

Two lakes within the Elm Creek Watershed area were monitored by other organizations. The City of Maple Grove conducts a lake monitoring program through their Lake Quality Commission. In 1993 they sampled Weaver Lake and Rice Lake.

The data from Maple Grove's sampling programs was combined with that of the Elm Creek Watershed Commission and is presented in the appendix. A comparison of the mean values calculated using data for the individual sampling programs and the data combined is also shown.

Mean values for the three parameters, phosphorus, chlorophyll a and transparency were quite comparable between the programs and combined. A table and graphs of the data are included in the appendix. With the combined monitoring program, Fish Lake was sampled eight times. It has been shown that a minimum of ten samples per year is necessary for good statistical analysis of a lake (Osgood 1989). This number may be reduced when a lake is sampled multiple years. The combined mean for Fish Lake was 47  $\mu\text{g/l}$  for phosphorus, 12.4  $\mu\text{g/l}$  for chlorophyll a. Transparency readings were not available for analysis at the time of printing.

At this time Rice Lake is not classified in the Elm Creek Plan. Rice Lake is actually an impoundment created by a dam in Elm Creek. It is fairly large (306 acres) but shallow. The maximum depth is 11 feet. Rice Lake has a history of nuisance algal blooms. The data collected in 1991 - 1993 indicate Rice Lake is eutrophic to hypereutrophic. Mean values for phosphorus and chlorophyll a were 530  $\mu\text{g/l}$  and 15.5  $\mu\text{g/l}$  based upon 6 sampling events. Phosphorus concentrations in Rice Lake are extremely high. Concentrations ranged from 152  $\mu\text{g/l}$  to 1057  $\mu\text{g/l}$ . Algal blooms in the lake are limited by other factors such as turbidity, as evidenced by the lower chlorophyll a mean value. Rice lake also receives herbicide treatments to control algae. Based upon the phosphorus concentration measured for Rice Lake, it could exhibit potentially much poorer conditions than observed. A mean phosphorus concentration of 530  $\mu\text{g/l}$  could support severe algal blooms and very limited transparencies.