

Cooperative Lakes Monitoring Program

Michigan's unique geographical location provides its citizens with a wealth of freshwater resources including over 11,000 inland lakes. In addition to being valuable ecological resources, lakes provide tremendous aesthetic and recreational value for the people of Michigan.

As more and more people use the lakes and surrounding watersheds, the potential for pollution problems and use impairment increases dramatically. Reliable information, including water quality data, levels of use, and use impairment, are essential for determining the health of a lake and for developing a management plan to protect the lake. As the users and primary beneficiaries of Michigan's lake resources, citizens must take an active role in obtaining this information and managing their lakes.

The Cooperative Lakes Monitoring Program (CLMP) is a partnership between the Water Division of the Department of Environmental Quality (DEQ) and the Michigan Lake and Stream Associations, Inc. (ML&SA). The primary purpose of this cooperative program is to help citizen volunteers monitor indicators of water quality in their lake and document changes in lake quality over time.

CLMP Goals

- provide baseline information and document trends in water quality for individual lakes.
- educate lake residents, users, and interested citizens in the collection of water quality data, lake ecology, and lake management practices.
- build a constituency of citizens to practice sound lake management at the local level and build public support for lake quality protection.
- provide a cost-effective process for the DEQ to increase baseline data for lakes state-wide.

Lake quality is influenced by many factors such as the amount of recreational use it receives, shoreline development, and water quality. Lake water quality is a general term covering many aspects of lake chemistry and biology.

Problems most commonly cited by lake residents, such as excessive plant growth, algal blooms, and mucky bottom sediments, are caused by water quality factors that lead to increased lake fertility or productivity. Productivity refers to the amount of plant and animal life that can be produced within the lake. Excessive productivity can significantly shorten the life of the lake.

The gradual increase of lake productivity over time is a natural process called eutrophication, or lake aging. A primary objective of most lake management plans is to slow down eutrophication by reducing the

input of plant nutrients, such as phosphorus, and sediments to the lakes.

Lake scientists have developed a variety of mathematical systems to express lake productivity on a continuous numerical scale. One of these systems is the Carlson Trophic State Index (TSI) which incorporates water clarity, or transparency, as measured by a Secchi disk; the algal plant pigment chlorophyll *a*; and total phosphorus as indicators of lake productivity. The CLMP provides data on these parameters as well as dissolved oxygen and temperature and aquatic plants.

CLMP Measurements

- Secchi Disk Transparency
- Spring Total Phosphorus
- Summer Total Phosphorus
- Chlorophyll *a*
- Dissolved Oxygen / Temperature
- Aquatic Plants ID and mapping

The CLMP provides sampling methods, training, workshops, technical support, quality control, and laboratory assistance for volunteers to monitor their lake for these indicators of lake productivity. Volunteers may then classify their lake according to its level of productivity, or trophic state, using Carlson's TSI. Long-term monitoring of these parameters on a consistent and regular basis provides the data needed to recognize changes or trends in lake productivity.

Take an active role in protecting your lake. Join us in determining the health of your lake. **Become a CLMP volunteer!**

If you are interested in receiving additional information about the CLMP please fill out and mail the post card below or contact ML&SA at (989)257-3583 or e-mail at pbonnell@mlswa.org. You can also visit the CLMP website for more information at www.michigan.gov/deq.

I would like to receive more information about becoming a volunteer monitor. The lake that I am interested in monitoring is:

_____ County.

name: _____

address: _____

daytime
telephone: _____

evening
telephone: _____

Parameters interested in monitoring:

- Secchi disk transparency
- spring total phosphorus
- summer total phosphorus
- chlorophyll *a*
- dissolved oxygen & temperature
- aquatic plants ID and mapping

Areas of particular concern in my lake are:

“working together
to protect lakes”



Michigan Department of
Environmental Quality

Jennifer M. Granholm, Governor
Steven E. Chester, Director

<http://www.michigan.gov/deq>



<http://www.miswa.org>



The Self-Help Legacy

Originally known as The Self-Help Program, the CLMP continues a long tradition of citizen volunteer monitoring on Michigan's inland lakes. Michigan has maintained a volunteer lake monitoring program since 1974 which makes it the second oldest volunteer monitoring program for lakes in the country. The original program was designed for lake property owners to monitor water quality by measuring water clarity with a Secchi disk. In 1992, the DEQ (then part of the Department of Natural Resources) and the ML&SA entered into a cooperative agreement to expand the basic program. An advanced Self-Help program was initiated in 1993 which included a monitoring component for the plant nutrient phosphorus. In 1994, a side-by-side sampling component was added to the program to assure the quality of the data being collected. Additional parameters have been added to the CLMP since 1998 to further expand the monitoring program.

The CLMP continues the “self-help” legacy by providing Michigan's citizens an opportunity to participate in environmental management and learn more about their lakes. The CLMP is a cost-effective process for the DEQ to increase the baseline data available for Michigan's inland lakes as well as to establish a continuous data record for determining water quality trends in lakes. The CLMP continues the DEQ/citizen volunteer partnership critical to lake management in Michigan.

The Michigan Department of Environmental Quality (MDEQ) will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to the Office of Personnel Services, PO Box 30473,

Michigan Lake and Stream Associations,
Inc.
Attn: Director of Operations
P.O. Box 303

How healthy is your lake?
Let's find out **together.**

Cooperative Lakes Monitoring Program

a partnership for Michigan's lakes

Michigan Lake and Stream
Associations, Inc.
Michigan Department of
Environmental Quality
Michigan's Citizen Volunteers



place
postage
here

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