

In 1999 the Commission monitored Fish and Weaver Lakes in Maple Grove, and the Champlin Mill Pond. These lakes are listed as critical lakes in the Commission's Management Plan. Fish and Weaver Lakes are category I (highest quality) and the Mill Pond is a category ITT critical lake. The Commission has been monitoring lakes since 1980. The mean phosphorus concentrations in Fish, Weaver and the Mill Pond for 1999 were 47.5, 42.7, and 195 µg/l, respectively, for the period of April through October. Total phosphorus is the limiting nutrient that can cause algal blooms and excessive weed growth. Total nitrogen averages for 1999 were 1.5, 1.3 and 1.5 mg/l for Fish and Weaver Lakes and the Mill Pond. Values for Fish and Weaver Lakes were very similar to those measured in 1998.

The average transparencies of Fish, Weaver and the Mill Pond in 1999 were 4.6, 6.2, and 5.4 feet, respectively. Chlorophyll a concentrations averaged 18.8, 20.6 and 6.4 gg/l for Fish, Weaver and the Mill Pond. Both Fish and Weaver Lakes have highly developed watersheds. They receive extensive recreational use and are important resources for the watershed. The Mill Pond has as its watershed almost the entire 102 square mile Elm Creek Watershed. Immediately upstream is residential and the Elm Creek Park Reserve. For these three lakes, a list of parameters and concentrations is attached as Appendix 2. Long-term water quality trends and the summary of lake sampling history of these lakes are also included in Appendix 2. In addition to the parameters listed, dissolved oxygen and temperature profiles were measured for each sampling date.

Long term averages were calculated for the lakes sampled. Fish Lake long-term averages for 1980-1999 were 48.711g/l, 6.1 feet, 19.41g/l for phosphorus, transparency and chlorophyll a, respectively. Fish Lake was sampled 18 times in that 20-year period. Averages for the most recent five years of sampling were 49.6 µg/l, 5.8 feet and 16.8 µg/l. The lake has violated the phosphorus goal of 35 µg/l in 15 of the 18 years but has met the chlorophyll a goal of 20 µg/l in 13 of the 18 years. Fish Lake has met the transparency goal of 4.9 feet in 14 of the 18 years.

Phosphorus concentrations in Fish and Weaver Lakes were increasing until about 1993 when they stabilized. The watersheds of Fish and Weaver Lakes were almost completely developed by the mid 1990s. The nutrient loading has remained fairly steady since 1993.

Fish Lake					
	SDT	TP	CHL	TN	Alkalin
	feet	mg/l	mg/l	mg/l	mg/L
May-11-1999	8.5	35	4.3	0.8	151
May-25-1999	4.3	63	16	1.5	150
Jun-10-1999	0.0	61	13	2.1	140
Jun-23-1999	5.9	44	11	1.0	143
Jul-08-1999	0.0	42	15	1.3	140
Jul-22-1999	3.3	48	27	2.5	135
Aug-05-1999	2.6	38	15	1.5	117
Aug-18-1999	3.6	34	25	1.4	132
Aug-31-1999	4.6	36	19	2.2	130
Sep-21-1999	0.0	43	31	1.3	
Oct-13-1999	3.6	79	30	1.5	
Mean	4.6	47.5	18.8	1.5	138
Median	3.9	43.0	15.8	1.5	140
Std. Dev.	1.9	14.3	8.4	0.5	10.6

