

In 1998 the Commission monitored Fish and Weaver Lakes in Maple Grove, and Diamond Lake in Dayton. These lakes are listed as critical lakes in the Commission's Management Plan. The Commission has been monitoring these lakes since 1980. The mean phosphorus concentrations in Fish, Weaver and Diamond Lakes were 51, 40, and 148  $\mu\text{g/l}$ , respectively, for the period of April through October. Total phosphorus is the limiting nutrient that can cause algal blooms and excessive weed growth.

The average transparencies of Fish, Weaver and Diamond Lakes in 1998 were 5.5, 6.8, and 1.0 feet, respectively. Chlorophyll a concentrations averaged 16.3, 13.5 and 70.1  $\mu\text{g/l}$  for Fish, Weaver and Diamond Lakes. Diamond Lake exhibits frequent and severe algal blooms due to the high concentration of nutrients in the lake. Both Fish and Weaver Lakes have highly developed watersheds. They receive extensive recreational use and are important resources for the watershed. Diamond Lake's watershed is primarily agricultural, with some residential development directly around the lake. Several feedlots contribute runoff to Diamond Lake. 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				
	SDT	TP	CHL	TN
	feet	$\mu\text{g/l}$	$\mu\text{g/l}$	$\text{mg/l}$
Apr-20-1998	9.5	43	9	0.4
May-12-1998	15.4	37	6	0.7
May-26-1998	14.1	30	9	0.7
Jun-09-1998	6.9	35		0.9
Jun-23-1998		28	9	1.0
Jul-07-1998	4.9	32	14	0.8
Jul-21-1998		39	26	1.1
Aug-04-1998	3.6	75	17	1.2
Aug-19-1998	3.3	41	4	1.2
Sep-01-1998	2.0	54	27	1.3
Sep-16-1998	3.6	27	19	
Oct-05-1998	4.6	40	9	1.0
Mean	6.8	40.1	13.5	0.9
Median	4.8	38.0	9.0	1.0
Std. Dev.	4.7	13.3	7.8	0.3

