

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.

Weaver Lake long-term averages for 1981-1999 were 35.5 µg/l, 7.2 feet and 15.0 gg/l for phosphorus, transparency and chlorophyll a, respectively. Weaver Lake was sampled 18 times in the 19-year period. The averages for the most recent 5 years were 35.8 µg/l, 6.8 feet and 13.7 gg/l. The phosphorus goal was not violated in Weaver Lake until 1989, when the 35 µg/l goal was exceeded for the period of 1989-1995. Since then the goal has been met 3 times. The transparency goal of 4.9 feet has been met every year except for 1981. Chlorophyll a has been within the goal limit of 20 µg/l for all but 4 of the 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.

Weaver Lake					
	SDT	TP	CHL	TN	Alkalin
	feet	mg/l	mg/l	mg/l	mg/L
May-11-1999	10.8	46	12.9	1.2	117
May-25-1999	10.5	48	13		120
Jun-10-1999	7.2	39	12	1.0	98
Jun-23-1999	9.2	45	14	0.9	108
Jul-08-1999	3.9	57	24	1.4	104
Jul-22-1999	6.6	44	44	1.6	102
Aug-05-1999	2.0	43	23	1.8	88
Aug-18-1999	3.0	34	33	1.5	95
Aug-31-1999	3.3	38	24	1.4	111
Sep-21-1999	5.2	34	16	1.0	
Oct-12-1999	6.9	42	12	1.1	
Mean	6.2	42.7	20.6	1.3	105
Median	6.6	43.0	16.2	1.3	104
Std. Dev.	3.1	6.6	10.3	0.3	10.4

