



The MiCorps Monitor: July 2009

The newsletter of the Michigan Clean Water Corps, Issue 6

Welcome!

Welcome to the July 2009 edition of the *MiCorps Monitor*! As always, this edition is full of updates and information on the activities and individuals of the Michigan Department of Environmental Quality's Michigan Clean Water Corps (MiCorps).

Please note: this PDF is a an archived version of the original, web-based newsletter. As such, some features (photos, captions, navigation) are not available, and links may be broken. We apologize for the inconvenience!

1. Volunteer Stream Flow Monitoring: A Statewide Need
2. Volunteer Stream Monitoring Grants Awarded for 2009
3. Highlights from the Cooperative Lakes Monitoring Program (CLMP)
4. Ecosystem Monitoring to be Part of Nashville Dam Removal Project
5. The Volunteer Corner: An Interview with Al Vichunas, Hubbard Lake Volunteer
6. Lake Water Quality Assessment (LWQA) Monitoring
7. MiCorps Updates
8. Discussion Topic: From Riparian Rights to Lake Quality Management: What Do Lake Volunteers Care About?



MiCorps

Monitoring Michigan's Water Quality

www.micorps.net



Article 1:

Volunteer Stream Flow Monitoring: A Statewide Need

MiCorps currently supports a limited set of methods for monitoring streams and a slightly longer list for lakes. There are many additional parameters that can be measured effectively by volunteers and can provide broader understanding about the status and function of aquatic systems. Many of these parameters, including temperature, water level, and chemistry, were discussed among MiCorps e-mail list subscribers in response to an invitation in the last issue of the MiCorps Monitor newsletter.

In this issue, we would like to spotlight one of these methods: stream flow monitoring.

Most of us who manage or advocate for water resources are aware of the network of flow gaging stations managed by the U.S. Geological Survey (USGS). This valuable system provides real-time data on current water level and flow conditions, and results in an accurate long-term record for each station -- all accessible online (water.usgs.gov). However, the existing network leaves out many streams (and some entire watersheds). Smaller streams and headwaters are particularly underrepresented.

Stream flow data, whether collected by the USGS gaging stations or by volunteers, is valuable for a variety of stream protection and restoration efforts. For example, understanding the variability, or flashiness, of flow in a stream section can help pinpoint causes of streambank erosion, or help explain poor macroinvertebrate or fish communities in stream sections. Stream flow data can also be combined with nutrient sampling results to determine monthly or annual loads of nutrients moving through the system. Excessive loads can contribute to poor overall water quality. Flow data also can directly address questions about the local availability of water for human use.

Statewide legislation regulating large-capacity water withdrawals was passed in 2008 and will soon be fully implemented through regulation. The policy is based upon impacts to surface water flow, specifically the "index flow," which is essentially August low flow for a stream section. Basically, the law says that if a proposed well or other groundwater withdrawal is likely to reduce the index flow enough to impact the resident fish species, then the withdrawal may be prohibited. Michigan uses a computer model built from existing flow data as a first step in screening proposed withdrawals for possible prohibited impacts. You can see this screening tool yourself at www.miwwat.org.

The existing model is pretty good, but there are many stream sections (and even entire stream systems) for which the index flow that informs the regulations is only a model prediction, since there are no actual flow data for those stream sections. There is clearly a need for additional stream data for confirming and improving the model. Also, the statewide model is only a screening tool. If the screening tool determines that an adverse impact may

result from a proposed withdrawal, the next step is a site-specific review of the proposal by the Michigan Department of Environmental Quality (DEQ). DEQ will need good data to make a good decision -- approving or denying the proposed water withdrawal. There is also a public participation process where any interested party can come forward and disagree with the model (or DEQ), and if they can provide sound data in support of their argument, the withdrawal proposal could be denied on that basis.

Due to this renewed interest in stream flow data across Michigan, there is now discussion among involved agencies, stakeholder groups, and the advisory committee to the state legislature about a process to “certify” individuals to collect reliable flow measurements. Such data could be used to improve the screening model or otherwise in the permitting process. Organizations with existing volunteer monitoring programs could be well-positioned to help in this important effort.

Flow monitoring can be as simple as the “orange” method (measuring the average time it takes for a float to travel downstream) or as complicated as establishing a fixed, long-term flow gaging station in cooperation with USGS. Each level offers a trade-off between accuracy, ease of implementation and cost. With relatively low expense in equipment (an accurate water velocity meter can be obtained for \$1,000 – \$3,000) and some basic training, a volunteer monitoring group can collect good flow information for many years at sites all across a given watershed. For a little more expense, and a fair bit more training, selected sites can be monitored for continuous flow using water level loggers. The effort requires determined volunteer oversight and quality control to generate accurate estimates, but the data can be very useful in determining local management priorities. The Huron River Watershed Council has been using these techniques with volunteers for several years.

Contact [Ric Lawson](#) or [Paul Steen](#) or send a message to the [e-mail list](#) to discuss. Also, let us know if you would like a detailed presentation on this topic at the 2009 MiCorps Conference. For more information on the water withdrawal regulations and model, see the fact sheet at www.emdc.msue.msu.edu, Inventory Number WQ60.

Authors:

[Ric Lawson](#)

MiCorps Staff

Huron River Watershed Council

[Jo Latimore](#)

MiCorps Staff

Michigan State University



MiCorps

Monitoring Michigan's Water Quality

www.micorps.net



Article 2:

Volunteer Stream Monitoring Grants Awarded for 2009

The MiCorps Program is pleased to announce that six organizations have been selected to receive volunteer water quality monitoring grants under the 2009 MiCorps Volunteer Stream Monitoring Program (VSMP). Since 2005, the VSMP has provided technical assistance, training and grants to volunteer stream monitors around the state to ensure that they are collecting reliable, high-quality data. Full grants are awarded to eligible monitoring programs to build upon an existing program over a period of 18-24 months. Smaller, one-year “start-up” grants are awarded to newly forming volunteer monitoring groups to assist them in developing a monitoring strategy for their community and to build capacity for their program so that they might be eligible to apply for a full grant in future years.

At present, monitoring programs typically focus on evaluating benthic invertebrate communities and stream habitat. Data collected by MiCorps VSMP participants is reviewed for quality and then shared via the MiCorps Data Exchange available from the program’s website www.micorps.net. In addition to sharing these data with other monitors around the state, the Michigan DEQ uses the data collected as a screening tool to identify sites requiring a more detailed assessment and as supplemental data for DEQ water resources management programs.

Full grants:

Clinton River Watershed Council

Project Title: Adopt-a-Stream Improvement and Expansion Project

Watershed: Clinton River

Funding Amount: \$1,995

Contact: Michele Arquette-Palermo, Ph: 248-601-0606, michele@crwc.org

Data collected from three proposed new sites will add to the Clinton River Watershed Council’s (CRWC) current Adopt-a-Stream program efforts to develop and maintain a long-term assessment of stream health throughout the watershed. The North Branch historically has not received much attention from CRWC’s Adopt-a-Stream program due to limited funding and lack of volunteers. With additional funding, hopes of these site establishments will further the measurable data and allow for a more detailed assessment of the overall condition of the watershed, including identification of macroinvertebrates to the Family level.

Jackson County Conservation District

Project Title: Upper Grand River Watershed Adopt-a-Stream Program
Watershed: Upper Grand River
Funding Amount: \$20,979
Contact: Cecilia Govrik, Ph: 517-782-7404 cecilia.govrik@macd.org

The Upper Grand River Watershed Adopt-A-Stream Program, initiated in 2007, began as a partnership among the Jackson County Conservation District, Dahlem Environmental Education Center, and Upper Grand River Watershed Alliance. The Adopt-A-Stream Program helps achieve the public education and involvement goals of the Jackson Phase II communities and the Upper Grand River Watershed Management Plan by using trained adult volunteers to collect and identify benthic macroinvertebrates, conduct stream habitat assessments, and take other water quality measurements following the methods outlined in the MDEQ-approved Quality Assurance Project Plan. With funding under this grant, the partner organizations are working to further develop and strengthen the Upper Grand River Watershed Adopt-A-Stream program into a sustainable and watershed-wide monitoring program.

Muskegon County Conservation District

Project Title: Duck Creek Stream Monitoring Program
Watershed: Duck Creek
Funding Amount: \$6,231.24
Contact: Erin Charles, Ph: 231-773-0008 erin.charles@macd.org

The 11,500-acre Duck Creek watershed lies entirely within Muskegon County and is the only watershed in the county that is designated a high-quality watershed with no TMDL listing. However, preliminary monitoring has shown an increase in water temperature and sedimentation; increases in nutrients, nuisance algal blooms, and occurrences of exotic species; and general degradation of fish and wildlife habitat. The Muskegon Conservation District and Duck Creek Watershed Assembly are striving to halt this decline and avoid an eventual TMDL listing. By identifying the sources and proactively addressing the causes of these preliminary findings, the project team hopes to preempt any major water quality issues and the associated costs (and inherent inadequacies) of mitigation.

Superior Watershed Partnership

Project Title: Millecoquins River Watershed Volunteer Stream Monitoring Program
Watershed: Millecoquins River
Funding Amount: \$9,288
Contact: Geraldine Larson, Ph: 906-228-6095, geri@superiorwatersheds.org

The Millecoquins River watershed has experienced impacts from historic and recent land uses such as logging, agriculture (cattle), and increasing development and recreational pressures. Recent evaluations of tributaries of the Millecoquins River watershed by the Michigan DEQ indicate increasing water temperatures and changes in the fish community to more of a warm water fishery rather than a coldwater fishery as they are designated. In addition, changes have also been observed by local landowners. Goals of the project include

fostering landowner and citizen awareness, stewardship and surveillance of the watershed; producing quality-assured data that can be used by DEQ biologists as a screening tool; making results available to interested parties; and utilizing these data to document water quality changes over time and existing and potential sources of impact.

Start-up grants:

Branch County Conservation District

Project Title: Coldwater River Watershed Monitoring Project

Watershed: Coldwater River

Funding Amount: \$2,000

Contact: Kathy Worst, Ph: 517-278-8008, kathy.worst@mi.nacdnet.net

The grant funding will be used to develop a Coldwater River Watershed volunteer-based monitoring plan that can potentially receive full funding in the near future. This will include establishing a Project Oversight Committee, identifying key parameters and locations to be monitored, cataloging existing and needed equipment for long-term monitoring, and identifying potential partners for long-term support of the program. In addition, the project team plans to develop a public outreach strategy for local media releases and announcements related to their ongoing work.

Michigan Trout Unlimited/Kalamazoo Valley Chapter of Trout Unlimited

Project Title: MCTU / KVCTU Stream Monitoring Project

Watershed: Kalamazoo River

Funding Amount: \$1,940

Contact: Kristin Nelson, Ph: 616-460-0477 knelson@mctu.org

The Michigan Council and Kalamazoo Valley Chapter of Trout Unlimited are teaming up to monitor macroinvertebrates and water quality in Spring Brook and Dickinson Creek within the Kalamazoo River watershed. During 2009, the project team will be developing a program that they plan to implement in 2010. The program developed under this grant will also serve as a template for other chapters of Trout Unlimited in Michigan. The long term goal of this program is to increase monitoring of the state's coldwater streams by Trout Unlimited. There are several very active and motivated volunteers in the Kalamazoo Valley Chapter who will be assisting the Michigan Council of Trout Unlimited in designing and implementing this monitoring program.

Author:

Laura Kaminski

MiCorps Staff

Great Lakes Commission



Monitoring Michigan's Water Quality

www.micorps.net



Article 3:

Highlights from the Cooperative Lakes Monitoring Program (CLMP)

Focus on the Glen Lake Water Quality Volunteers

In this newsletter issue, MiCorps would like to highlight the dedicated work being done by the volunteer monitors of Glen Lake. Members of the Glen Lake Association have been involved with the CLMP since 1979, and are unique in that they also monitor the quality of their inflowing stream.

Glen Lake is located in Leelanau County, borders Sleeping Bear Dunes National Lakeshore, and is very close to Lake Michigan. Two lakes make up the Glen Lake system, Little Glen and Big Glen, and cover a total of 6,270 acres. There are approximately 700 riparian landowners. Big Glen Lake is an oligotrophic lake characterized by clear water and low nutrient inputs, while Little Glen is borderline oligotrophic/mesotrophic.

Fifteen lake association members participate in the monitoring activities, including water transparency, spring and summer phosphorus, chlorophyll-a, aquatic plant mapping, and the exotic aquatic plant watch. Within the past three years, excellent volunteer participation has enabled them to expand their monitoring to three additional lakes: Big Fisher, Little Fisher, and Brooks.

The lake association received a grant from the stream monitoring component of MiCorps, the Volunteer Stream Monitoring Program (VSMP), in 2006, which enables the group to determine the water quality at 5 sites on [Hatlem Creek](#). Volunteers collect, sort, and count benthic macroinvertebrates, identify them to family level, then rate the site quality. Also, the volunteers check stream temperature, dissolved oxygen, pH, conductivity, and occasionally E. coli (after heavy rain events).

By monitoring both the lake and inflowing stream, the Glen Lake volunteers have a good sense of the watershed-level issues that need to be addressed in order maintain good water quality. For example, in order for Glen Lake to remain healthy, Hatlem Creek must as well. An enhanced understanding of the adverse effects of sedimentation input to Big Glen from Hatlem Creek has shown the group the importance of protecting the Hatlem Creek sub-watershed with buffer strips, vegetation cover, and other erosion controls.

The Glen Lake volunteers stress the importance of keeping the shoreline natural and try to lead by example. Articles in the [association newsletter and web page](#) highlight the volunteer's activities and raise awareness of the need to protect the creek as well as the lake. One volunteer reported that he has developed a riparian greenbelt, stopped using soaps and fertilizer with phosphorus, and re-planted bulrushes along the shoreline. Another volunteer reported that the Glen Lake shoreline has had virtually no erosion or shoreline damage at ice-out (i.e., when ice has begun to break up during the spring thaw) and has held up better

than lakes that have properties with lawns cut down to the lake's edge.

The Glen Lake volunteers are leaders in the field of volunteer water monitoring. By being consistent with their monitoring, being aware of watershed connections, and taking responsibility for their personal impacts on the lake, these volunteers provide a great example for other lake associations to follow.

2009 Participating Lakes

Registration for the 2009 CLMP sampling season is now closed, and MiCorps is pleased to announce that a total of 225 Michigan inland lakes are participating this year. Lakes can monitor one parameter or many, depending on their needs. Also, a single lake may be monitored at two or more deep basins depending on the needs of the volunteer participants. The following table is a break-down of how many lake basins are being measured for each parameter. Enrollment is holding steady from previous years, with the exception of the Exotic Plant Watch, which increased from 2 lakes participating in 2008 to 21 lakes participating in 2009.

Parameters	# Lake Basins Participating 2008	# Lake Basins Participating 2009
1. Transparency (Secchi Disk)	213	221
2. Spring Phosphorus	158	163
3. Summer Phosphorus	197	202
4. Chlorophyll	131	130
5. Dissolved Oxygen and Temperature	46	49
6. Aquatic Plant Survey	7	5
7. Exotic Plant Watch	2	21

CLMP training event

Every spring, the CLMP training is held in conjunction with the Michigan Lakes and Streams annual conference (www.mlswa.org), and allows for people interested in Michigan lakes to meet new and old friends as well as learn more about the issues facing Michigan's water resources. This year, volunteers gathered in the Comfort Suites Lakeside, Houghton Lake, on April 24 and 25 in order to learn and improve lake monitoring skills. CLMP staff led training and information sessions on transparency, phosphorus, chlorophyll, dissolved oxygen and temperature, aquatic plants, and exotic aquatic plants with attendance ranging between 20 and 75 people for each session. Good luck to all of our volunteer monitors this summer, and remember to sample safely!

Volunteer Mentor Program

This year, the CLMP is pleased to introduce the new Volunteer Mentor Program. Under this program, experienced CLMP volunteers (the “mentors”) are matched up with new volunteers who request additional aid or training. The pair meet at the lake of their choice to practice the CLMP monitoring techniques. To become a volunteer mentor, a volunteer needs to have monitored at least five years with the CLMP, have experience in each CLMP trophic parameter, and have attended a special training session at the annual training event. If you are a new volunteer, working with a volunteer mentor can be a great way to make sure you are following the CLMP guidelines and collecting accurate data and samples. If you are interested in receiving aid from a volunteer mentor, please contact Paul Steen at psteen@hrwc.org.

2009 Spring Total Phosphorus Results

The CLMP is pleased to announce the release of its 2009 Spring Sampling Total Phosphorus results. Visit www.micorps.net/lakereports.html to download the report and view data collected for your lake. Also, check out the 2008 Annual Summary Report to view last year's data.

Author:

[Paul Steen](#)

MiCorps Staff

Huron River Watershed Council



MiCorps

Monitoring Michigan's Water Quality

www.micorps.net



Article 4:

Ecosystem Monitoring to be Part of Nashville Dam Removal Project

In fall 2008, the Barry Conservation District (BCD) received a grant from the Michigan DNR's Inland Fisheries Program to assist with the removal of the Nashville Dam on the main stem of the Thornapple River in Barry County. Removal of the non-functioning dam, slated for September 2009, will restore the headwaters of the Thornapple River to a fully functioning, free flowing system of approximately 60 river miles.

Since the project's inception, the outpouring of support from agencies and organizations has been tremendous. To best capture this energy, the BCD and project partners from the DNR and DEQ developed a "wish list" of monitoring and research that could be conducted to learn more about the ecosystem and social impacts of dam removal – information which could be compiled and shared with other communities considering dam removal projects. Since the BCD's grant did not extend to research, interested individuals would have to work on a volunteer or self-funded basis. The list of research opportunities was sent to colleges and universities as well as practicing biologists and other professionals in the region.

Dr. Eric Snyder, Assistant Professor of Aquatic Biology at Grand Valley State University, was one of the first to respond. In addition to his own research interests, he saw an opportunity to involve undergraduates in the project. BCD Executive Director, Joanne Barnard, and Thornapple River Watershed Council President, Dana Strouse, met with Snyder to provide an overview of the dam removal project and current studies underway in the Thornapple River Watershed, including the [MiCorps Macroinvertebrate Monitoring Program](#) which began in 2006. With this background information, Snyder and GVSU undergraduate, Chantel Caldwell, developed a proposal to quantitatively assess the effects of the dam removal on the ecosystem through: (i) benthic macroinvertebrate community composition, abundance, biomass, and functional feeding group guild structure; (ii) ecosystem metabolism using open system techniques to assess patterns in primary production and respiration; (iii) patterns in soluble reactive phosphorus (SRP) concentration and benthic periphyton chl-a and organic matter content (AFDM); and (iv) physical habitat, including substrate composition and cross-sectional profile to monitor changes in river bed elevation.

Snyder and Caldwell tapped into a local resource, the Pierce Cedar Creek Institute, whose URGE (Undergraduate Research Grants for the Environment) Program enables students, with support from a faculty mentor, to conduct an intensive, full-time research project during the summer months. Their successful proposal garnered a stipend, lodging and project support for Caldwell at the Institute through summer 2009. Members of the Thornapple River Watershed Macroinvertebrate Monitoring Program, the "Stream Team," also pledged volunteer assistance in carrying out the monitoring project. The BCD and Thornapple River Watershed Council are collaborating with Snyder on seeking additional

funding to extend the project into the post-dam removal stage.

Results of the ongoing MiCorps Macroinvertebrate Monitoring Program in the Thornapple Watershed, which include data from 22 sites in tributaries of the system, will be useful in providing baseline information on macroinvertebrate communities in streams above and below the dam. The BCD and DEQ will work together to conduct additional macro monitoring using a Ponar Grab to collect samples in the deeper parts of the channel and mill pond. The Ponar Grab sampling will become part of the Stream Team's regular spring and fall monitoring regime for a three to five year period in order to provide an extended perspective of stream health and recovery.

The Nashville Dam Removal Project's wish list for monitoring and research is quickly filling up, with volunteers from DNR and DEQ offering to conduct riparian plant community structure, water chemistry and fish, mussel and avian community monitoring. Local government units will supply aerial and stop-time photographic documentation. A graduate student from Michigan State University's Watershed Management program is considering a project including social indicator surveys of riparian residents and educational outreach programming. Community and Thornapple River Watershed Council volunteers will assist with many of the monitoring projects and will work with riparian landowners to encourage the use of best management practices in riparian vegetation management and invasive species control.

For more information on the Nashville Dam Removal Project, contact the Barry Conservation District at (269) 948-8056 ext. 3, or check for website updates at www.barrycd.org.

Guest Author:

Joanne Barnard

Executive Director

Barry Conservation District



MiCorps

Monitoring Michigan's Water Quality

www.micorps.net



Article 5:

The Volunteer Corner:

An Interview with Al Vichunas, Hubbard Lake Volunteer

Wanting to learn from and recognize the volunteers who give of their time and energy to monitor the health and quality of our lakes and streams, the MiCorps team has created a new section of the MiCorps Monitor dedicated to these individuals. For this installment of the Volunteer Corner, the MiCorps team spoke with Al Vichunas, water quality chairman and volunteer lake monitoring coordinator for the Hubbard Lake Sportsman and Improvement Association, to talk about his experience as a lake monitor.

***MiCorps Monitor:** First of all, thank you for your time and for letting us ask you a few questions. How long have you been a volunteer lake monitor with the Cooperative Lakes Monitoring Program (CLMP) on Hubbard Lake?*

Vichunas: I've been involved for about eight years now, through the Hubbard Lake Sportsman and Improvement Association. I was new to the area and so when they asked for volunteers to take over the monitoring program, I volunteered. I didn't quite know what I was getting myself into, though! I had to learn as I went, but I've learned a lot over the years.

***MiCorps Monitor:** What is your role as a lake monitor?*

Vichunas: As the water quality chairman, I set up the schedule for the secchi disk teams to monitor at seven different locations each week. I also do dissolved oxygen, chlorophyll, and phosphorus sampling with one of my neighbors. At the beginning of each sampling season, I usually write up a short article on what we do for our newsletter. If I had more time, there is a lot more that we could do. But since I'm still working part-time, I just don't have the time to organize more than the basic sampling that we've been doing for years.

***MiCorps Monitor:** That sounds quite involved. Do you get to dive into the science involved with the sampling and lake observations?*

Vichunas: Don't give me too much credit! The sampling is pretty easy once you've been trained to do it. And DEQ does the analysis once we send the samples out. So there's not much chemistry involved. Other people are doing that for us. But I've learned more about it over the years. The annual training put on by the CLMP and DEQ has been helpful for that.

***MiCorps Monitor:** That's good to hear. So tell me more about your monitoring team. Is it the same group of volunteers each time? How often do you sample?*

Vichunas: The other volunteers are mostly folks from the association who live near the

lake. We have about 25-30 active members in the group, and the people who help with the lake sampling are mostly retired auto workers. They want to be involved because the lake has a direct impact on property values and because of the lake's fishing and recreational use.

We do the secchi disk monitoring weekly, May through September. The dissolved oxygen sampling uses a meter that we share with three other lakes, so that is harder to coordinate and done less frequently – maybe twice per month. Chlorophyll sampling is done one per month and phosphorus is twice per year (spring and fall). We also observe the weather and lake conditions, but since Hubbard Lake is so large, the lake really determines when we can go out to do our sampling. You can get waves up to 2-3 feet high on this lake and, let me tell you, you don't want to be out there when conditions are rough.

MiCorps Monitor: *So how healthy is the lake, in your opinion? What are your major concerns about impacts to the lake's water quality?*

Vichunas: It's a mostly agricultural, rural area. Lots of cow and horse farms nearby, with some hay and corn fields. So we would expect to see increased amounts of phosphorus and nutrients as a result. Fortunately, so far we haven't seen any changes to the water quality over time. For a while we were worried about the introduction of zebra mussels to the lake. There's always something new to be looking out for, it seems. But it's a large lake, so it would take a long time to pollute. Even so, it's important to educate those living on the lake about their impacts to the water.

MiCorps Monitor: *Definitely. So what interesting observations have you noted over time?*

Vichunas: The lake has been losing weed growth, which is a bad thing because that provides habitat for fish. Since some of the weed beds have been destroyed that has had some impacts on the different fish populations, or at least that's what I understand. The Sportsman group has been placing cedar fish shelters around the lake to help counter some of this loss of weed beds.

MiCorps Monitor: *So what words of wisdom do you have for others who may be interested in volunteering as a stream or lake monitor?*

Vichunas: You have to be willing to give your time for a good cause... to protect the environment, or because you don't want to see the lake polluted. It's a basic thing of education in the end. It's important to educate those living on the lake about fertilizing their grass, maintaining their septic system, keeping debris and runoff out of the lake, not spilling fuel in the water, maintaining their ability to keep out invasive species. These things make a difference in the quality of the lake. That's how we get people interested and keep them coming back!

Do you know an extraordinary volunteer lake or stream monitor? Please send your nominations for future installments of the Volunteer Corner to Laura Kaminski, MiCorps Program Administrator, at laurak@glc.org.

Author:

[Laura Kaminski](#)

MiCorps Staff

Great Lakes Commission



MiCorps

Monitoring Michigan's Water Quality

www.micorps.net



Article 6:

Lake Water Quality Assessment (LWQA) Monitoring

In 1998, the MDEQ formed a partnership with the U.S. Geological Survey to continue the MDEQ's Lake Water Quality Assessment (LWQA) monitoring program (view [program fact sheet](#) for more information). Under this program, surveys are conducted during spring turnover and summer stratification periods in Michigan's public-access lakes. The purpose of the monitoring is to measure a variety of water quality parameters that indicate the condition and trophic status of the lake.

In February 2009, the leaders of this initiative released a report that summarized the monitoring results for the first five years of the monitoring program, 2001 through 2005. This short article summarizes their major findings. For the full report, please go to pubs.usgs.gov/sir/2008/5188/.

From 2001 through 2005, 433 lake basins from 364 lakes with public boat launches were sampled. Each year, lakes are randomly selected from watersheds corresponding with the five year DEQ watershed assessment cycle. Therefore, from 2001 to 2005, lakes for every major watershed in Michigan were sampled. The monitoring results indicated that 17% of Michigan lakes are oligotrophic, 53% are mesotrophic, 22% are eutrophic, and 4% are hypereutrophic.

This report determined that there were distinct patterns between the lakes' nutrient status and Michigan's five ecoregions (see figure below). Ecoregions are distinct geographic areas that have similar geology and vegetation. For example, the Northern Lakes and Forests and the Northern Central Hardwood Forests, which spread across the whole Upper Peninsula and the northern Lower Peninsula, are composed of about 28% oligotrophic lakes. The two regions contain about 85% of all of the lakes classified as oligotrophic across the state.

The three southern Michigan ecoregions (Huron/Erie Lake Plains, South Michigan Drift Plains, and Eastern Corn Belt Plains), in general, had more nutrients and higher specific conductance (which is indicative of the level of dissolved elements from the landscape such as chloride, sodium, magnesium, potassium, etc.) than the two northern ecoregions. As southern Michigan contains the vast majority of the state's agricultural lands, this result is logical.

Comparisons with historical monitoring data indicate that 72% of the lakes sampled did not change trophic class, 18% decreased a partial or whole trophic class (indicating improved water clarity), and 11% increased a partial or whole trophic class (indicating decreased water clarity). None of the trophic evaluations increased or decreased more than one trophic class.

One interesting component of this program integrates data collected from remote sensing

satellite imagery and transparency data collected by CLMP volunteers (view [program fact sheet](#) or the [project webpage](#) for more information). The two data pieces are used to build a regression model that predicts the water clarity for unsampled Michigan inland lakes. This is a great example of how effort put forth by CLMP volunteers can add to the greater statewide effort of keeping all of our lakes healthy.

For additional information on the MDEQ lake monitoring programs, visit the [inland lake monitoring webpage](#).

The following lakes will be sampled under the LWQA program in 2009:

County	Lake Name	County	Lake Name
Alger	Fish Lake	Mackinac	Brevoort Lake
Allegan	Big Lake	Mackinac	Little Brevoort Lake
Allegan	Duck Lake	Macomb	Stony Creek Impoundment
Allegan	Kalamazoo Lake	Manistee	Bear Lake
Barry	Baker Lake	Manistee	Pine Lake
Barry	Chief Noontday Lake	Manistee	Portage Lake
Barry	Gun Lake	Mason	Ford Lake
Barry	Lower Crooked Lake	Mason	Hamlin Lake
Barry	Payne Lake	Mason	Lincoln Lake
Branch	Gilead Lake	Mason	Round Lake
Branch	Lake Lavine	Montmorency	Atlanta Lake
Calhoun	Goguac Lake	Montmorency	Gaylanta Lake
Calhoun	Prairie Lake	Muskegon	Half Moon Lake
Chippewa	Caribou Lake	Oakland	Loon Lake
Chippewa	Monocle Lake	Oakland	Orion Lake
Delta	Corner Lake	Oakland	Squaw Lake
Genesee	Fenton Lake	Oceana	Stony Lake
Genesee	Lobdell Lake	Ogemaw	George Lake
Hillsdale	Cub Lake	Ottawa	Lake Macatawa
Hillsdale	Hemlock Lake	Ottawa	Spring Lake
Jackson	Vineyard Lake	Presque Isle	Lake Emma
Kalamazoo	Barton Lake	Presque Isle	Lake Esau
Kalamazoo	Eagle Lake	Schoolcraft	Colwell Lake
Kalamazoo	Gourdneck Lake	Schoolcraft	Gemini Lakes
Kalamazoo	Sugarloaf Lake	Schoolcraft	Indian Lake
Kalkaska	Big Twin Lake	Schoolcraft	Kennedy Lake
Kalkaska	Cub Lake	Schoolcraft	McDonald Lake
Kalkaska	Pickerel Lake	St. Joseph	Long Lake
Kalkaska	Starvation Lake	St. Joseph	Thompson Lake
Kent	Reeds Lake	Van Buren	Bankson Lake

Lapeer	Big Fish Lake
Luce	Bodi Lake
Luce	Twin Lakes

Van Buren	Clear Lake
Wexford	Hodenpyl Dam Pond

Author:

Paul Steen

MiCorps Staff

Huron River Watershed Council



MiCorps

Monitoring Michigan's Water Quality

www.micorps.net



**Article 7:
MiCorps Updates**

2009 MiCorps Annual Stream Monitoring Training Workshop

This year's workshop on stream monitoring methods for MiCorps Volunteer Stream Monitoring Program grant recipients and other interested parties was held on June 29, 2009 at the Devries Nature Conservancy in Owosso. The event was well attended, with 17 participants on-site for hands-on training. New to this year's training was the introduction of a revised comprehensive habitat assessment protocol and datasheet that will be used for new monitoring projects as of this year. Both the new and old datasheets are now available at www.micorps.net/streamresources.html, and MiCorps staff are working to update the MiCorps Data Exchange to accommodate this new data entry format. More information on the training will be available in the next issue of the MiCorps Monitor, or you may contact Paul Steen at psteen@hrwc.org with any questions on the new habitat assessment methods.

Be sure to visit the [MiCorps Calendar](#) for more upcoming events!

Staff Transitions

After last issue's lengthy summary of recent staff transitions we, sadly, have one more to announce for this issue. As of June 1st, MiCorps program director, John (Jack) Wuycheck, announced his departure from the program to pursue work in his field of expertise as an aquatic biologist under the MDEQ Water Bureau's Groundwater Withdrawal Program. Jack has provided oversight and leadership to the MiCorps Program and has done so with humor and a smile, especially during these trying times of budget cutbacks and downturns. Jack's efforts over the years have helped to strengthen the program and we will certainly miss his contributions to the team. We wish him all the best as he transitions into this new role.

Jack will be replaced with MiCorps' past program director, Ralph Bednarz, who again will assume responsibility for managing the entire MiCorps program in addition to his existing role in overseeing the Cooperative Lakes Monitoring Program (CLMP). Many of you already know Ralph and have worked with him closely over the years. We are pleased to have him back to take over the MiCorps helm.

Michigan Lake and Stream Leaders Institute – Class of 2009

Michigan Lake and Stream Associations, Inc. (MLSA) and Michigan State University (MSU), with generous support from the Paul H. Young Chapter of Trout Unlimited, have selected and begun to convene the Lake and Stream Leaders Institute "Class of 2009". This year will be the fourth session of this popular program, which is typically held every other year. The Institute provides an educational experience that improves participants' understanding of local water resource management planning and program implementation. This year's participants include riparian property owners, concerned citizens, environmental and sporting organization representatives, farmers, and natural resource professionals.

The Institute is conducted in five in-depth sessions that include classroom learning and field experience and practice. The first session was held at the Ralph A. MacMullan Conference Center on Higgins Lake on Saturday, May 16, 2009. The next three sessions are to be held on July 30, 31, and August 1, 2009 at Kellogg Biological Station (KBS) near Kalamazoo. The final session and graduation dinner will be held at the Bengel Wildlife Center in Bath on Friday, October 2, 2009.

To learn more about the Institute, contact Dr. Jo Latimore at latimor1@msu.edu or (517) 432-1491, or visit the Institute website at www.msue.msu.edu/waterqual/lakeleaders.html.

Web Resources for Volunteer Monitors

Interested in additional information to assist you with planning, funding, and implementing your volunteer monitoring or other watershed protection programs? In addition to the resources found throughout the MiCorps website (www.micorps.net), the following websites may be of interest:

- **Planning and Developing your Program:**

- EPA's Office of Wetlands, Oceans & Watersheds: www.epa.gov/owow/monitoring
- CSREES' Volunteer Water Quality Monitoring National Facilitation Project: <http://www.usawaterquality.org/volunteer>

- **Funding Opportunities:**

- EPA's Office of Wetlands, Oceans & Watersheds Program: www.epa.gov/owow/funding.html
- Great Lakes Restoration Initiative: www.epa.gov/greatlakes/glri/index.html
(Note: early in the summer of 2009, one or more Requests for Proposals will be announced for competitive grants advancing the Initiative, so stay tuned to see whether these may apply to you or your organization.)

- **Recruiting Volunteers:**

- EPA Volunteer Monitoring: www.epa.gov/volunteer
- American Rivers: www.americanrivers.org
- www.serve.gov website (a clearinghouse of volunteer opportunities) *(Note: the EPA is using the President's Summer of Service campaign to promote volunteer monitoring and watershed stewardship programs. Consider registering your program on this site or contact Alice Mayo, USEPA Office of Water, at (202)*

566-1184 for more information.)

2009 Annual MiCorps Conference and Training

MiCorps hosts an annual conference each fall to report on volunteer monitoring activity in the state. Training is also provided at the conference for interested volunteer coordinators. The conference provides an excellent opportunity to stay up to date on monitoring methods and to meet and interact with other volunteer monitors. This year's annual conference and training is currently planned for October 26-27, 2009, at the R.A. MacMullan Conference Center at Higgins Lake (Roscommon, MI). More information will be released as it becomes available later this summer and into the fall. Please save the date!

Author:

Laura Kaminski

MiCorps Staff

Great Lakes Commission



MiCorps

Monitoring Michigan's Water Quality

www.micorps.net



Article 8:

Discussion Topic: From Riparian Rights to Lake Quality Management: What Do Lake Volunteers Care About?

Most of the volunteer lake monitors in MiCorps' Cooperative Lakes Monitoring Program (CLMP) are also riparian residents. As citizen scientists, they are naturally interested in the quality of the waters and nearshore environment upon which they front. The Michigan Lake and Stream Associations' Conference each year includes a variety of topics that concern lake riparians. Topics range from presentations on the latest scientific research on lake organisms to legal discussions about riparian rights and noise control to organizational discussions on property values and insurance. The CLMP training is conducted at this conference each year, as well, providing instruction for volunteers about how to learn about their lake's quality.

Given such a wide range of concerns, what should lake volunteers be most concerned about? What does your association spend most of it's time discussing or working toward? Are there open questions about lake quality and management that are not being answered? Have you ever presented volunteer monitoring results to a lake board? If so, what were the results? What has been your experience and what can MiCorps do to help inform the discussion?

We want to hear your thoughts via our listserv discussion list. Jump into the discussion by signing on to the list at www.micorps.net/listserv.html and posting your thoughts – or, if you are already a subscriber to the listserv, simply send an email to micorps@great-lakes.net. We want to hear what you think.

Note: Due to the volume of responses to the last discussion topic, the list has been split in two. One for news and announcements: micorps-news@great-lakes.net, and one for discussion: micorps@great-lakes.net. You are free to remain members of both or opt out of either. The easiest way to do this is by contacting the listserv manager at laurak@glc.org with your request.

Author:

Ric Lawson

MiCorps Staff

Huron River Watershed Council



MiCorps

Monitoring Michigan's Water Quality

www.micorps.net