

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.

The Mill Pond is formed by a dam on Elm Creek and thus exhibits the higher nutrient concentrations of the creek. The Mill Pond has been sampled four times since 1985. The long-term average phosphorus, transparency and chlorophyll a were 252 p.g/l, 4.2 feet and 28.9 µg/l. The Mill Pond's water quality goals are 200 µg/l, and 3.3 feet 40 µg/l for phosphorus, transparency and chlorophyll a. Even though phosphorus concentrations are very high in the Mill Pond, the transparency is high and the chlorophyll a concentrations remain low. This is probably due to the lack of stagnant water in the Mill Pond. With the constant water movement, growth of planktonic algae is usually not a problem. However, the Mill Pond exhibits extensive plant growth due to its shallow depths and high nutrient content. The City of Champlin practices periodic drawdowns of the Lake to help control plant growth. The Mill Pond consists of 3 areas, the upper, middle and lower ponds. The City has expressed concern over the upper Mill Pond filling in with sediment. The Commission will conduct some investigation of the sedimentation through the Stream Assessment grant project.

Mill Pond					
	SDT	TP	CHL	TN	Alkalin
	feet	mg/l	mg/l	mg/l	mg/L
May-12-1999	4.9	124	5.1	0.5	171
May-25-1999	0.0	135	2.0	0.8	130
Jun-09-1999	7.2	166			140
Jun-23-1999	3.9	179	2.1	1.0	172
Jul-08-1999	5.1	279	2.1	1.4	193
Jul-22-1999	6.2	286	5.9	1.1	205
Aug-05-1999	4.1	267	9.8	1.6	193
Aug-18-1999	4.6	226	6.8	1.3	230
Aug-31-1999	7.7	237	3.3	5.0	182
Sep-21-1999	6.6	134	4.5	0.9	
Oct-12-1999	3.6	109	22.1	1.2	
Mean	5.4	195	6.4	1.5	180
Median	5.0	179	4.8	1.1	182
Std. Dev.	1.4	66.4	6.1	1.3	31.0

