

Water Quality Monitoring – Lakes

The Metropolitan Council has conducted water quality monitoring of Twin Cities Metro Area (TCMA) lakes since 1980. Both MCES staff and citizen volunteers have been obtaining the monitoring data. The MCES Citizen-Assisted Monitoring Program (CAMP) has been very successful at involving citizens in lake monitoring efforts and greatly expanding the number of lakes with water quality data. The long-term goal of the MCES lake monitoring program is to obtain and provide information that enables cities, counties, lake associations, and watershed management districts to better manage TCMA lakes, thereby protecting and improving lake water quality.

To view MCES lake monitoring reports, go to our [Environmental Information Management System \(EIMS\)](#) report page, or click [here](#).

MCES Lake Monitoring Program

MCES staff typically conducts bi-weekly monitoring (April-October) of approximately 6-12 TCMA lakes per year, on a rotating schedule.

Lakes are monitored for a variety of trophic status indicators (total phosphorus, chlorophyll-a, Secchi transparency, dissolved oxygen, etc.) to determine the lake's basic ecology, to assess possible water quality trends, and to help quantify lake responses to management efforts by cities, counties, and watershed districts. Information from the MCES lake monitoring program (such as a lake's degrading water quality trend) can lead to a more intensive lake and watershed study (see Special Lake Monitoring Projects below).

Citizen-Assisted Lake Monitoring Program (CAMP)

The Citizen-Assisted Monitoring Program (CAMP) is an MCES managed program where citizen volunteers monitor the water quality of TCMA lakes. A total of 189 CAMP lakes were monitored in 2009. On a bi-weekly basis (April-October), each volunteer collects a surface water sample for laboratory analysis of total phosphorus, total Kjeldahl nitrogen, and chlorophyll-a. They also obtain temperature, Secchi transparency measurements, and provide some user



perception information about the lake's physical and recreational condition. The main purpose of CAMP is to provide lake and watershed managers with water quality information that will not only help them properly manage water resources, but will also help document water quality status and trends. An added benefit of the program is the volunteer's increased awareness of their lake's condition, which has fostered local efforts to protect lakes and promote support for lake management.

Special Lake Monitoring Projects

Special MCES research projects are conducted on individual lakes in an attempt to answer pre-determined questions. Additional monitoring may include in-lake plankton analyses and macrophyte surveys and assessment of water quality, water quantity, and land use within the watershed. This information may subsequently be used for in-lake and watershed computer modeling of pollutant sources, loads, and impacts on water quality. For example, an emphasis of a special project may be the determination of nutrient sources and loads to a lake, thereby providing valuable information for lake management efforts.

Special monitoring is also conducted on TCMA lakes on an "as-needed" basis. Special monitoring may include such things as coliform bacteria tests on lakes affected by sewer breaks or algal analysis on lakes causing illness in domestic animals.

For further information on MCES lake monitoring programs, please contact Brian Johnson via [email](#) or at 651.602.8743.