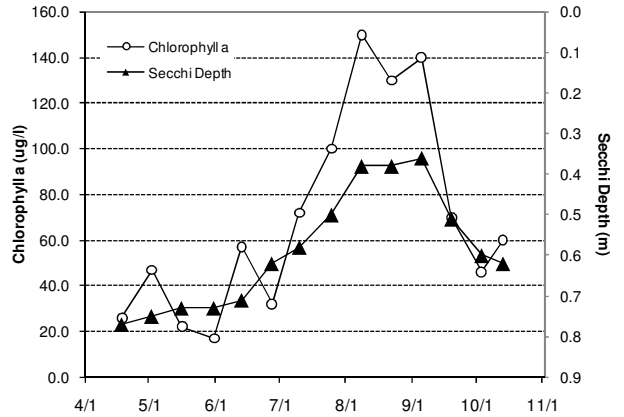
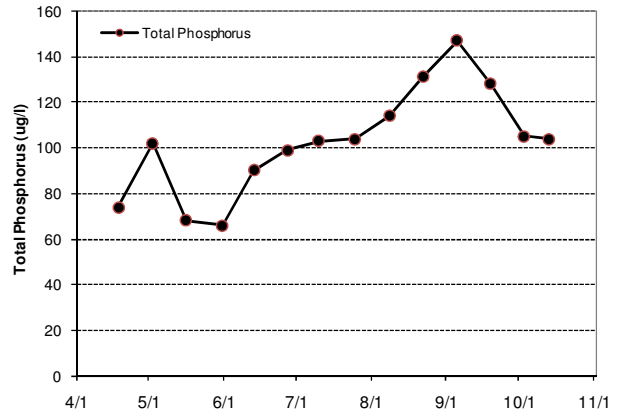
Lake Water Quality Grades Based on Summertime Averages

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

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus			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	2010
Total Phosphorus	F	F	F	F	D	F	D
Chlorophyll a	F	D	C	D	F	F	D
Secchi Depth	F	F	F	F	D	F	F
Lake Grade	F	F	D	F	D	F	D

Source: Metropolitan Council and STORET data



Fireman's Clayhole 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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	29.3	12.0	69.0	B
CLA (µg/l)	7.2	1.0	13.0	A
Secchi (m)	2.8	1.7	4.3	B
TKN (mg/l)	0.54	0.36	0.74	
Lake Grade				B

The lake received a lake grade of B for 2010, which is lower than the typical A grade. This is the second year in a row that the lake received a B lake grade. Additional monitoring is suggested to determine potential long term water quality trends.

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

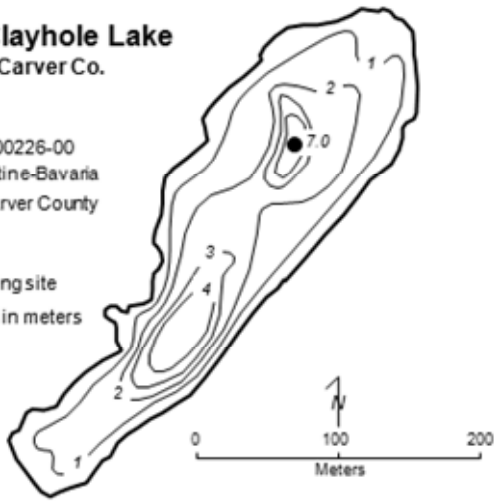
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fishery survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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

● Sampling site
Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/15	15.5	10.0	9.8	2.3	3.1	19		2.2	1	2
4/28	14.9	14.0	16.0	11.2	2.4	18		2.9	2	2
5/18	18.5	12.7	12.2	12.5	1.0	16		4.3	2	2
5/26	23.6	13.9	10.2	11.6	2.5	19		3.0	3	2
6/9	22.5	20.7	11.5	12.2	6.5	12		3.4	2	2
6/22	24.7	17.9	6.0	0.2	4.2	26		2.4	3	3
7/7	27.5	18.5	13.5	0.1	10.0	43		2.0	2	3
7/20	26.9	23.4	12.6	0.8	12.0	26		1.7	3	2
8/3	27.6	23.4	12.3	0.3	13.0	28		1.7	2	2
8/17	27.2	25.4	10.4	0.9	7.8	18		2.0	2	2
8/31	27.2	24.6	11.8	3.9	3.3	24		3.0	2	1
9/21	18.5	17.6	8.6	4.4	12.0	41		3.6	2	3
9/28	17.8	16.4	10.3	1.9	7.1	69		3.8	2	2
10/12	17.9	16.2	12.1	11.2	3.7	22		3.0	2	2

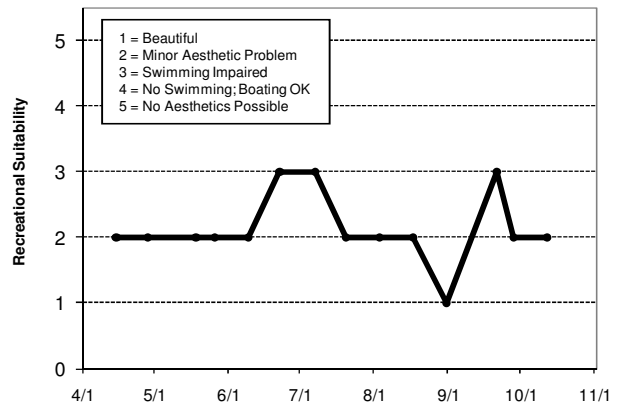
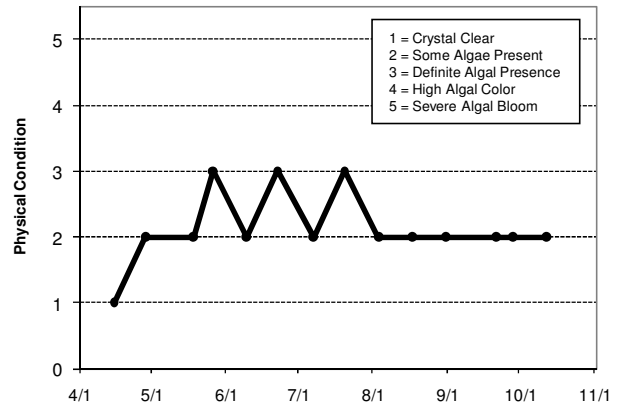
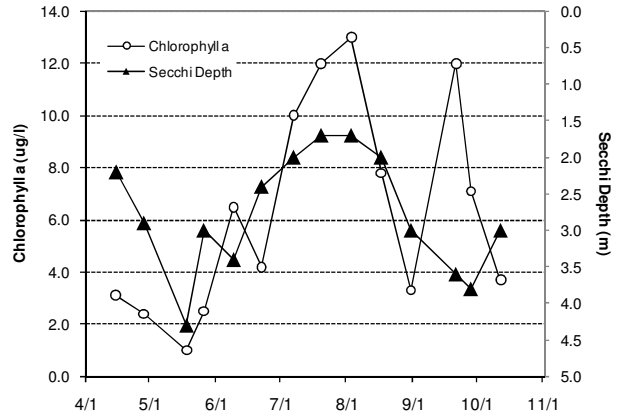
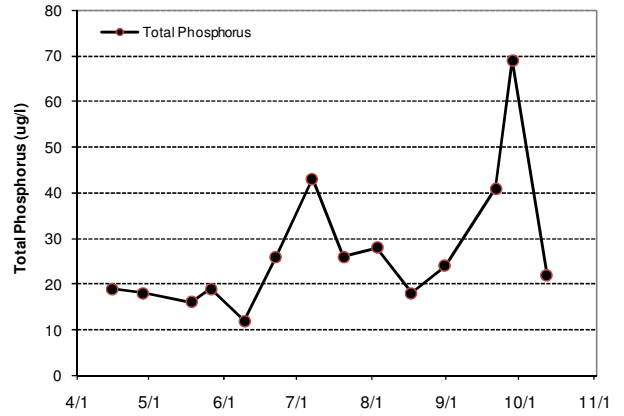
Lake Water Quality Grades Based on Summertime Averages

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

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

Year	2004	2005	2006	2007	2008	2009	2010
Total Phosphorus	A	B	B	A	A	C	B
Chlorophyll <i>a</i>	A	A	A	A	A	A	A
Secchi Depth	A	A	B	B	A	A	B
Lake Grade	A	A	B	A	A	B	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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	44.0	21.0	75.0	C
CLA ($\mu\text{g/l}$)	14.1	4.2	30.0	B
Secchi (m)	1.5	1.0	2.8	C
TKN (mg/l)	1.35	0.97	1.70	
Lake Grade				C

The lake received a lake grade of C for 2010. 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.

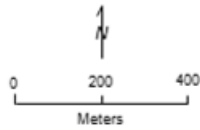
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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

● Sampling site
Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
5/2	14.7				7.1	75		2.1	1	1
5/15	15.1				4.2	28		2.8	1	1
5/31	24.8				25.0	59		1.1	3	2
6/15	20.8				25.0	46		1.4	3	2
6/26	26.2				10.0	30		1.2	3	2
7/9	27.9				7.5	22		1.5	3	2
7/25	28.0				13.0	60		1.1	3	2
8/7	27.2				8.2	21		1.2	2	2
8/29	24.5				11.0	28		1.5	2	2
9/26	18.3				30.0	71		1.0	3	2
10/10	19.0				57.0	124		0.8	4	3

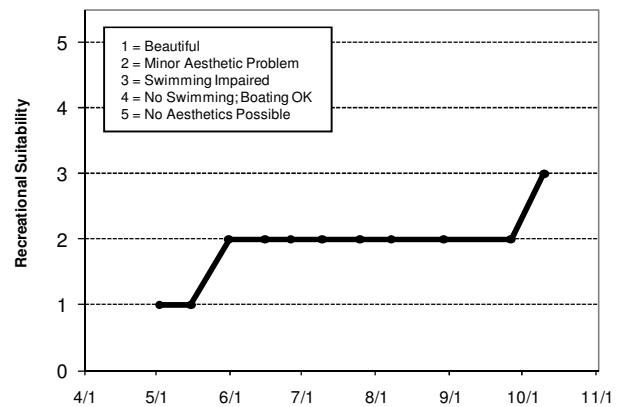
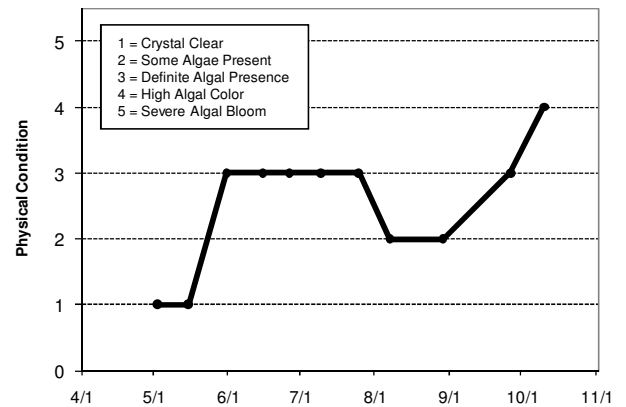
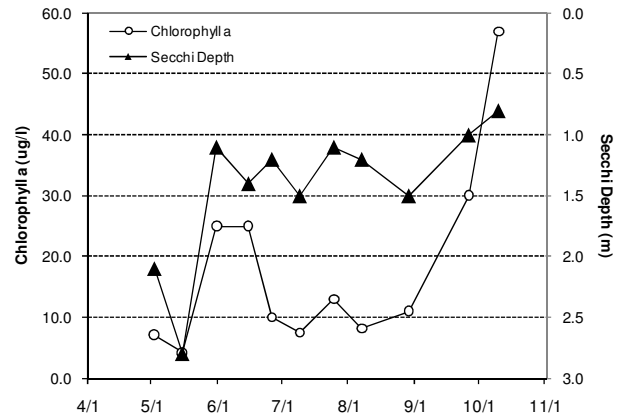
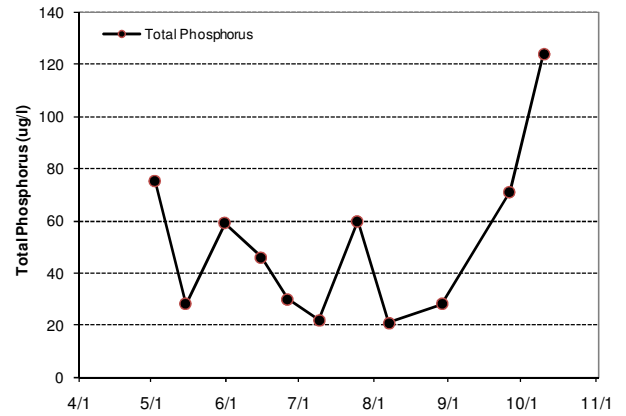
Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus	C				D							
Chlorophyll <u>a</u>	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 <u>a</u>				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	2010
Total Phosphorus	C	C	C	C	C	C	C
Chlorophyll <u>a</u>	C	C	B	C	B	C	B
Secchi Depth	C	C	C	C	C	C	C
Lake Grade	C	C	C	C	C	C	C

Source: Metropolitan Council and STORET data



Fish Lake [Washington County] (82-0064) Carnelian - Marine 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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	80.0	29.0	150.0	D
CLA (µg/l)	32.5	2.3	95.0	C
Secchi (m)	1.2	0.5	2.1	C
TKN (mg/l)	1.39	0.64	2.40	
			<i>Lake Grade</i>	C

The lake received a lake grade of C for 2010, which continues the improvement in water quality that this lake has been experiencing over the past decade. This was the fourth 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 an 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.

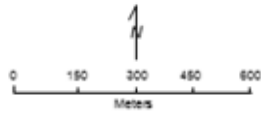
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

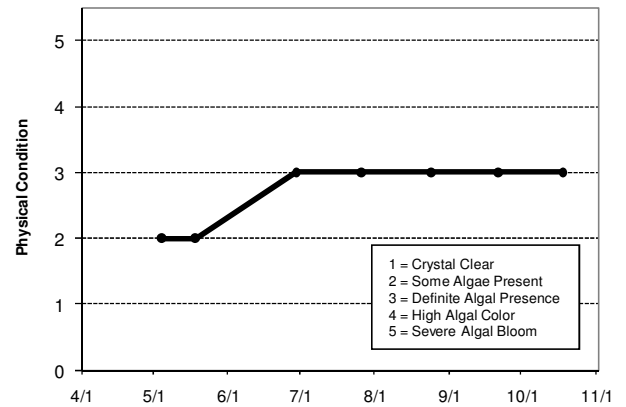
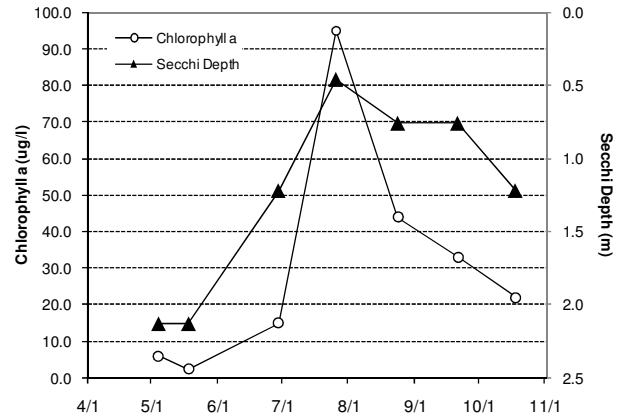
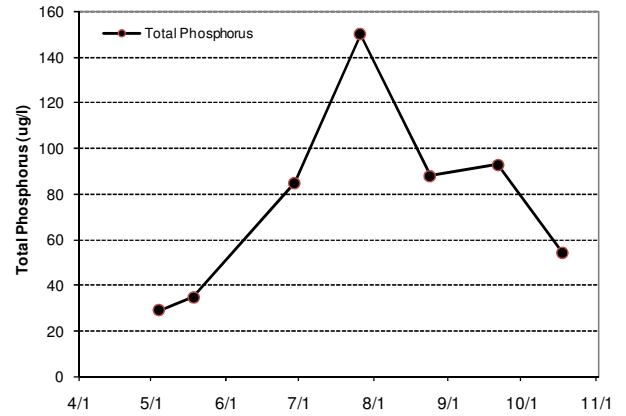
LAKE ID: 820064-00
WD: Carnelian-Marine-St. Croix
Volunteer: Washington
Conservation District

● Sampling site
Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
5/4	13.9	13.6	8.8	7.2	5.9	29		2.1	2	3
5/18	18.3	16.8	9.6	6.7	2.3	35		2.1	2	2
6/29	23.5	23.1	8.3	0.5	15.0	85		1.2	3	4
7/26	26.8	24.6	11.5	0.2	95.0	150		0.5	3	3
8/24	25.8	24.3	7.8	0.1	44.0	88		0.8	3	4
9/21	15.8	15.7	9.0	1.2	33.0	93		0.8	3	4
10/18	12.6	12.6	8.5	0.9	22.0	54		1.2	3	4



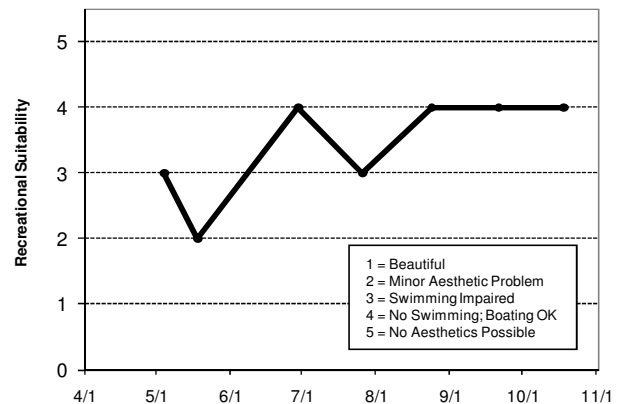
Lake Water Quality Grades Based on Summertime Averages

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							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	2010
Total Phosphorus	D	D	D	D	D	D	D
Chlorophyll a	F	C	D	C	C	C	C
Secchi Depth	D	D	D	C	C	C	C
Lake Grade	D	D	D	C	C	C	C

Source: Metropolitan Council and STORET data



Fish Lake [Woodbury] (82-0093) Washington Conservation District

Fish Lake is located in the City of Woodbury (Washington County). It has a surface area of approximately 5 acres. Little morphological information is available for the lake. No historical water quality data for the lake was available in the STORET nationwide water quality database.

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.

2010 summer (May-September) data summary

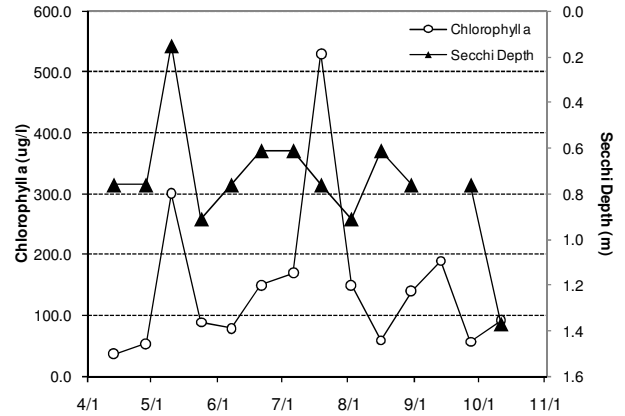
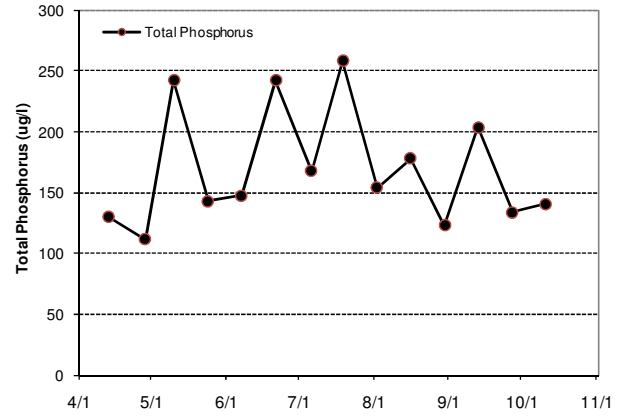
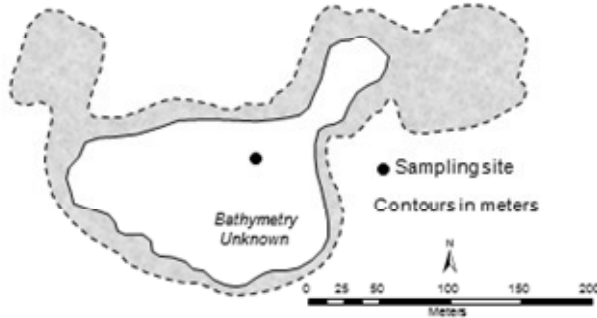
<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	181.3	123.0	258.0	F
CLA (µg/l)	174.0	57.0	530.0	F
Secchi (m)	0.7	0.2	0.9	F
TKN (mg/l)	1.94	1.10	4.20	
Lake Grade				F

This was the first year the lake was enrolled in the CAMP, and the lake received a lake grade of F. Additional monitoring is suggested to build the water quality database of this 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.

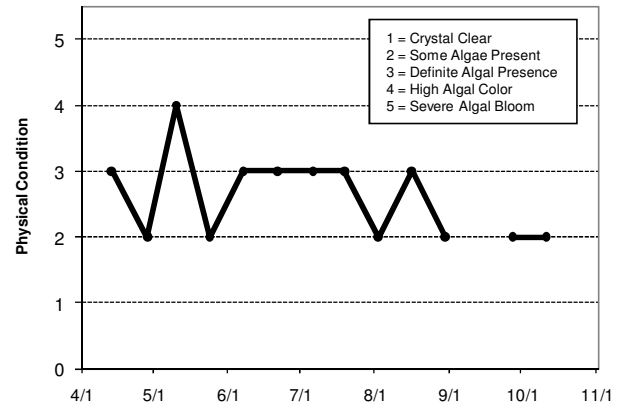
If you notice any errors in the lake’s data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Fish Lake
 Woodbury, Washington Co. LAKE ID: 820093-00
 WMO: South Washington County
 Volunteer: Washington Conservation District



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/13	13.1	13.1	7.9	0.1	37.0	130		0.8	3	4
4/28	13.8	13.6	9.8	9.6	54.0	112		0.8	2	4
5/10	12.3	10.4	15.4	6.8	300.0	242		0.2	4	4
5/24	22.8	18.1	9.2	0.1	89.0	143		0.9	2	4
6/7	21.0	18.9	8.9	0.1	79.0	148		0.8	3	4
6/21	23.4	18.4	9.5	0.1	150.0	242		0.6	3	4
7/6	24.8	19.4	3.7	0.1	170.0	168		0.6	3	4
7/19	24.7	20.5	8.3	0.1	530.0	258		0.8	3	4
8/2	24.6	20.5	3.3	0.1	150.0	154		0.9	2	3
8/16	22.3	20.5	1.3	0.2	59.0	178		0.6	3	4
8/30	23.2	20.8	6.6	0.1	140.0	123		0.8	2	4
9/13	17.4	16.8	1.6	11.6	190.0	204				
9/27	13.9	13.7	5.2	0.2	57.0	134		0.8	2	4
10/11	16.5	15.1	10.5	0.1	92.0	141		1.4	2	4

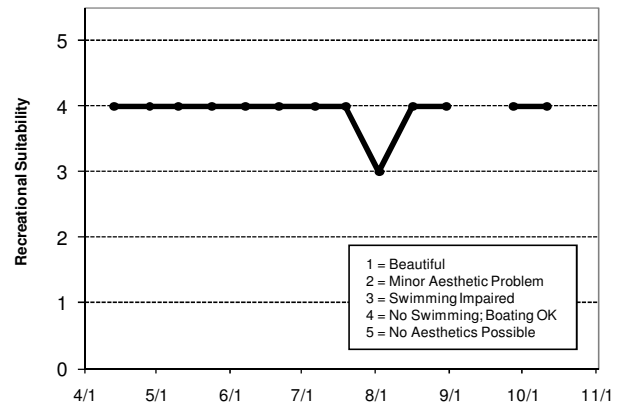


Lake Water Quality Grades Based on Summertime Averages

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	2010
Total Phosphorus							F
Chlorophyll a							F
Secchi Depth							F
Lake Grade							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 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.

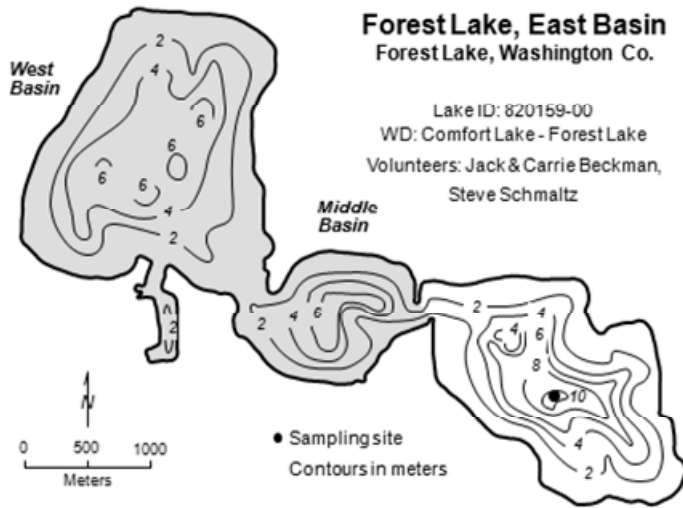
2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
Secchi (m)	1.7	1.0	2.7	C

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

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

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



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/10								2.0	1	1
4/28								2.0	1	1
5/23								2.7	1	1
6/30								2.4	1	1
7/29								1.3	3	2
8/21								1.2	2	2
9/5								1.0	2	1
9/22								1.4	2	1

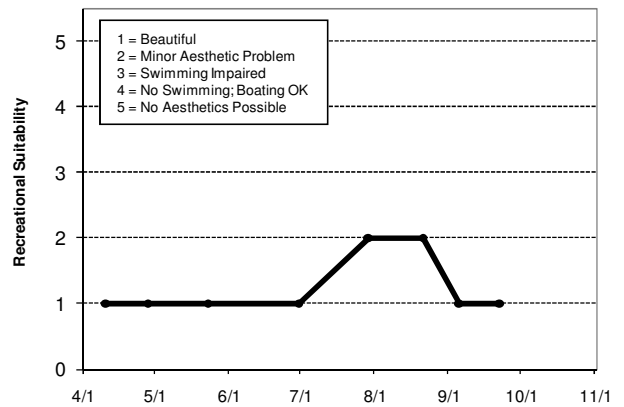
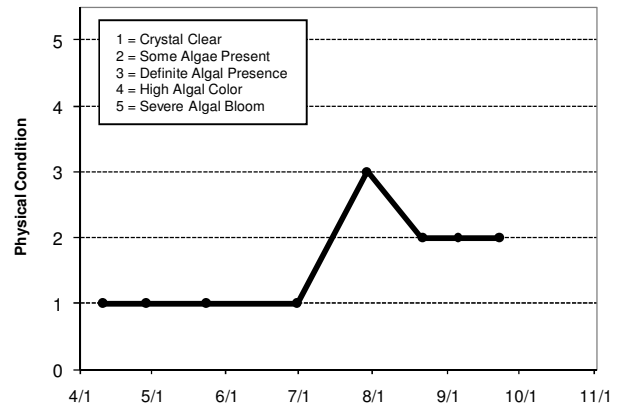
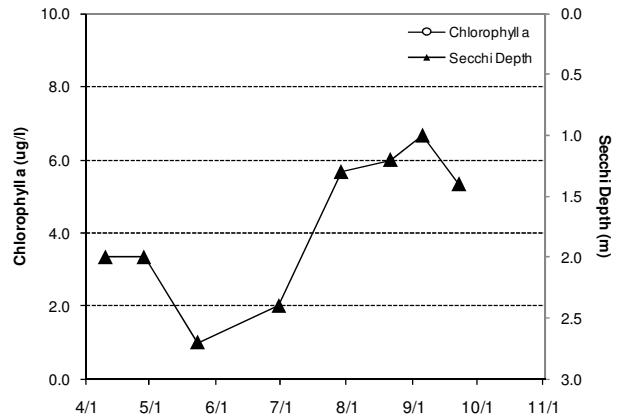
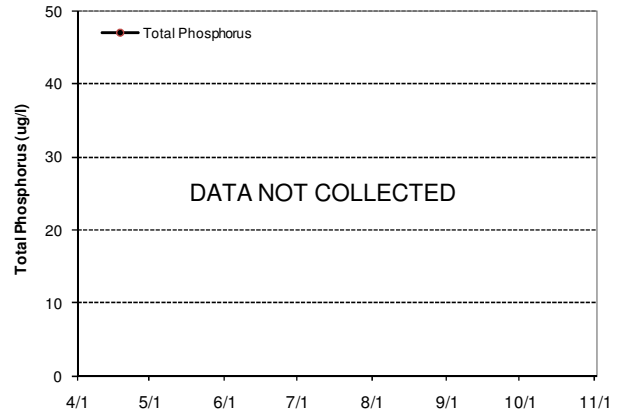
Lake Water Quality Grades Based on Summertime Averages

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

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

Year	2004	2005	2006	2007	2008	2009	2010
Total Phosphorus		C	C				
Chlorophyll <u>a</u>		C	B				
Secchi Depth		C	C			C	C
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.

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.

2010 summer (May-September) data summary

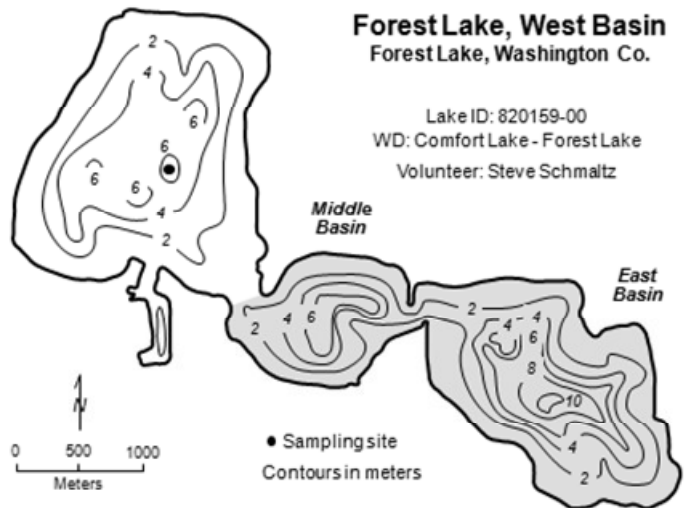
<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	30.3	19.0	49.0	B
CLA (µg/l)	19.5	2.7	53.0	B
Secchi (m)	1.8	0.5	3.5	C
TKN (mg/l)	0.94	0.63	1.40	
Lake Grade				B

The lake received a lake grade of B for 2010. The water quality of the west basin has fluctuated between lake grades of B and C according to its historical water quality database.

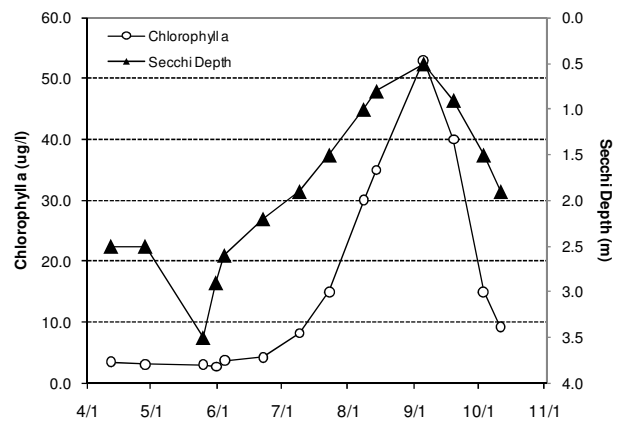
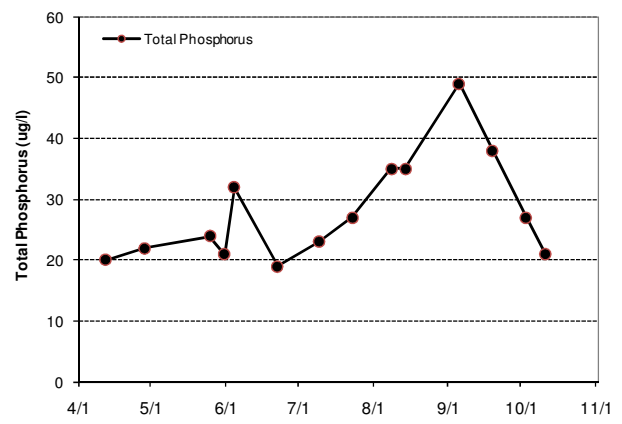
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

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.

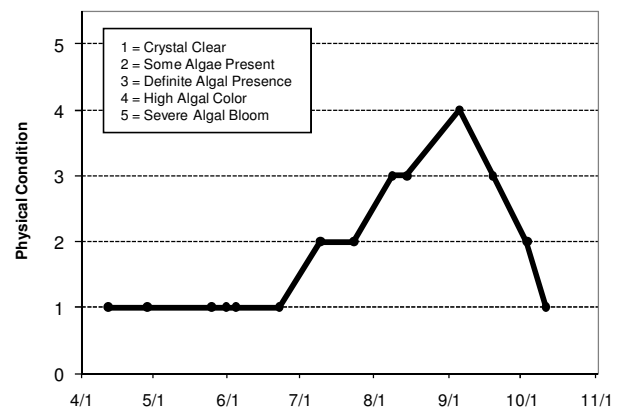


Forest Lake, West Basin
 Forest Lake, Washington Co.
 Lake ID: 820159-00
 WD: Comfort Lake - Forest Lake
 Volunteer: Steve Schmalz



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/12	11.2				3.5	20		2.5	1	1
4/28	13.9				3.1	22		2.5	1	1
5/25	24.5				3.0	24		3.5	1	1
5/31	23.3				2.7	21		2.9	1	1
6/4	22.7				3.7	32		2.6	1	1
6/22	24.7				4.2	19		2.2	1	1
7/9	26.8				8.2	23		1.9	2	1
7/23	27.0				15.0	27		1.5	2	1
8/8	26.5				30.0	35		1.0	3	2
8/14	27.1				35.0	35		0.8	3	2
9/5	19.9				53.0	49		0.5	4	3
9/19	16.5				40.0	38		0.9	3	2
10/3	14.3				15.0	27		1.5	2	1
10/11	17.4				9.2	21		1.9	1	1



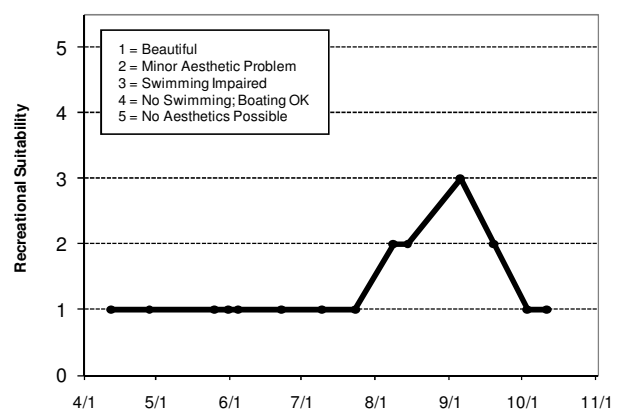
Lake Water Quality Grades Based on Summertime Averages

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	2010
Total Phosphorus	B	C	C	C	C	B	B
Chlorophyll a	A	C	B	C	A	A	B
Secchi Depth	B	C	C	C	C	C	C
Lake Grade	B	C	C	C	B	B	B

Source: Metropolitan Council and STORET data



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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	136.4	37.0	318.0	D
CLA (µg/l)	45.1	3.4	96.0	C
Secchi (m)	0.5	0.1	0.8	F
TKN (mg/l)	1.91	0.79	3.20	
			Lake Grade	D

The lake received a lake grade of D for 2010, 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.

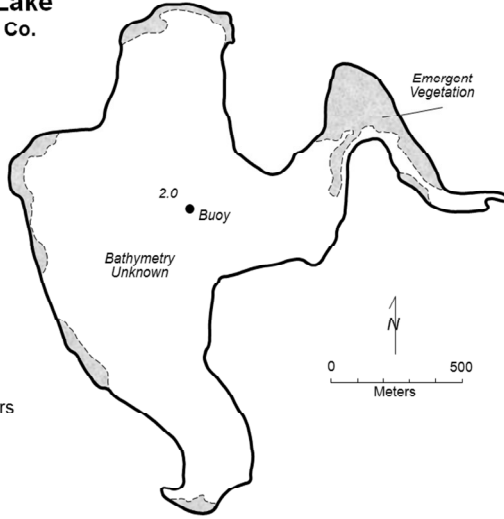
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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

2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/19	18.2				8.8	58		0.9+	2	4
4/30	14.1				6.3	65		0.7	2	4
5/15	20.4				4.0	37		1.1+	3	4
5/27	23.8				3.4	46		1.1+	2	4
6/14	17.9				5.7	67		1.1+	2	4
6/30	24.7				9.7	106		0.8	3	4
7/5	29.1				10.0	44		1.0+	3	4
7/28	27.4				96.0	138		0.7	4	4
8/5	25.6				84.0	265		0.3	3	4
8/19	22.2				80.0	318		0.3	3	4
9/1	24.2				81.0	170		0.3	5	4
9/17	15.6				88.0	171		0.1	2	4
9/28	16.4				34.0	138		0.8	2	4
10/15	13.4				71.0	186		0.6	4	4

+ Secchi Disk visible on lake bottom

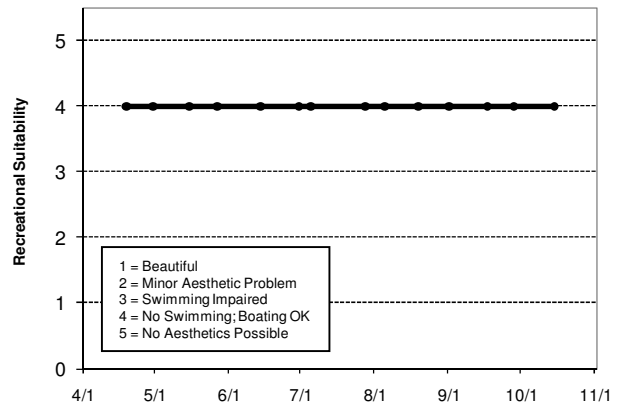
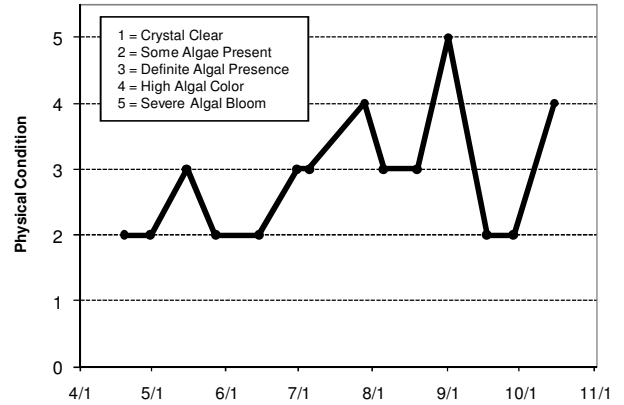
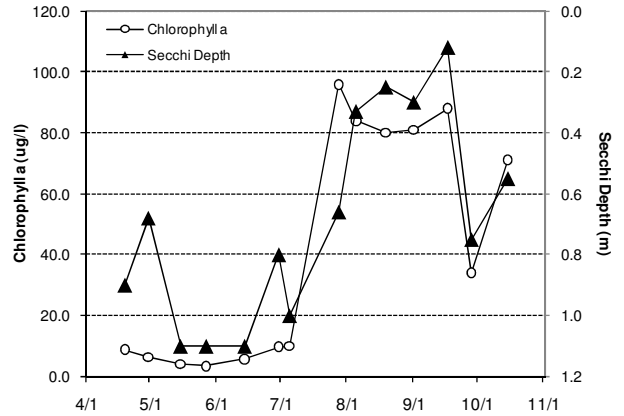
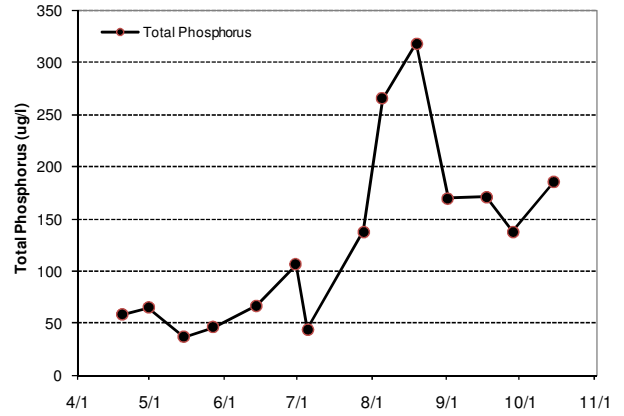
Lake Water Quality Grades Based on Summertime Averages

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

Year	2004	2005	2006	2007	2008	2009	2010
Total Phosphorus	F	F	F	F	F	D	D
Chlorophyll <u>a</u>	D	C	F	D	C	B	C
Secchi Depth	F	F	F	F	F	F	F
Lake Grade	F	D	F	F	D	D	D

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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	59.2	38.0	88.0	C
CLA (µg/l)	7.1	2.4	14.0	A
Secchi (m)	1.2	0.8	1.5	C
TKN (mg/l)	1.02	0.88	1.20	
			<i>Lake Grade</i>	B

The lake received a lake grade of B for 2010, which is consistent with its historical database. Usually the letter grades for each parameter are within a letter grade of each other. A comparison of the CLA grade of A to the C grades for Secchi Depth and TP, indicate that suspended sediment may be a possible cause of the low water clarity during 2010. The relatively high TP concentrations indicate that either sediment was being resuspended in the water column or the lake received substantial amounts of particulate-laden runoff or both. In either case, the decreased water clarity would decrease available light, and thereby suppress algal growth.

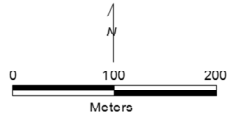
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

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

● Sampling site
Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/20	15.9	14.4	10.4	2.5	4.6	28		1.8	2	3
6/2	22.9	21.2	9.2	0.1	2.4	74		0.8	2	4
6/16	21.3	16.5	9.9	0.1	3.5	52		1.5	2	3
7/13	25.4	24.7	1.9	0.3	5.7	88		1.2	5	4
8/11	26.7	22.1	3.5	0.2	10.0	38		1.2	3	4
9/9	18.4	16.2	9.9	0.4	14.0	44		1.4	2	4
10/5	14.6	13.4	8.9	5.3	11.0	43		1.5	2	3

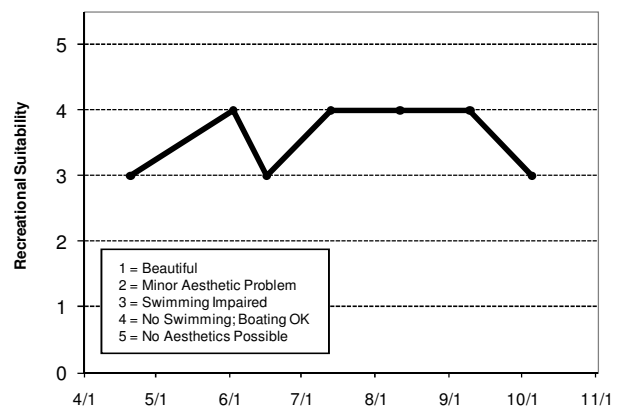
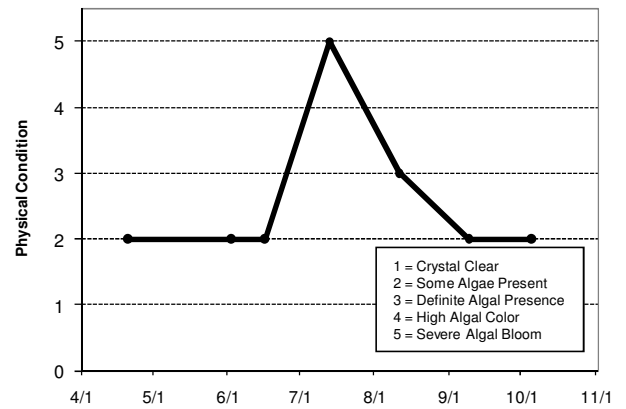
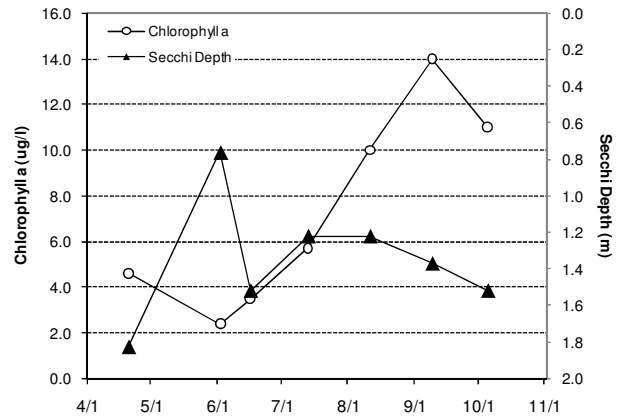
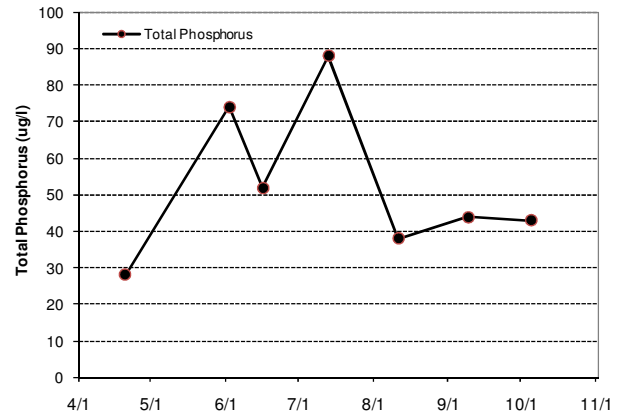
Lake Water Quality Grades Based on Summertime Averages

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	2010
Total Phosphorus	B	C	C	B	B	C	C
Chlorophyll a	B	A	A	A	A	A	A
Secchi Depth	C	C	B	C	C	D	C
Lake Grade	B	B	B	B	B	C	B

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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	138.5	65.0	206.0	D
CLA ($\mu\text{g/l}$)	72.5	7.5	120.0	D
Secchi (m)	0.7	0.3	1.8	D
TKN (mg/l)	3.44	1.50	5.00	
Lake Grade				D

The lake received a lake grade of D for 2010 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.

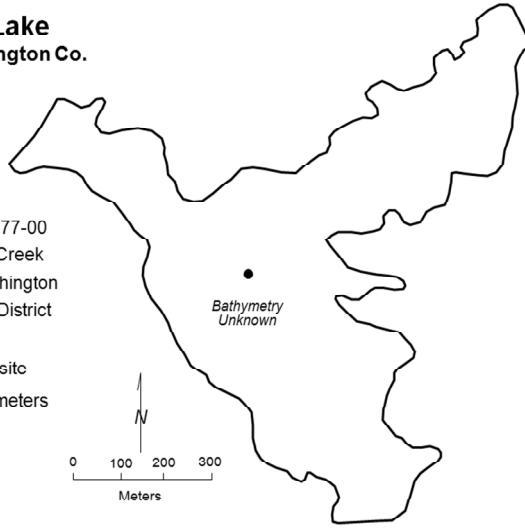
Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

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.

Lake ID: 820077-00
WD: Browns Creek
Volunteer: Washington
Conservation District

- Sampling site
- Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/12	13.1	11.5	12.6	0.1	16.0	59		1.2	3	3
4/27	14.1	13.8	9.5	9.6	12.0	73		1.4	2	2
5/12	10.5	10.5	10.6	10.3	15.0	65		1.4	3	4
5/26	24.3	21.1	8.4	8.3	7.5	69		1.8	3	4
6/9	20.8	20.7	6.9	0.1	20.0	92		1.4	3	4
6/22	24.4	20.6	14.6	0.1	40.0	98		0.8	3	4
7/7	27.0	22.4	11.1	0.1	120.0	152		0.5	3	4
7/20	26.9	23.2	9.8	0.1	81.0	206		0.6	3	4
8/4	26.7	23.4	8.9	0.1	100.0	149		0.5	3	4
8/18	23.1	22.7	8.8	0.2	120.0	154		0.5	3	4
8/31	26.2	24.2	10.1	0.0	87.0	195		0.3	4	4
9/14	19.7	18.6	10.6	0.3	120.0	179		0.3	3	4
9/28	15.3	15.3	8.2	0.2	87.0	165		0.3	3	4
10/12	17.6	15.0	12.5	0.1	70.0	141		0.5	4	4

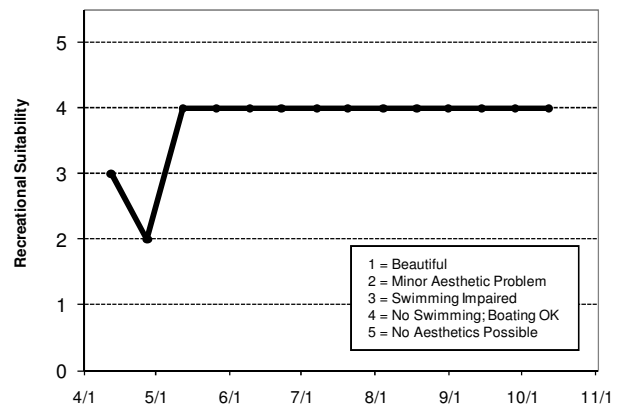
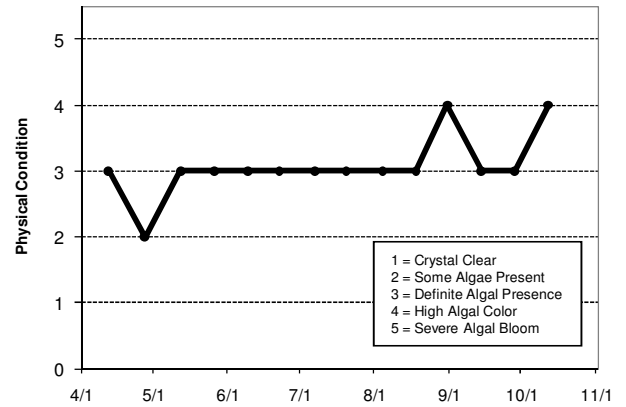
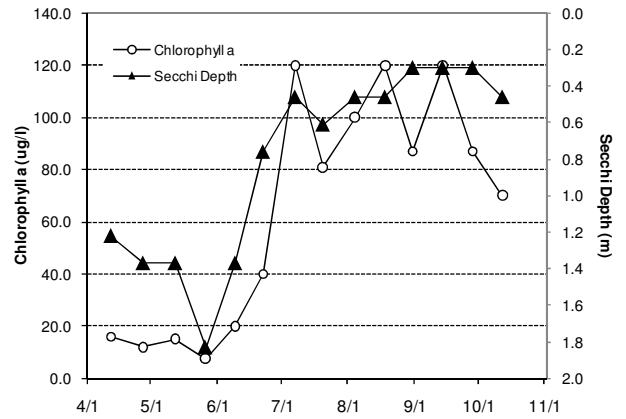
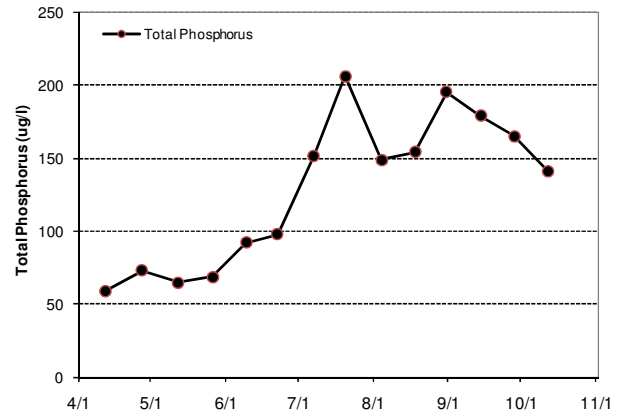
Lake Water Quality Grades Based on Summertime Averages

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

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus								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	2010
Total Phosphorus	C	D	D	D	D	D	D
Chlorophyll a	C	C	C	D	C	C	D
Secchi Depth	D	C	D	D	D	D	D
Lake Grade	C	C	D	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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	57.7	30.0	113.0	C
CLA ($\mu\text{g/l}$)	31.1	2.6	72.0	C
Secchi (m)	1.5	0.5	2.7	C
TKN (mg/l)	1.98	1.80	2.40	
Lake Grade				C

The lake received a lake grade of C for 2010. This 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.

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.

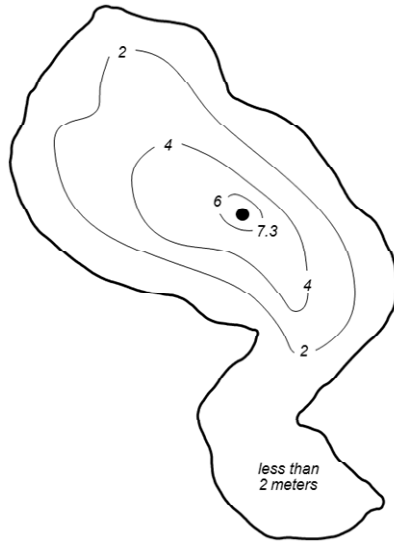
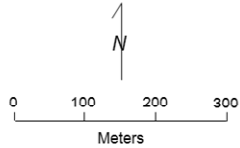
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

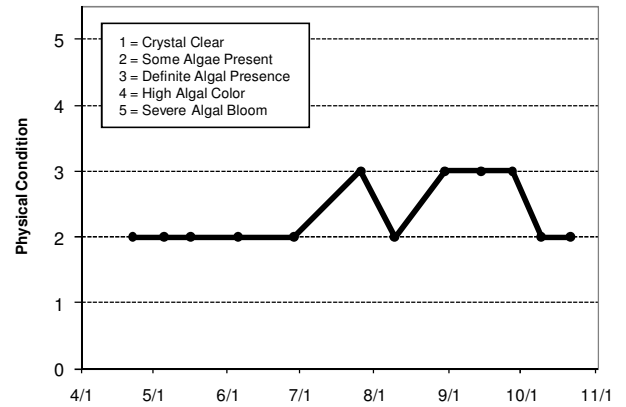
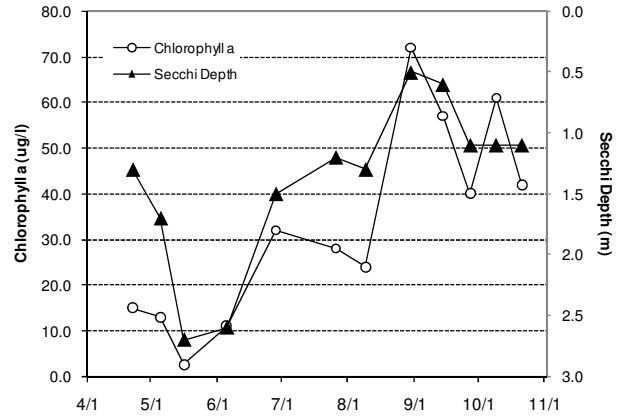
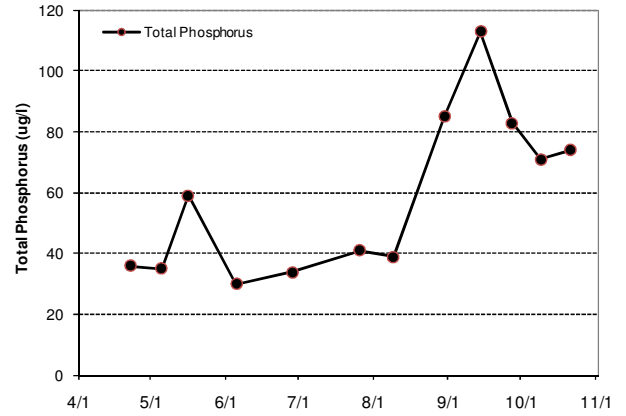
Lake ID: 20045-00
WD: Rice Creek
Volunteer: Dave Phipps

● Sampling site
Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/22	18.4				15.0	36		1.3	2	1
5/5	14.3				13.0	35		1.7	2	1
5/16	20.6				2.6	59		2.7	2	2
6/5	23.3				11.0	30		2.6	2	1
6/28	23.8				32.0	34		1.5	2	2
7/26	26.9				28.0	41		1.2	3	2
8/9	28.3				24.0	39		1.3	2	2
8/30	26.8				72.0	85		0.5	3	2
9/14	20.2				57.0	113		0.6	3	2
9/27	16.3				40.0	83		1.1	3	2
10/9	15.0				61.0	71		1.1	2	2
10/21	12.2				42.0	74		1.1	2	2



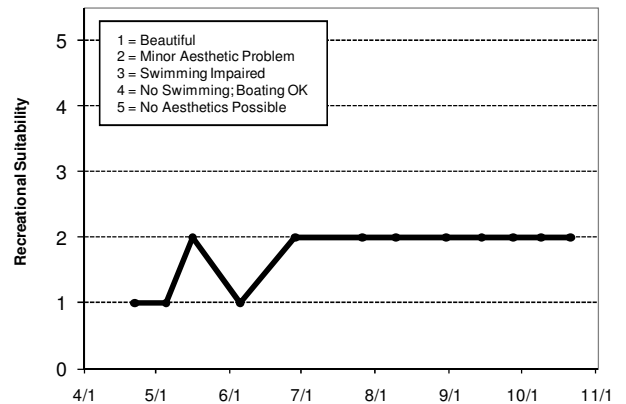
Lake Water Quality Grades Based on Summertime Averages

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	2010
Total Phosphorus	D	C	D	C	C	C	C
Chlorophyll a	D	C	C	C	B	B	C
Secchi Depth	F	C	C	C	C	C	C
Lake Grade	D	C	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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	103.9	78.0	145.0	D
CLA ($\mu\text{g/l}$)	109.0	67.0	160.0	F
Secchi (m)	0.4	0.3	0.6	F
TKN (mg/l)	3.19	2.70	3.80	
Lake Grade				F

The lake received a lake grade of F for 2010 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.

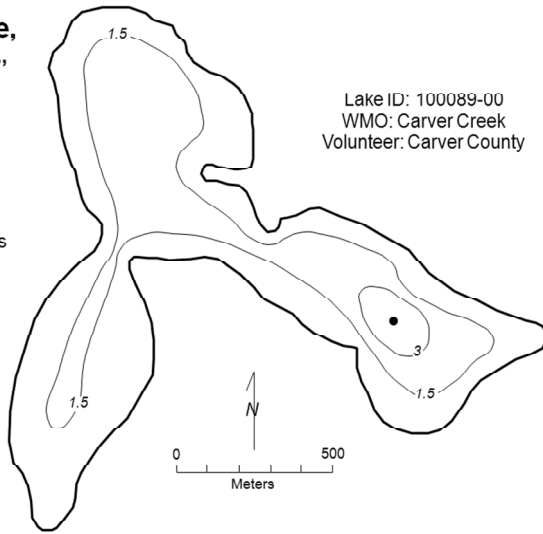
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.**

Lake ID: 100089-00
WMO: Carver Creek
Volunteer: Carver County

● Sampling site
Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/12	12.6	12.3	13.3	14.1	94.0	90		0.5	3	3
4/27	13.7	13.0	17.0	16.2	100.0	107				
5/12	10.3	10.2	11.9	11.4	89.0	101		0.4	3	4
5/25	23.4	19.9	10.3	2.7	76.0	97		0.4	2	4
6/9	20.5	20.5	7.6	7.4	67.0	91		0.6	3	4
6/23	24.9	23.3	9.0	3.8	70.0	80		0.5	3	4
7/6	26.3	25.3	10.7	4.2	100.0	125		0.3	3	3
7/20	25.9	25.3	11.8	9.9	130.0	78		0.4	3	4
8/3	27.7	25.3	13.1	0.3	130.0	82		0.4	4	4
8/18	23.1	23.1	9.7	9.0	160.0	91		0.3	3	4
9/1	24.2	23.8	11.4	8.9	150.0	145		0.4	3	3
9/21	16.9	16.3	10.7	10.4	130.0	139		0.3	4	4
9/29	15.4	15.4	9.8	10.8	97.0	114		0.4	3	3
10/13	16.0	15.5	10.4	9.6	85.0	113		0.3	3	4

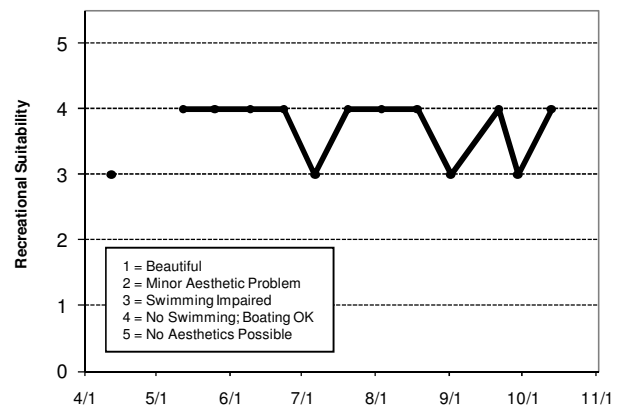
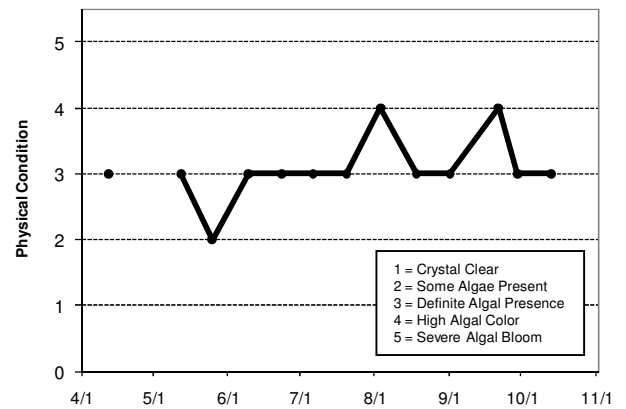
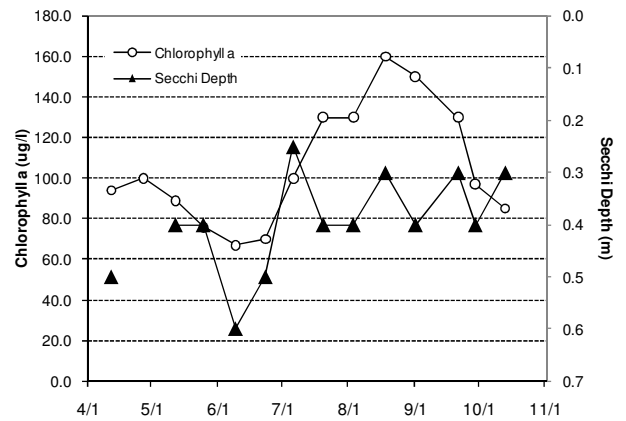
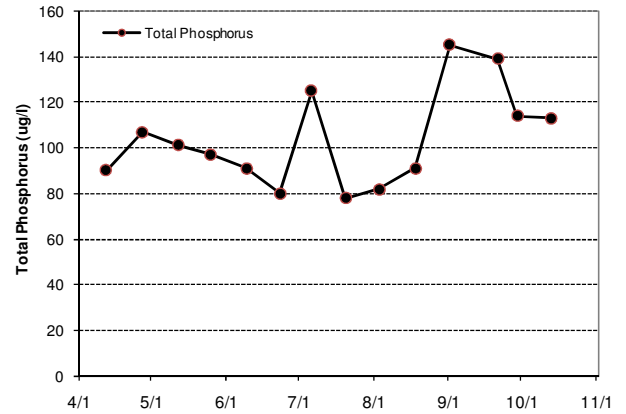
Lake Water Quality Grades Based on Summertime Averages

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

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus				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	2010
Total Phosphorus	D	D	D	D	D	D	D
Chlorophyll a	F	F	F	F	F	F	F
Secchi Depth	F	F	F	F	F	F	F
Lake Grade	F	F	F	F	F	F	F

Source: Metropolitan Council and STORET data



Goose Lake (82-0059) Marine on St. Croix Watershed Management Organization

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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	34.5	25.0	46.0	C
CLA ($\mu\text{g/l}$)	19.6	5.2	58.0	B
Secchi (m)	1.9	0.8	2.7	C
TKN (mg/l)	1.27	1.10	1.60	
Lake Grade				C

The lake received a lake grade of C for 2010, which is similar to the lake grades received in the past. There is some variation in the parameters' annual means, however. 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.

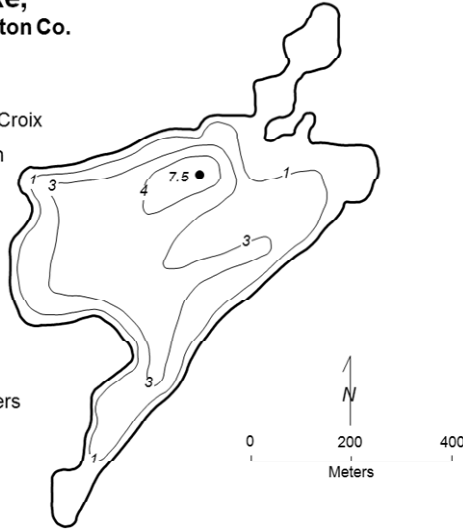
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

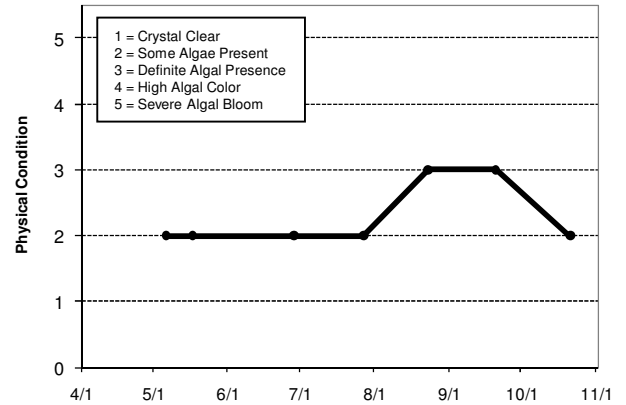
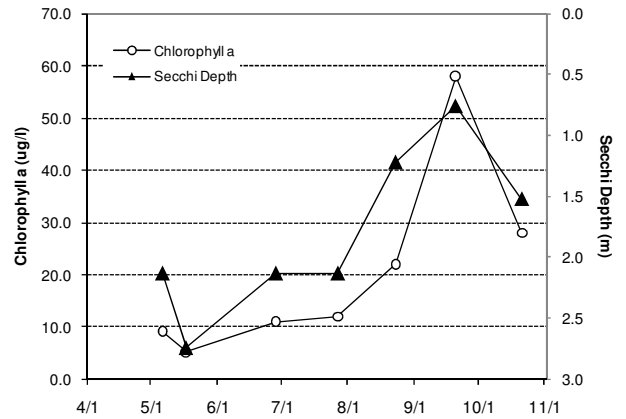
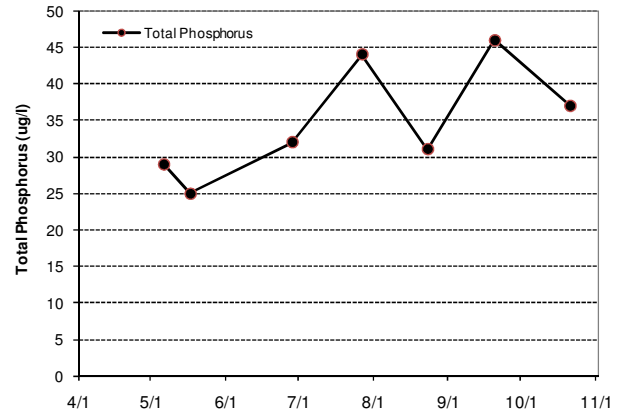
Lake ID: 820059-00
 WD: Carnelian-Marine-St. Croix
 Volunteer: Washington
 Conservation District

● Sampling site
 Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
5/6	13.3	13.2	9.9	0.5	9.1	29		2.1	2	2
5/17	18.4	12.3	11.2	5.4	5.2	25		2.7	2	3
6/28	24.3	18.2	8.7	0.0	11.0	32		2.1	2	3
7/27	26.6	21.4	9.2	0.1	12.0	44		2.1	2	3
8/23	25.4	22.3	11.1	0.0	22.0	31		1.2	3	4
9/20	16.5	16.6	9.0	0.1	58.0	46		0.8	3	3
10/21	12.4	12.3	9.4	0.1	28.0	37		1.5	2	3



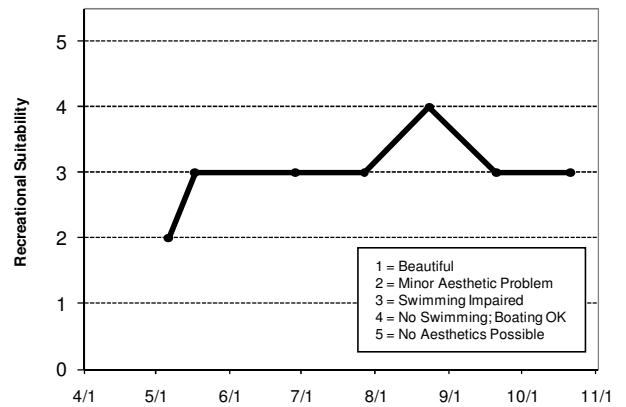
Lake Water Quality Grades Based on Summertime Averages

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	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	2010
Total Phosphorus	C	C	D	C	C	C	C
Chlorophyll a	C	C	C	C	C	C	B
Secchi Depth	B	C	C	C	C	C	C
Lake Grade	C	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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	448.2	288.0	716.0	F
CLA ($\mu\text{g/l}$)	212.0	140.0	270.0	F
Secchi (m)	0.2	0.2	0.2	F
TKN (mg/l)	5.06	3.80	7.00	
Lake Grade				F

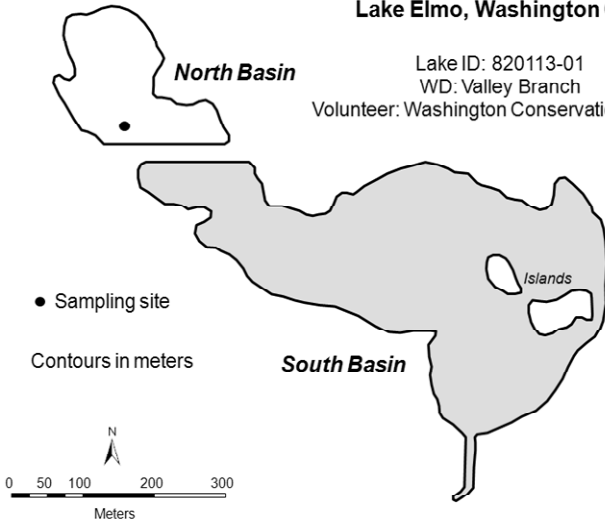
The north basin received a lake grade of F for 2010. Continued monitoring is suggested to build an historical water quality database for this lake site.

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.

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

Lake ID: 820113-01
WD: Valley Branch
Volunteer: Washington Conservation District



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/20	15.9	15.2	15.0	0.1	95.0	307		0.2	3	4
6/2	21.7	21.6	6.3	0.1	140.0	716		0.2	2	4
6/15	19.3	19.0	12.1	0.0	270.0	384		0.2	4	4
7/12	24.8	24.0	5.8	0.1	200.0	435		0.2	3	4
8/10	27.5	25.6	6.6	0.1	240.0	418		0.2	3	4
9/9	17.0	17.1	9.8	0.1	210.0	288		0.2	3	4
10/4	14.8	13.6	12.5	0.1	120.0	322		0.2	3	4

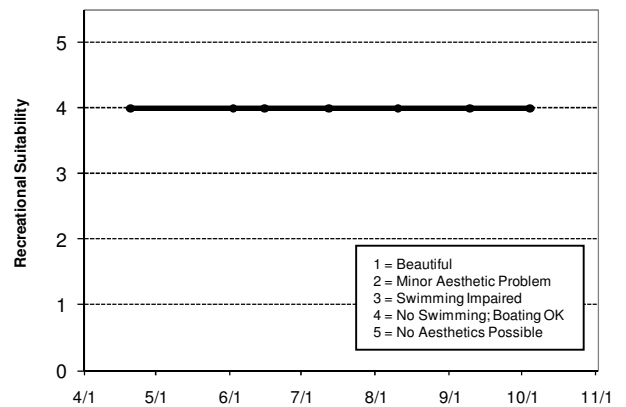
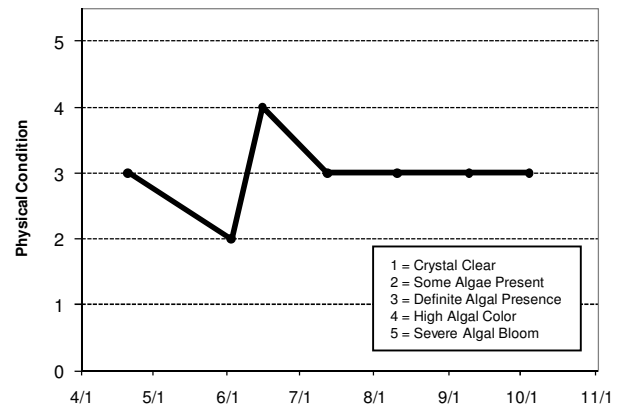
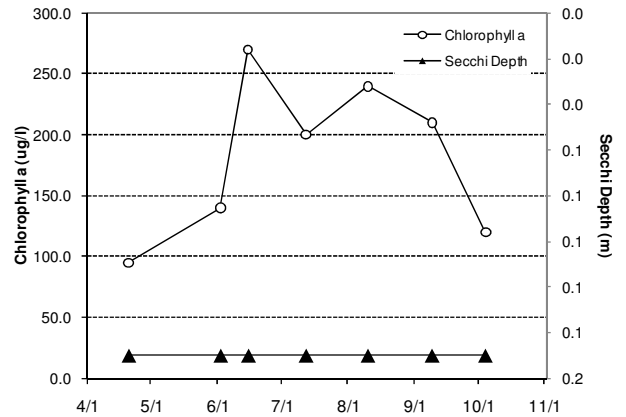
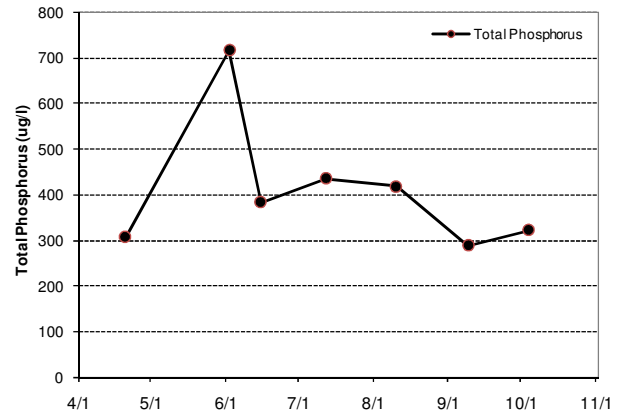
Lake Water Quality Grades Based on Summertime Averages

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	2010
Total Phosphorus					F	F	F
Chlorophyll a					F	F	F
Secchi Depth					F	F	F
Lake Grade					F	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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	278.4	151.0	488.0	F
CLA ($\mu\text{g/l}$)	192.0	120.0	270.0	F
Secchi (m)	0.2	0.1	0.3	F
TKN (mg/l)	4.78	3.50	5.90	
Lake Grade				F

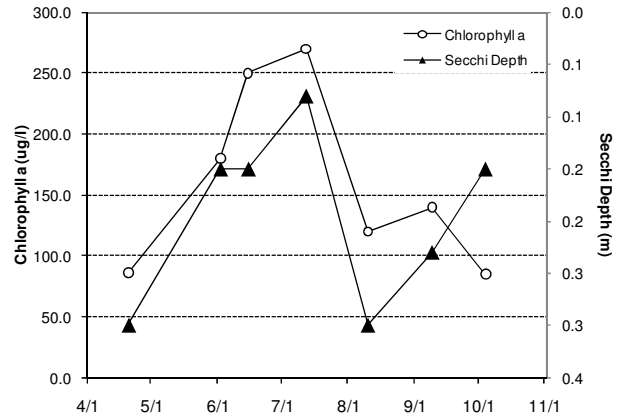
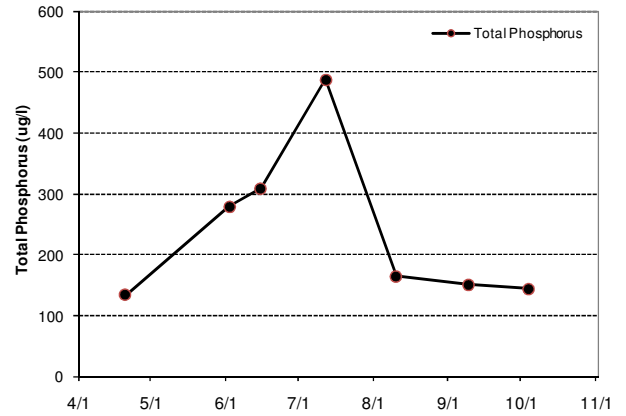
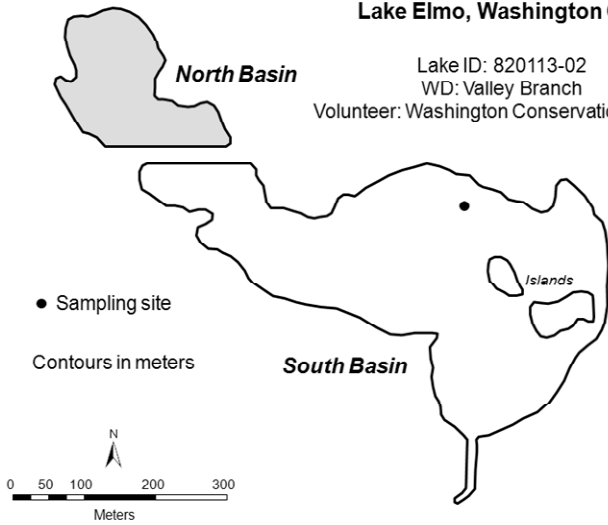
The south basin received a lake grade of F for 2010. Continued monitoring is suggested to build an historical water quality database for this lake site.

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.

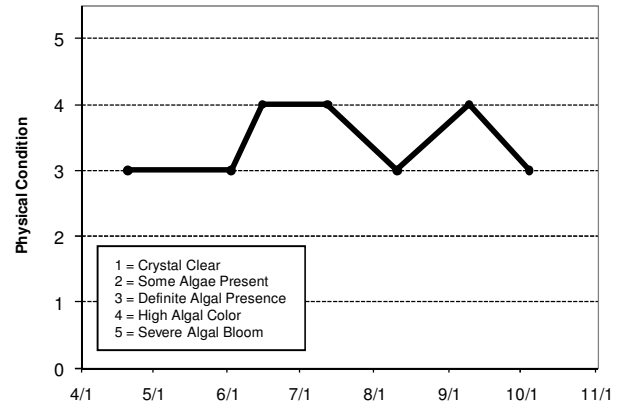
Goose Lake (South Basin) Lake Elmo, Washington Co.

Lake ID: 820113-02
WD: Valley Branch
Volunteer: Washington Conservation District



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/20	15.2	15.0	14.4	0.1	86.0	134		0.3	3	4
6/2	21.8	21.8	8.5	0.1	180.0	279		0.2	3	4
6/15	19.0	18.8	9.5	0.0	250.0	309		0.2	4	4
7/12	25.7	24.3	13.2	0.1	270.0	488		0.1	4	4
8/10	28.2	25.9	9.7	0.1	120.0	165		0.3	3	4
9/9	16.7	16.6	12.0	0.1	140.0	151		0.2	4	4
10/4	14.6	13.6	12.8	0.1	85.0	145		0.2	3	4

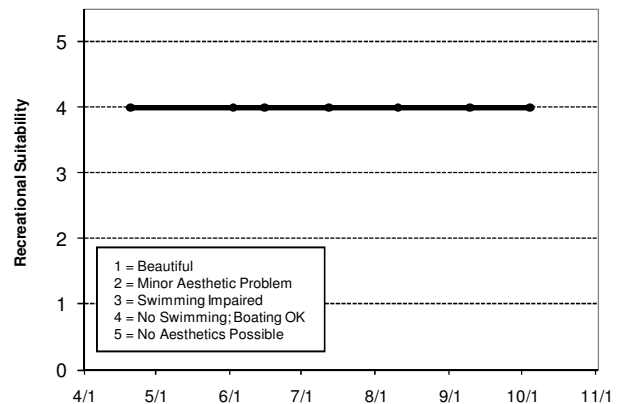


Lake Water Quality Grades Based on Summertime Averages

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	2010
Total Phosphorus					F	F	F
Chlorophyll a					F	F	F
Secchi Depth					F	F	F
Lake Grade					F	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.

2010 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP ($\mu\text{g/l}$)	108.2	27.0	249.0	D
CLA ($\mu\text{g/l}$)	52.8	2.3	130.0	D
Secchi (m)	1.4	0.4	3.5	C
TKN (mg/l)	1.80	1.20	3.00	
Overall Grade				D

The lake received a lake grade of D for 2010 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.

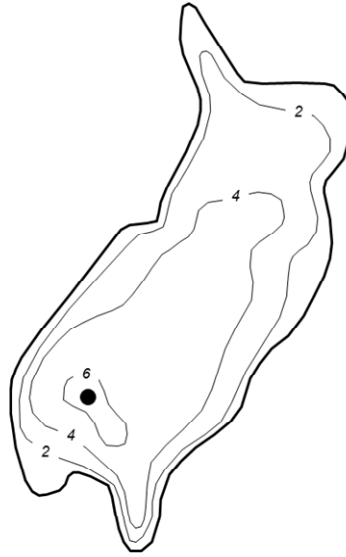
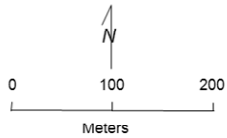
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 297-4916 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

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.

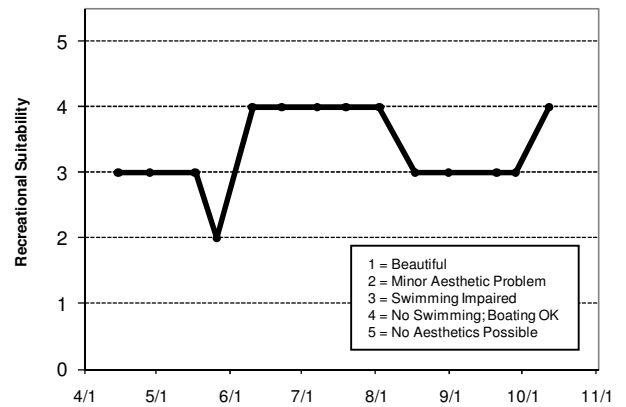
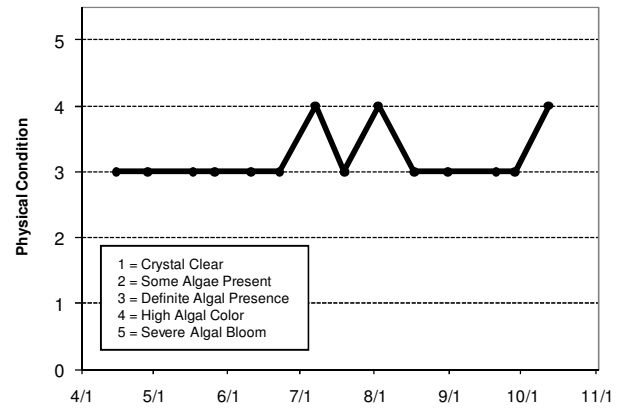
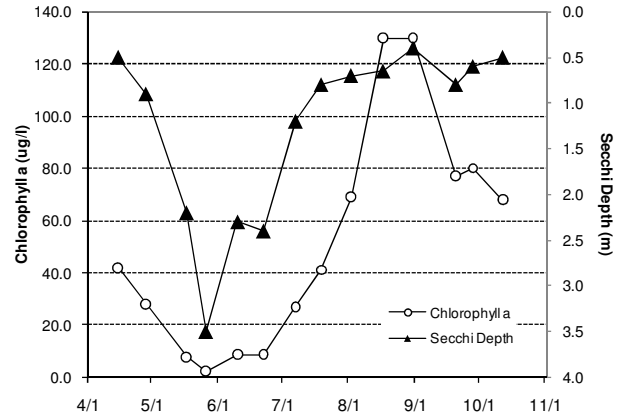
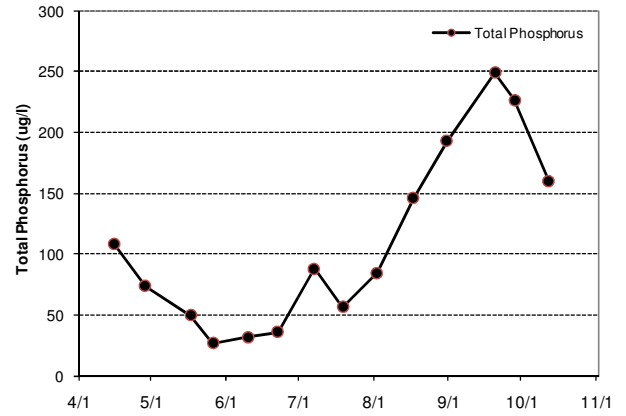
LAKE ID: 100218-00
WMO: Hazeltine-Bavaria
Volunteer: Carver Co.

● Sampling station
Contours in meters



2010 Data

DATE	SURF TEMP (°C)	BOT TEMP (°C)	SURF DO (mg/l)	BOT DO (mg/l)	CLA (µg/l)	SURF TP (µg/l)	BOT TP (µg/l)	SECCHI (m)	PC	RS
4/15	14.9	6.1	12.4	1.0	42.0	109		0.5	3	3
4/28	14.2	6.7	16.5	0.6	28.0	74		0.9	3	3
5/17	19.5	11.1	13.4	0.8	7.7	50		2.2	3	3
5/26	24.0	11.1	9.8	1.0	2.3	27		3.5	3	2
6/10	21.0	11.9	8.2	0.2	8.6	32		2.3	3	4
6/22	24.5	13.7	10.1	0.3	8.6	36		2.4	3	4
7/7	27.0	14.5	15.6	0.1	27.0	88		1.2	4	4
7/19	26.6	15.4	13.3	0.2	41.0	57		0.8	3	4
8/2	27.5	15.7	13.7	0.1	69.0	85		0.7	4	4
8/17	25.4	18.1	12.4	0.2	130.0	146		0.7	3	3
8/31	26.3	18.0	12.3	0.0	130.0	193		0.4	3	3
9/20	16.9	16.2	8.5	1.3	77.0	249		0.8	3	3
9/28	16.6	15.6	11.5	7.5	80.0	227		0.6	3	3
10/12	18.2	14.6	15.4	0.3	68.0	160		0.5	4	4



Lake Water Quality Grades Based on Summertime Averages

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

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

Year	2004	2005	2006	2007	2008	2009	2010
Total Phosphorus	D	D	D	D	D	D	D
Chlorophyll a	C	B	C	C	D	D	D
Secchi Depth	D	D	D	D	D	C	C
Lake Grade	D	C	D	D	D	D	D

Source: Metropolitan Council and STORET data