Michigan Clean Water Corps

The MiCorps Monitor

Vol. 1 Issue 1 | March 2005

The Michigan Clean Water Corps

The Michigan Clean Water Corps (MiCorps) is a new statewide initiative to more fully realize the potential of volunteer water monitoring activities. Created through an executive order by Gov. Jennifer Granholm, MiCorps will assist the Michigan Department of Environmental Quality (DEQ) in collecting and sharing water quality data for use in water resources management and protection programs, at both the state and local levels.

Many volunteer groups are already monitoring Michigan rivers, streams and lakes, and they represent a tremendous underutilized resource for assessing water quality in Michigan. The DEQ has long recognized the importance of environmental monitoring and, specifically, the potential for citizen volunteers to make a substantial contribution to the state's water quality monitoring program. Building upon existing programs established by the DEQ, MiCorps is developing a statewide network of volunteer monitoring organizations to collect and share high quality data.

John empties the net of bounty from the bottom into Kathy's tray. *Credit: John Cramer*

MiCorps staff will solicit, organize, and train volunteers around the state to participate in water quality monitoring activities. MiCorps will provide training for stream and lake monitoring, disseminate methods for accurate data collection, implement effective quality assurance practices, facilitate data reporting and information sharing, and provide a forum for communication and support among volunteer monitoring groups in Michigan. Furthermore, MiCorps staff is committed to working with volunteer groups on a range of levels, including encouraging and cultivating leadership and stewardship, volunteer training, data compilation, assistance in meeting specific challenges, and evaluating accuracy and reliability of data and performance.

MiCorps currently has two **volunteer monitoring programs** – the Cooperative Lakes Monitoring Program (CLMP) and the Volunteer Stream Monitoring Program (VSMP). MiCorps provides sampling methods, training, workshops, technical support, and quality control guidance for volunteers in each program to help them effectively monitor their lakes and streams. For more information on these programs, see "The Cooperative Lakes Monitoring Program" on page 3 and "Volunteer Stream Monitoring Program" on page 4.

The **MiCorps training program** offers training opportunities for both current and aspiring MiCorps volunteers. MiCorps lake volunteers are trained to measure several parameters, including Secchi depth (a measure of water transparency), total

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About the MiCorps Monitor

The *MiCorps Monitor* newsletter is a semiannual publication aimed at facilitating the exchange of information and ideas among volunteer monitoring program leaders, volunteers, and resource professionals on volunteer monitoring issues specific to Michigan.

Contact the Editor

For information about the MiCorps program or the MiCorps Monitor newsletter, or to submit items for future newsletter issues, please contact Elizabeth Johnson of the Great Lakes Commission at *ejohnson@glc.org*

Back Issues

Archived issues of this newsletter can be downloaded from the MiCorps web site at *www.micorps.net/newsletter*

Reprinting material is encouraged, but we request that you notify the editor of your intentions, give credit to The MiCorps Monitor, and send a copy of your final publication to the editor.

MiCorps (cont. from page 1)

phosphorus, chlorophyll, dissolved oxygen and temperature. They are also trained to perform aquatic plant surveys. The MiCorps stream volunteer training focuses on monitoring stream habitat and macroinvertebrates. For more information, see "2005 Training Events for Volunteers" on page 6.

Volunteer monitoring organizations that meet quality assurance and operating procedure criteria are eligible to become **MiCorps member organizations**. MiCorps member organizations represent a select group of monitoring programs in Michigan and receive a variety of benefits as members. These benefits include access to the wide array of MiCorps resources and monitoring expertise, recognition as a state leader in volunteer monitoring, and inclusion of their data in an online database accessible to the monitoring community and the general public. The data will also be used by the DEQ as a screening tool to identify sites requiring a more detailed assessment and as supplemental data for DEQ water resources management programs. If you are interested in registering your organization as a MiCorps member, please visit the MiCorps web site. If your organization is not eligible to become a member organization, MiCorps staff can work with you to help you meet the established criteria for membership.

In addition to the above services, MiCorps has a **web site** – *www.micorps.net* – which is the information center for aquatic volunteer monitoring programs in Michigan. This site hosts an online directory which provides contact and basic program information for these programs. MiCorps is also developing an **online, searchable database** for volunteer monitoring data, which will also be hosted on the MiCorps web site. The database can be accessed by anyone and will provide a rich data set to use in interpreting and comparing results for Michigan's lakes and streams. A MiCorps listserv has been created to facilitate the exchange of information and ideas on volunteer monitoring issues specific to Michigan. Information on how to join the listserv is available on the MiCorps web site. Finally, MiCorps will host an annual conference focusing on volunteer monitoring activity and progress in the state. The first annual conference will be held in October 2005.

MiCorps Programs and Services

- **The Cooperative Lakes Monitoring Program (CLMP)**
- **The Volunteer Stream Monitoring Program (VSMP)**
- **MiCorps Training Program**
- **MiCorps Member Organizations**
- **MiCorps Web Site –** *www.micorps.net*
- **Data Exchange Network**
- **MiCorps Listserv**
- **MiCorps Annual Conference**
- **MiCorps Monitor Newsletter**

The Great Lakes Commission has been selected by the DEQ to assist in developing and administering MiCorps. The Commission is collaborating with the Huron River Watershed Council, the Michigan Lake and Stream Associations, and Michigan State University Extension to administer the MiCorps program, under the direction of DEQ and with the advice of a steering committee.

For more information about MiCorps, please visit our web site or contact Ric Lawson at the Great Lakes Commission, Ph: 734-971-9135, Email: *rlawson@glc.org*

The Cooperative Lakes Monitoring Program

Michigan's unique geographic location provides its citizens with a wealth of freshwater resources, including over 11,000 inland lakes. As more and more people use the lakes, there is increased potential for pollution problems and restrictions on uses such as swimming or fishing. Information such as water quality data, levels of use, and use impairment can help determine the health of a lake and assist in developing a management plan to protect the lake. Michigan citizens can take an active role in obtaining this information and help with managing their lakes.

Paul Kilmer - CLMP Monitoring Steward Sampling for Chlorophyll on Wells Lake, Osceola County. *Credit: MDEQ*

The Cooperative Lakes Monitoring Program (CLMP) helps citizen volunteers monitor water quality in lakes and document changes over time. The CLMP has been an important component of Michigan's inland lakes monitoring program for over 30 years, which makes it the second oldest volunteer lake monitoring program in the country. Since 1992, the Michigan Lake and Stream Associations (MLSA) has administered the CLMP jointly with the Michigan Department of Environmental Quality. The MLSA continues to administer this program under MiCorps.

The CLMP provides sampling methods, training, workshops, technical support, quality control, and laboratory assistance for lake monitoring stewards. CLMP participants collect data on the following parameters: Secchi disk transparency, total phosphorus, chlorophyll, dissolved oxygen, and temperature. They are also trained to conduct aquatic plant identification and mapping. These parameters are key indicators of lake biological productivity, also known as eutrophication. With these measurements, the lake monitoring stewards can classify the lakes according to their eutrophication level. Excessive biological productivity may be a sign of impaired water quality and lead to nuisance conditions in the lake. Long-term monitoring of these parameters on a consistent and regular basis provides the data needed to recognize changes or trends in lake productivity.

The CLMP enrolled 212 lakes throughout the state in 2004. Over 300 lake monitoring stewards participated in the CLMP and reported over 3400 Secchi disk transparency measurements, 374 total phosphorus sampling results, 536 chlorophyll sampling results, and over 4600 dissolved oxygen and temperature measurements.

Training for the participants in the 2005 program will take place April 22 - 24, 2005, at the MLSA 44th Annual Conference in Boyne Falls, Michigan. For more information about the conference and training program, as well as CLMP enrollment information, please visit the MLSA web site at *www.mlswa.org*.

For questions on the CLMP, please contact Pearl Bonnell with MLSA, Ph: 989-257-3583, Email: *pbonnell@mlswa.org*. You can also visit the CLMP web site for more information at *www.michigan.gov/deq*.

MiCorps
Monitoring Michigan's Water Quality

Steering Committee

Ms. Pearl Bonnell
Michigan Lake and Stream Associations

Mr. Robert Burns
Friends of the Detroit River

Mr. Elwin Coll
Citizen

Mr. Kevin Cronk
Tip of the Mitt Watershed Council

Ms. Jane Herbert
Michigan State University Extension

Dr. Joan Martin
Huron River Watershed Council

Ms. Marilyn Shy
Michigan Association of Conservation Districts

Michigan Clean Water Corps

Upcoming Events

Michigan Lake and Stream Associations 44th Annual Conference
April 22 - 24, 2005
Boyne Falls, Michigan
www.mlswa.org

Lake and Stream Leader's Institute, Class of 2005
The Institute is currently accepting applications for its "Class of 2005," but is filling fast. The first seminar session will be held at the Ralph A. MacMullan Conference Center on Higgins Lake on Saturday, May 21, 2005.
www.msue.msu.edu/waterqual/lakeleaders.html

Michigan Fluvial Geomorphology and Stream Classification Workshop
June 20 -24, 2005
Marquette, Michigan
www.fisheries.org/miafs/fluvialgeo_ann.html

Volunteer Stream Monitoring Program

Effective environmental monitoring of Michigan's rivers and streams is an essential component of the Michigan Department of Environmental Quality's (DEQ) mission and goals. The DEQ recognizes the value of partnering with citizen volunteer monitoring groups to assist with this effort.

Since 1998, the DEQ has been providing grants and support to local units of government and nonprofit entities for water quality monitoring in wadable streams and rivers through its Volunteer Stream Monitoring Program (VSMP).

Catherine, Ray and Joan look for macroinvertebrates swimming in the debris from Chilson Creek. *Credit: Theresa Scherwitz*

It is estimated that almost 200 organizations have programs designed to protect and monitor Michigan waters. The goal of the VSMP is to provide training and support to these groups to ensure that they are collecting reliable, high-quality data. Each group is trained on establishment of clear monitoring goals and objectives; standard data collection, management, and reporting procedures; and quality assurance procedures, among others. The VSMP is now a core program under MiCorps.

Each year, up to $50,000 is available for volunteer stream monitoring grant awards. The VSMP monitoring typically includes an evaluation of benthic invertebrate communities and stream habitat twice per year (spring and fall), but also may include the collection of water samples for chemical analysis. MiCorps staff provides training and support to the grantees, and the resultant data will be used by the DEQ as a screening tool to identify sites requiring more detailed assessment and as supplemental data for DEQ water resources management programs. MiCorps staff also provides training and support for monitoring groups that are not funded under MiCorps.

Between 1998 and 2004, 32 grants were awarded to 31 organizations totaling almost $250,000. For 2005, sixteen volunteer grant applications were received, requesting a total of $188,769 in grant funds. The DEQ has recommended funding for four volunteer monitoring proposals for a total of $38,561.20. The remaining 2005 grant funds ($11,438.80) will be carried forward to increase funds to a total of $61,438.80 for the 2006 grant funding cycle.

Projects recommended for 2005 funding include: 1) Muskegon River Water Monitoring Program - Muskegon River Watershed Assembly; 2) Volunteer Stream Monitoring Program - Tip of the Mitt Watershed Council; 3) Grand Traverse Stream Search - The Watershed Center Grand Traverse Bay; and 4) Citizen Science Volunteer Stream Monitoring for the St. Mary's River and its Sault Sainte Marie Watershed - Lake Superior State University. Applications for the 2006 grant cycle will be accepted in fall 2005. Please check the MiCorps web site – *www.micorps.net* – for updates on upcoming grant opportunities

For questions on the VSMP, please contact Ric Lawson at the Great Lakes Commission, Ph: 734-971-9135, Email: *rlawson@glc.org*. You can also visit the VSMP web site at *www.micorps.net/streamoverview*.

Survey of Michigan Volunteer Monitoring Programs

In order to gain a greater understanding of the activities of volunteer aquatic monitoring programs in Michigan and to assist in the development of MiCorps, an online survey of monitoring organizations was conducted. Prior to the survey, very little was known about monitoring groups in Michigan. The comprehensive survey sought information on the following program characteristics: 1) program description; 2) monitoring parameters; 3) data collection; 4) data analysis; 5) data use; 6) quality assurance and control; 7) staffing, volunteers and training; and 8) funding. The online survey was announced via a mailed flyer and email listservs. Twenty seven groups responded to the survey and the results are summarized below. A full copy of the survey results is available online at *www.micorps.net/documents/survey_results.pdf.*

There is much diversity among the organizations that responded to the survey. For example, many were newly formed and others had been monitoring for over 30 years.

There is much diversity among the organizations that responded to the survey. Many were newly formed while others had been monitoring for over 30 years. Some programs had very little funding while others were very well-funded. Below is a description of various characteristics of groups surveyed. It should be noted that while 27 groups responded to the survey, not all groups responded to each question in the survey.

Program Description: With respect to the type of environment monitored, 24 programs monitor streams, eight monitor inland lakes or ponds, five monitor Great Lakes and the connecting channels, and one monitors beaches. Most of the programs were managed by watershed councils. Many of the programs started fairly recently. Eighteen are less than five years old, while seven are 10 or more years old.

Monitoring Parameters: Survey respondents were asked to indicate which parameters their programs measure for both lakes and streams. Of the 25 stream parameters included in the survey, the top four parameters measured are macroinverterbrates, temperature, depth, and width. Of the 26 lake parameters included in the survey, the top four parameters measured are temperature, Secchi depth, dissolved oxygen, and chlorophyll.

Data Collection: The majority of data collection is done by volunteers. For some groups, however, students and paid staff also collect data. A variety of different procedures are used to collect data, including DEQ Procedure 51, adaptations of Procedure 51, other DEQ volunteer monitoring procedures, and EPA procedures.

Sample Analysis: A variety of tools and resources are used to analyze the programs' water quality samples. Nine programs send their samples to external labs for testing. Four other programs have internal labs to analyze samples. The remainder use a variety of tools, including parameter kits and field instruments.

Data Use: Not surprisingly, volunteer monitoring data are used in a variety of

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MiCorps
Monitoring Michigan's Water Quality

Grant Opportunities

U.S. EPA Water Quality Grants
Applications Deadline:
April 22, 2005
www.epa.gov/OW-OWM.html/wqca/2005.htm

U.S. EPA National Lakes Assessment Planning Project RFP
Application Deadline:
April 17, 2005.
www.epa.gov/owow/funding.html

MDEQ Grants for Water Quality Monitoring
Application deadline:
April 15, 2005
www.michigan.gov/deq/0,1607,7-135-3313_3686_3728---,00.html

U.S. EPA Targeted Watersheds Grant Program: Call for Nominations
Application deadline:
May 19, 2005.
www.epa.gov/owow/watershed/initiative/

Details on page 8

Become a MiCorps Member

Volunteer monitoring organizations which meet quality assurance and operating procedure criteria are eligible to become MiCorps member organizations. MiCorps member organizations represent a select group of monitoring programs in Michigan and receive a variety of benefits as members, including permission to enter data into the online database which can be accessed by the monitoring community and the general public. The data will also be used by the DEQ as a screening and as supplemental data for its water resources management programs. If you're interested in registering your organization as a MiCorps member, please visit the MiCorps web site at *www.micorps.net/register.html*

Survey (cont. from page 5)

ways. The most common use is for public information and education, followed by advising DEQ and conducting trend analysis. Data are also used to identify problems, manage resources, generate reports, and advise local units of government and members. When asked what their additional desired uses for data were, most programs responded "use by DEQ" and "planning and management."

Quality Assurance and Control: Sixteen groups noted that they had a quality assurance project plan in place. Of these 16, nine are approved by DEQ and/or EPA.

Staffing, Volunteers and Training: Most programs (12) are only staffed by one person. Eleven have two to five staff members participating in their program. One program has six to ten staff members and two programs have over 11 staff members. Most programs have less than 500 staff hours dedicated to the program each year. The number of volunteers and the volunteer time dedicated to programs varies greatly. Some programs have as few as 10 volunteers while others have over 1000. The great majority provide training to their volunteers, which is typically provided by paid program staff.

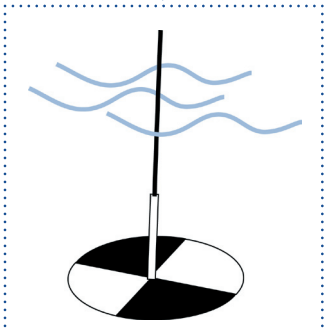
Funding: Annual budgets varied greatly across programs: eleven programs have an annual budget of less than $5,000; eight programs have annual budgets between $5000 and $20,000; four programs have annual budgets between $20,000 and $75,000; and three programs have annual budgets exceeding $100,000. Most of this funding comes from federal grants, followed by corporate sponsorships, state grants, and foundations. Additional funding comes from dues, donations and fundraising.

For more information, contact Elizabeth Johnson at the Great Lakes Commission, Ph: 734-971-9135, Email: *ejohnson@glc.org*.

2005 Training Events for MiCorps Volunteers

MiCorps is offering training opportunities for both current and aspiring MiCorps member volunteer groups. The arrangements for this year's lake training have been finalized, and training for stream volunteers is in the works.

Lake groups have been invited to attend the annual training for the Cooperative Lakes Monitoring Program on April 22 and 23, held in conjunction with the Michigan Lake and Stream Associations' annual conference, April 22-24 at Boyne Mountain Resort in Boyne Falls (see *www.mlswa.org* for details). MiCorps lake monitors will be trained to measure one or all of several parameters, including Secchi depth (a measure of water transparency), total phosphorus, chlorophyll, dissolved oxygen and temperature, and aquatic plants. This year's training will be conducted by Ralph Bednarz of the Michigan Department of Environmental Quality, Howard Wandell of Michigan State University's Department of Fisheries and Wildlife, and Jo Latimore, Watershed Ecologist with the Huron River



A Secchi disk is used to measure water transparency.

Training (cont. from page 6)

Watershed Council. For more information, contact Pearl Bonnell with MLSA at 989-257-2073 or *phonnell@mlswa.org*.

A training program for stream volunteers is scheduled for Saturday, June 4, in Petoskey. Representatives from this year's Volunteer Stream Monitoring Program Grant recipients are required to attend this training. Applications to participate are also invited from other interested groups, including past grant recipients and aspiring member groups. Attendance will be limited. This event is intended as a "train the trainer" session, where representatives from each volunteer group will learn stream monitoring techniques established by MiCorps in order to then train their volunteers to monitor their streams. This core training will focus on monitoring stream habitat and macroinvertebrates, and will consist of a morning classroom session and afternoon field session. This year's training will be conducted by Jo Latimore and Joan Martin of the Huron River Watershed Council, with cooperation from the Tip of the Mitt Watershed Council.

For more information, contact Joan Martin at the Huron River Watershed Council, Ph: 734-769-5971 or Email: *jmartin@hrwc.org*

The Importance of Data Quality

It is probably a given that all volunteer monitoring participants want the data that they collect from lakes and streams to be used in the management of those resources. One of the concerns about using volunteer data was the reliability of that data. Is there anything volunteer programs can do to demonstrate that their data is reliable?

A QAPP is a standardized document that describes a monitoring project or program's procedures.

The answer is yes! An increasing number of volunteer monitoring programs throughout the country are making a case for their data by documenting their methods and procedures through Quality Assurance Project Plans (QAPPs).

What is a QAPP?

A QAPP is a standardized document that describes a monitoring project's or program's procedures from the formation of initial investigative questions through site selection and field methods, all the way through data storage, analysis and reporting. This document is important for both the program manager and any potential data user. For the program manager, the QAPP provides a standard framework for planning the details of a program, from concept to outcome. It encourages the manager to consider the reasons for collecting the data; the objectives for using the data; the needs and limitations of the methods, equipment, and personnel; and the need for contingency plans. For the data user, the QAPP provides a standard reference that can reassure the user that the data are valid for their intended use.

How can MiCorps help?

MiCorps is committed to developing volunteer monitoring programs that produce high quality data. To become a MiCorps member program or to receive a grant from

MiCorps Members

Coming in the September 2005 Issue!

Michigan Clean Water Corps

MiCorps Partners

Michigan Department of Environmental Quality Team Members

Mr. Ralph Bednarz
Mr. Gary Kohlhepp
Ms. Kay Edly

Great Lakes Commission
des Grands Lacs
1955-2005

Great Lakes Commission Team Members

Mr. Ric Lawson
Ms. Elizabeth Johnson
Ms. Anne Sturm
Ms. Shannon Glutting

Huron River Watershed Council

Huron River Watershed Council Team Members

Dr. Joan Martin
Dr. Jo Latimore

Michigan Lake & Stream Associations Team Members:

Ms. Pearl Bonnell
Mr. Don Winne

MICHIGAN STATE UNIVERSITY EXTENSION

Michigan State University Extension Team Member

Mr. Howard Wandell

Data Quality (cont. from page 7)

MiCorps, a program must submit a QAPP that meets MiCorps' review standards. MiCorps provides guidance documents for developing a QAPP on its website: *www.micorps.net/resourcesqa.html.* MiCorps staff can also provide assistance and will review your QAPP upon completion.

For more information, contact Ric Lawson at the Great Lakes Commission, Ph: 734-971-9135; Email: *rlawson@glc.org.*

Grant Opportunities

U.S. EPA Water Quality Grants
Applications Deadline: April 22, 2005
www.epa.gov/OW-OWM.html/wqca/2005.htm
This funding opportunity solicits proposals for unique and innovative projects that address a number of water quality items, including monitoring and assessment for environmental results. State governments, indian tribes, interstate agencies, public organizations, and nonprofit organizations are eligible to apply. Download Request for Proposals: *www.epa.gov/owm/wqca/2005_final.pdf*

MDEQ Grants for Water Quality Monitoring
Application deadline: April 15, 2005
www.michigan.gov/deq/0,1607,7-135-3313_3686_3728---,00.html
The Michigan Department of Environmental Quality, Water Bureau, announced the availability of a grant application package (GAP) for three categories of water quality monitoring projects. $100,000 is available for inland lake beach monitoring grants, $200,000 for local water quality monitoring grants, and $200,000 for emerging issues monitoring grants. Local government and nonprofit entities are eligible for funding and are encouraged to apply either individually or as part of a group. Applicants that receive funding will be required to share the resulting data with the DEQ. **Contact:** Kay Edly, *EDLYK@michigan.gov*, 517-373-4633.

U.S. EPA National Lakes Assessment Planning Project Request For Proposals
Application Deadline: April 17, 2005.
www.epa.gov/owow/funding.html
This RFP is designed to support pilot projects that contribute to the design of a future national lakes assessment. These projects may include evaluations of lake condition indicators, sampling methods, interpretation tools, and organization of a lake assessment practitioners conference or workshop. **Contact:** Otto Gutenson, *gutenson.otto@epa.gov*, 202-566-1183

U.S. EPA Targeted Watersheds Grant Program: Call for Nominations
Application deadline is May 19, 2005.
www.epa.gov/owow/watershed/initiative/
U.S. EPA is accepting watershed proposals under the Targeted Watersheds Grant Program, a competitive grant program designed to support the protection and restoration of the country's water resources through a holistic watershed approach to water quality management. For fiscal year 2005, Congress has appropriated a total of $18 million for the Program, $10 million of which will be directed to nationwide projects for improving water quality. **Contact:** Carol Peterson, *initiative.watershed@epa.gov,* 202-566-1304.

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