



Annual Program Report
for
October 2011 – September 2012

Prepared by

The Great Lakes Commission
&
The Huron River Watershed Council

January 23, 2013

What is MiCorps?

The Michigan Department of Environmental Quality (DEQ) is responsible for environmental monitoring of Michigan's surface water resources to assure that they meet Michigan's Water Quality Standards. The DEQ recognizes the potential for citizen volunteers to make a substantial contribution to the state's water quality monitoring program. Given the limitations of state resources dedicated to lake and stream monitoring, DEQ staff are increasingly relying on volunteer water quality monitoring data to support water resources management and protection programs decisions. The DEQ began a volunteer lake monitoring program in 1974 and a volunteer stream monitoring program in 1998.

Former Governor Jennifer Granholm formally recognized the need and importance for volunteer monitoring groups to assist DEQ's lakes and streams monitoring program. In September 2003, Michigan Executive Order #2003-15 was issued to create the Michigan Clean Water Corps (MiCorps), a statewide initiative to foster and support volunteer monitoring programs in Michigan.

MiCorps assists volunteers around the state in participating in water quality monitoring activities. Many volunteer groups are already monitoring Michigan rivers, creeks, and lakes at various levels of effort. These groups vary in their capacity and expertise, yet all have the potential to make valuable contributions to our understanding of Michigan's water quality. MiCorps has incorporated the state volunteer water monitoring programs and these other established volunteer monitoring programs into a volunteer monitoring network that encourages the use of standard quality assurance practices and monitoring procedures in order to ensure the collection of high quality, comparable data.

MiCorps supports volunteer monitoring in numerous ways, including:

- Providing funds, technical assistance, and resources to groups interested in developing stream monitoring programs.
- Leading a statewide lake volunteer monitoring program;
- Providing a forum for communication and support among volunteer monitoring groups in the state;
- Providing standard methods and training for accurate, comparable data collection; and
- Enforcing quality assurance practices both in sampling and reporting of data.

Furthermore, the 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, communicating findings to local stakeholders, and evaluating accuracy and reliability of data and performance.

Ultimately, MiCorps strives to work with volunteers and state agencies to broaden the scope of knowledge about our water resources.

MiCorps Support

The Great Lakes Commission (GLC) was awarded the contract to assist the DEQ in establishing and administering the MiCorps program. The GLC has partnered with the Huron River Watershed Council to develop, implement, and administer the program, under the direction of the DEQ. The original three-year contract began in September 2004 and ended August 2007. At that time, the GLC received a two-year contract extension to continue the program through August 2009. Following the end of the initial contract and extension, a short-term extension grant was issued by the DEQ to the GLC in September 2009 to extend some of the remaining unexpended funds and award a small amount of new funds to continue the program until a new contract could be issued. Also, the short-term extension allowed GLC to close out the remaining open grants that were awarded during the initial contract period. Currently, the program is administered under a new five-year contract with the GLC that runs from December 2009 through September 2014 (pending fund availability from the DEQ each year).

MiCorps staff also partner with the Michigan Lake and Stream Associations and Michigan State University to implement the Cooperative Lakes Monitoring Program (CLMP) component of the program.

In this report, the following people are generically referred to as “MiCorps staff”:

Great Lakes Commission (GLC):

- Laura Kaminski, MiCorps Project Administrator
- Anne Sturm, MiCorps support staff
- Laura Andrews, MiCorps support staff
- Jeff McAulay, MiCorps support staff

Huron River Watershed Council (HRWC):

- Paul Steen, Ph.D., MiCorps Project Manager
- Jason Frenzel, MiCorps support staff

Department of Natural Resources and Environment (DEQ):

- Bill Dimond, MiCorps Administrator, DEQ Representative and Project Lead, Water Bureau

Other CLMP Staff:

- Jean Roth, Michigan Lake and Stream Associations (MLSA), CLMP Administrator
- Scott Brown, Michigan Lake and Stream Associations (MLSA), MLSA President
- Jo Latimore, Ph.D., Michigan State University (MSU), Lake Specialist



MiCorps Accomplishments

MiCorps contains two major programs:

- The Volunteer Stream Monitoring Program (VSMP), and
- The Cooperative Lakes Monitoring Program (CLMP).

These programs are supported by a number of essential components:

- An advisory panel;
- A website and data exchange platform;
- An annual conference;
- Program marketing and promotion; and
- An annual newsletter.

GLC staff also administer the Volunteer River, Stream, and Creek Cleanup Program (VRSCCP) as a separate program under the MiCorps contract.

In the following pages, this report gives a description of each of these parts of MiCorps and the accomplishments made during the October 2011 – September 2012 program year.



Top left: Bill Dimond, Michigan DEQ MiCorps Administrator, presents longtime CLMP volunteer, Ralph Vogel, with a formal Governor's Certificate of Recognition for his many years of service at the Michigan Lake and Stream Associations Annual Meeting. Photo Credit: Michigan Lake and Stream Associations

Top right: Volunteers proudly display their debris removed from the Fawn River during one of the eight cleanups supported by a 2012 VRSCCP grant to the St. Joseph County Conservation District. Photo Credit: St. Joseph County Conservation District

Bottom: Participants of the Insect Identification training session at the 2012 MiCorps Annual Conference try their hand at identifying some new "critters" under the microscope. Photo Credit: Chauncey Moran

Volunteer Stream Monitoring Program (VSMP)

- Each year, approximately \$50,000 is made available to volunteer groups through a competitive grant application process for the purpose of monitoring habitat and aquatic macroinvertebrates in wadable streams and rivers. MiCorps staff review applications in consultation with DEQ staff and administer these grants.
- MiCorps staff provide training and support to these grant recipients to ensure that they are collecting high-quality data and running successful programs.
- Via the MiCorps website, the groups are given access to a wide array of resources on volunteer stream monitoring, including stream monitoring datasheets, guidance for developing a Quality Assurance Project Plan (QAPP), equipment lists, collection tips, monitoring procedures, relevant DEQ documents and publications, tips for publicity and volunteer retention, and other tools.



Left: Dr. Paul Steen, MiCorps Project Manager, leads a discussion with recent MiCorps grant recipients on how to sample for macroinvertebrates during the 2012 annual stream training. Photo Credit: Jason Frenzel



Right: Participants at one of the two training sessions offered at the 2011 MiCorps Annual Conference learn to identify mussels commonly found in local streams as a way of surveying stream health. Photo Credit: Laura Kaminski

- To ensure data quality, MiCorps requires all grant recipients to develop an approved QAPP, attend a full day training event at which MiCorps monitoring procedures are taught, and attend a one-on-one training event with MiCorps staff. In addition, further training opportunities are provided at the annual conference.
- MiCorps staff work closely with each group, encouraging leadership, offering technical advice, and providing assistance where possible. MiCorps staff visit each group at their offices and samples one of their streams with them.
- Beginning with the 2007 grant cycle, MiCorps has set aside a portion of the annual VSMP funding as “seed money” for newly forming volunteer monitoring groups each year. Under this initiative, applicants may apply for a one year “start-up” grant to receive a small amount of funding to allow them to begin the process of starting a monitoring program. Start-up groups are given full access to MiCorps training and MiCorps staff expertise and are encouraged to submit an application for a full grant the next year.
- Since 2005, a total of 31 full grants and 18 start-up grants have been awarded under the VSMP, totaling more than \$391,000 in grant funding to award recipients. A total of eight groups received grants under the VSMP during the 2012 grant cycle, including four full grants and four start-up grants (Appendix A).
- From a programmatic perspective, over 525 stream sites, each of which is 300 feet long, are being sampled by groups that have received VSMP funding since the program’s inception.
- All of the data obtained through the VSMP is available on MiCorps’ web-based Data Exchange platform (www.micorps.net).

Cooperative Lakes Monitoring Program (CLMP)

- The CLMP, formerly known as the Self-Help program, started in 1974 and is one of the nation's longest running lake monitoring programs. It was brought under the MiCorps umbrella upon creation of MiCorps in 2004.
- Administering and supporting the CLMP requires a combination of different skills. MLSA, under contract with GLC, is the public front for the CLMP and handles volunteer registration and equipment distribution. MiCorps staff from the DEQ, HRWC, and Michigan State University provide technical support, quality control, and training for the volunteers. The GLC maintains the MiCorps website, online registration, and the Data Exchange, where the data are stored.
- The CLMP enables volunteers to measure several parameters that indicate the trophic (a.k.a. nutrient or productivity) status of the lake: secchi disk transparency, total phosphorus, chlorophyll *a*, and dissolved oxygen and temperature.
- Total phosphorus and chlorophyll samples are sent to the DEQ water quality laboratory for analysis after volunteers collect them.
- The CLMP also offers training and field support in aquatic plant surveying and invasive aquatic plant monitoring and identification.



Left: Some young volunteers help their parents collect samples for the aquatic plant survey. Photo Credit: Paige Filice



Right: CLMP volunteer, Dr. Thomas Tisue, demonstrates a Secchi disk measurement on Duck Lake. Photo Credit: Krystyna Neuman

- The CLMP strictly follows a QAPP (quality assurance project plan) that guides the program in maintaining consistent and accurate data collection.
- MiCorps staff hold a training event in CLMP monitoring procedures on an annual basis, prior to the beginning of the field season. The training is mandatory for all new participants in order to maintain the program's data quality standards.
- The Volunteer Mentor Program, an initiative started in 2009, matches up experienced volunteers with new volunteers who need additional assistance.
- DEQ Water Bureau staff randomly sample approximately 10% of the enrolled lakes each year to compare the trophic measurements made by limnology experts against volunteer measurements. Results have shown that there is a very high level of agreement between volunteer and expert measurements. Volunteer samples show a 90% agreement with DEQ staff samples (based on R^2 correlation values) for total phosphorus and for chlorophyll *a* samples. The difference is more reflective of a slight difference in methods than in volunteer sampling error.
- In 2012, 223 lakes were enrolled in the CLMP (Appendix B). This number has held steady over the past several years of monitoring. A short summary of 2012 results are located in Appendix C.
- All of the data are available in the CLMP annual reports found on the project webpage (www.micorps.net/lakereports) and are located in the web-based Data Exchange platform. The 2012 annual report for the CLMP will be available online in early 2013.

Volunteer River, Stream, and Creek Cleanup Program (VRSCCP)

- Each year, approximately \$25,000 is made available to Volunteer River, Stream, and Creek Cleanup Program (VRSCCP) grant recipients through a competitive grant application process. The purpose of these grants is removal of trash and man-made debris from rivers and streams and along their banks. Local units of government are eligible to receive funding and may work with nonprofit organizations or other volunteer groups to implement volunteer cleanup efforts on water bodies around the state.
- The VRSCCP first began in 1998, and though it is not a direct part of the MiCorps initiative, the administration of this program was brought under the MiCorps support contract upon its creation in 2004.
- Funding for this program is provided by citizen donations collected from the sale of Michigan's Water Quality Protection License Plates under Public Act 74 of 2000 for water quality protection in Michigan Great Lakes, inland lakes, rivers, and streams.



2012 VRSCCP grant recipient, the Hillsdale Conservation District, removed a large amount of debris from the St. Joseph River with assistance from local volunteers and property owners along the river. Engaging volunteers in their own watershed is a great way to foster a sense of ownership and stewardship for years to come. Photo Credit: Hillsdale Conservation District



Grant recipients are encouraged to engage youth and community groups, such as the Ann Arbor YMCA Youth Volunteer Corps, who participated in the 2012 A2 Huron River Cleanup. Volunteer recruitment and participation is a critical part of the program. Photo Credit: City of Ann Arbor Canoe Livery

- GLC staff assist the DEQ in publicizing the grant program, hosting and maintaining the VRSCCP website (www.glc.org/streamclean), maintaining an online grant application system, and providing additional resources and assistance for project coordinators. Each year, staff also review applications for the grant program - in consultation with DEQ staff - and administer these grants to the award recipients.
- Since 2005, 107 grants totaling greater than \$214,000 have been awarded to recipients around the state under the VRSCCP. During the 2012 grant cycle, 13 clean-up projects were awarded grants totaling \$26,517 in project funds (Appendix D).

MiCorps Program Marketing and Promotion

- In order for the MiCorps program to succeed, the MiCorps staff needs to continually spread the word about what MiCorps does. Program promotion is an ongoing and essential component of the MiCorps program.
- The MiCorps webpage has a wealth of information explaining the program to newcomers, including a glossy program brochure which is available from the website and distributed at events.
- MiCorps staff regularly compose press releases and announcements of MiCorps events, products, and accomplishments.
- Certificates of recognition are presented to lake and stream volunteers each year to let them know that their contributions were appreciated. This recognition is important for volunteer retention as well as for recruiting new volunteers.
- MiCorps staff give presentations, lead discussions, and talk individually with a variety of groups and people in order to spread the word about MiCorps. Past events have included those hosted by the Michigan Association of Conservation Districts, the Stewardship Network, lake associations, Michigan Chapter of the North American Lake Management Society, DEQ staff, and other environmentally focused government and nonprofit groups.
- In 2010 and 2011, the CLMP team developed a series of fact sheets that give an overview of each parameter measured in the program.
- In 2011, MiCorps staff created two PowerPoint files (for VSMP and CLMP) that volunteer leaders can edit and use to make presentations of their own to their stakeholders and volunteers.



The 2012 MiCorps Volunteer Stream Monitoring Program start-up and full grant recipients with their Certificates of Recognition at the 2012 MiCorps Annual Conference.

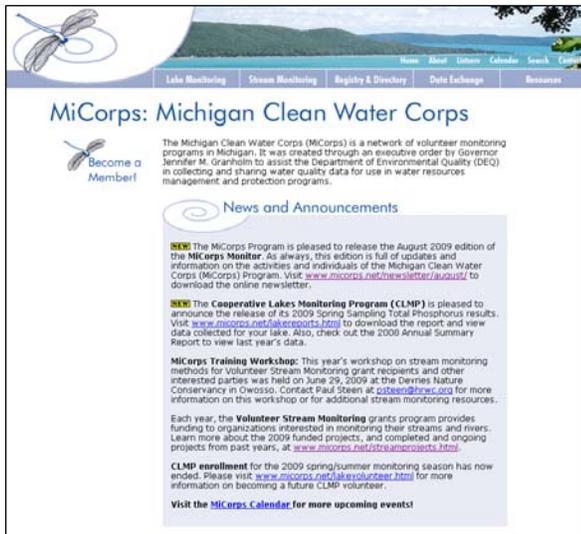
From left: Mike Jones, Benzie Conservation District; Melinda Otto, Yellow Dog Watershed Preserve; Jenny Doezeema, Kalamazoo Nature Center; Marvin LaGrew, Gogebic Conservation District (2011 grant recipient); Tom Thomson, White River Watershed Partnership (back row); Kelly Goward, Macatawa Area Coordinating Council; Suzanne Ebright, Calhoun Conservation District; Teri Grout, Alger Conservation District; and Dick Smith, Coldwater River Watershed Council. Photo Credit: Chauncey Moran

MiCorps Annual Newsletter

- MiCorps staff write and distribute an annual newsletter: *The MiCorps Monitor*. The purpose of the newsletter is to highlight MiCorps successes, member programs, exceptional volunteers, and important issues in the field of water monitoring.
- *The MiCorps Monitor* is an important part of program promotion. Specifically recognizing the successes of its member programs and highlighting volunteer commitments helps to earn program loyalty and attract new volunteers.
- The first issue, in paper format, was released in March 2005. Starting in April 2009, the paper newsletter was converted to an electronic web-based newsletter format that was distributed via email and housed on the MiCorps website.
- The annual edition for the 2011-2012 program year was released in September 2012 and contained several detailed articles, notably "Finding the Elusive Volunteer" and "39 Years of the Cooperative Lakes Monitoring Program."

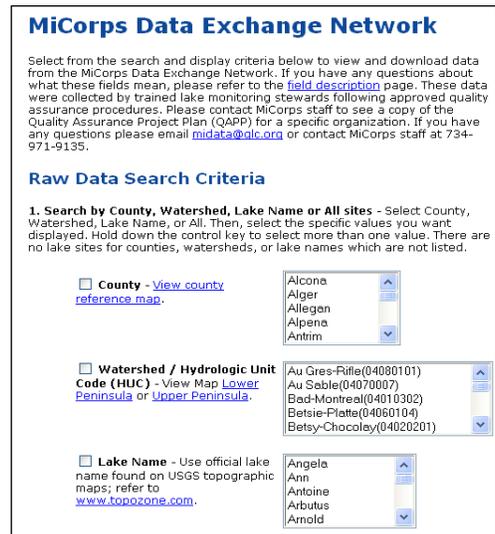
MiCorps Website and Data Exchange Platform

- The MiCorps website (www.micorps.net) is an essential tool used to support the work done through the VSMP and CLMP programs, and to provide resources to volunteer monitoring groups around the state.
- The website plays an important role in many ways as it:
 - Informs people about the MiCorps program and how they can become involved.
 - Serves as a location to place announcements and upcoming events.
 - Serves as a repository for a wide variety of educational resources, documents, and forms used by MiCorps staff and volunteer coordinators.
 - Allows volunteers to subscribe to one of two MiCorps listservs. These email lists allow MiCorps staff to send announcements quickly to a large group and facilitate broader email discussions on a variety of volunteer monitoring topics.
 - Holds a directory of MiCorps member organizations and volunteer monitoring groups statewide.
 - Serves as the data entry and data search interface for the MiCorps Data Exchange, the database used to store all volunteer collected data.
 - Facilitates online registration in the CLMP program and online MiCorps Conference registration.
 - Enables grant applicants to submit applications electronically via the VSMP and VRSCCP online application systems.



Left: A screen shot of the home page at www.micorps.net

Right: The MiCorps Data Exchange offers a variety of ways to search for volunteer collected lake and stream data.



- The MiCorps web-based Data Exchange platform (www.micorps.net/data/) provides online access to volunteer monitoring data through a searchable database. The Data Exchange houses monitoring data collected by MiCorps member organizations, which follow rigorous quality assurance standards and operating procedures criteria.
- The MiCorps Data Exchange holds all of the data collected by the CLMP and Self-Help program, from 1974 to the present.
- All stream groups that receive a grant through the VSMP are required to enter their habitat and macroinvertebrate data into the Data Exchange.
- An optional user survey in the Data Exchange allows program staff to better understand how MiCorps data are being used. The results from the 2011-2012 program year are provided in Appendix E.
- The project team maintains a separate website for the VRSCCP (www.glc.org/streamclean).

MiCorps Annual Volunteer Monitoring Conference

- Every October from 2005 through 2012, MiCorps has held a two-day conference at the Ralph A. MacMullan Conference Center on Higgins Lake.
- The main purpose behind the annual conference is to bring volunteers and professionals together to share ideas, network, and learn about new innovations in monitoring. The conference is also a great way to attract new people and explain what MiCorps is and what it is doing.
- The MiCorps staff holds free training on advanced monitoring topics on the afternoon of the first day of the conference. Previous sessions have included workshops on aquatic macroinvertebrate collection and identification, stream flow measurements, mussel biology and identification, and aquatic plant identification. The purpose of these trainings is to give MiCorps volunteers more advanced exposure to methods than what they received at the introductory trainings earlier in the year.



Participants at the 2012 MiCorps Annual Conference learn how to identify riparian and aquatic plants from Michigan DEQ expert, Todd Losee.
Photo Credit: Paige Filice



Following the evening group discussion on volunteerism, participants at the 2011 MiCorps Annual Conference enjoy some informal networking over a game of cards. Photo Credit: Laura Kaminski

- The second day of the conference is comprised of presentations and discussions led by MiCorps staff, an invited keynote speaker, leaders of volunteer monitor groups, and active volunteer monitors.
- Keynote speakers at the past conferences have been:
 - 2005: Gary Kohlhepp and Ralph Bednarz, Water Bureau, Michigan DEQ
 - 2006: Dr. Michael Wiley, Aquatic Ecology Professor, University of Michigan
 - 2007: Pete Jackson, Volunteer Monitoring Coordinator, U.S. EPA Midwest Region
 - 2008: Linda Green, USDA-Cooperative State Research, Education, and Extension Service, Volunteer Monitoring Network
 - 2009: Dr. Bryan Burroughs, Michigan Trout Unlimited
 - 2010: Dr. Alan Steinman, Annis Water Resources Institute
 - 2011: Michigan Natural Features Inventory (various staff members)
 - 2012: Steve Noble, Enbridge Response Unit, Michigan DEQ
- Participants always note in conference evaluations that they enjoy hearing from other volunteers. Starting with the 2008 conference and continuing since, most of the breakout sessions are led by MiCorps members rather than MiCorps staff. These breakout sessions involve volunteers and water professionals sharing monitoring results and data, as well as ideas they have used to enhance their monitoring programs.

MiCorps Advisory Panel and Stakeholder Feedback

- The advisory panel is responsible for advising MiCorps staff and DEQ members on the development of the MiCorps program and suggesting improvements to make the program more effective and sustainable. The advisory panel is composed of VSMP and CLMP program leaders and volunteers, many of whom are water or science professionals.
- At the October 2012 MiCorps conference, the advisory panel session met with MiCorps staff and the program's DEQ representative. MiCorps staff presented a short list of proposed new monitoring parameters for the program and asked for feedback as to whether these parameters would work with the MiCorps program. The advisory group was composed of 36 people, and was a mix of lake volunteers, stream volunteers, and leaders of stream groups (e.g. watershed council and conservation district employees). A summary of the feedback received from the advisory panel is included in Appendix F.
- Additionally, MiCorps conference attendees are asked to fill out evaluations of the conference, suggest possible conference topics for future years, and give their opinions on how MiCorps can be improved. A summary of these evaluations is also included in Appendix F.



The advisory panel discussed possible new monitoring parameters at the 2012 MiCorps Annual Conference. Photo Credit: Jason Frenzel



Dina Klemans, Chief of the Surface Water Assessment Section at Michigan DEQ, discusses past successes and future directions for the MiCorps program at the 2012 MiCorps Annual Conference. Photo Credit: Chauncey Moran

The MiCorps Horizon - Future Directions

- The MiCorps staff is working on developing and implementing two new monitoring parameters, one for the VSMP and one for the CLMP, with corresponding educational documents, training, and data exchange support. In 2010, MiCorps staff developed a list of possible parameters and shared it with DEQ staff and MiCorps steering committee members. In 2012, MiCorps staff reduced this list to the most promising parameters and presented it to the advisory panel of MiCorps volunteers and water professionals. From their feedback (summarized in Appendix F), MiCorps staff developed a proposal and have submitted it to DEQ management for approval.
- Program Promotion: A new brochure is being developed for the VSMP.

Summary of Program Funding

From 2004 to 2012, DEQ has awarded funding to the GLC in the amount of \$1,874,683 to develop and implement MiCorps. By the end of September 2012, over \$455,000 of these funds had been disbursed to local grant recipients in support of volunteer programs and cleanup activities around the State. A significant amount of additional funding was also spent to train these grant recipients and other volunteers in sampling techniques to implement quality data collection programs for both lakes and streams. As current open projects are completed over the next two years, it is expected that an additional \$107,000 in grant funds from the current support contract will be paid out to grantees to complete their approved project work.

All VSMP and VRSCCP grants awarded under MiCorps, with the exception of VSMP start-up grants, require a local match of at least 25% of the total project cost. Yet grantees have often exceeded this requirement to fully achieve their project objectives. As a result, it is estimated that the grant funds provided by DEQ over the last seven years have leveraged an additional \$627,544 in resources to support the volunteer water quality activities in Michigan. Enrollment fees - also considered local match - in the amount of \$204,204, have also been contributed by CLMP participants during the last eight years. With these resources allocated toward the monitoring and improvement of Michigan's rivers and streams, MiCorps has made significant strides toward the preservation and protection of Michigan's water resources through volunteer action.

The following is an estimated summary of program costs supported by DEQ funding from October 2011 through September 2012 for each major program element, as outlined in this report. Not all program funds obligated to the GLC and its contractors for this contract period have been utilized to date, nor have all grant funds awarded to VSMP and VRSCCP grant recipients during this period been disbursed.

MiCorps Support Contract Expenditures for the Period October 2011 – September 2012

Program Task	Estimated Cost
Volunteer Stream Monitoring Program (VSMP):	\$81,121
Cooperative Lakes Monitoring Program (CLMP):	\$51,352
Volunteer River, Stream, and Creek Cleanup Program (VRSCCP):	\$40,267
MiCorps Program Marketing and Promotion:	\$6,754
MiCorps Annual Newsletter:	\$7,214
Website and Data Exchange Platform:	\$16,285
MiCorps Annual Volunteer Monitoring Conference:	\$20,329
MiCorps Advisory Panel:	\$925
MiCorps Future Directions:	\$3,946
Total DEQ Program Cost:	\$228,193
Estimated Local Match Committed:	\$146,321 *

* Excludes match contributed by the GLC, HRWC, and MLSA.

Appendix A – New, Ongoing, and Recently Closed VSMP Grants

New Full Grants Awarded in 2012

1

Grant #: VSM2012-1

Grantee: Benzie Conservation District

Title: Benzie Watersheds Volunteer Stream Monitoring Project

Watershed(s): Betsie River, Platte River, and Herring Lakes

Funding Amount: \$11,871

Project Duration: 2012-2014

The Benzie Conservation District seeks to continue its leading role in the critical job of monitoring and protecting its precious water resources by educating and engaging Benzie County residents in monitoring activities, while giving them a greater sense of stewardship. Specifically, volunteers will monitor stream health in the three major watersheds of Benzie County, establish baseline conditions, and monitor deterioration or improvements over time. The District also plans to identify or verify problem areas where degradation has occurred and remediation or best management practices can be implemented.

2

Grant #: VSM2012-2

Grantee: Macatawa Area Coordinating Council

Title: Volunteer Monitoring for Water Quality Improvement in the Macatawa Watershed

Watershed(s): Macatawa Watershed

Funding Amount: \$12,236.46

Project Duration: 2012-2014

The Macatawa Area Coordinating Council wishes to establish a long-term volunteer stream monitoring program to assess water quality trends over time in the Macatawa Watershed. The Council will continue its training and water quality data collection with volunteers at their seven established stream locations to assess the effects of sedimentation, flashiness, temperature extremes, and excessive nutrients on macroinvertebrates and stream habitat. With this project, the Council hopes to achieve a solid stream quality data set for the Macatawa Watershed and establish a long-term local volunteer effort to protect and manage water resources in their watershed.

3

Grant #: VSM2012-3

Grantee: Kalamazoo Nature Center

Title: Macroinvertebrate Monitoring in the Kalamazoo River Watershed

Watershed(s): Kalamazoo River

Funding Amount: \$11,997

Project Duration: 2012-2014

The primary goals of the project are to establish a volunteer water quality monitoring program that will connect students and citizens of Kalamazoo with the Kalamazoo River Watershed. This project will also help educate the public about local water issues and create a greater number of committed clean water stewards. The Kalamazoo Nature Center hopes to reach new community members each year to continually grow the number of citizens interested in the health of their watershed while improving and alleviating human impacts. Volunteers will be monitoring seven sites that will cover a diverse habitat spectrum in both rural and urban settings and assist in tracking improvements or pollution that may exist.

4

Grant #: VSM2012-4

Grantee: Yellow Dog Watershed Preserve

Title: Salmon-Trout River Volunteer Stream Monitoring Project

Watershed(s): Salmon-Trout River

Funding Amount: \$7,465.50

Project Duration: 2012-2014

The Yellow Dog Watershed Preserve will utilize this project to initiate a local volunteer monitoring project that will generate data for the Salmon-Trout River in the Upper Peninsula that can be used to address environmental issues that are important to the community and to the State of Michigan. By establishing a trained monitoring team, the aquatic resources and the community will have better capacity to mitigate negative impacts from point and non-point sources of contaminants. The YDWP also hopes to increase awareness about the project and engage the community, generate high quality data from eight sites along the watershed that can be added to the existing baseline data, and reduce potential impacts for contaminants through informed decision making.

New Start-up Grants Awarded in 2012

5

Grant #: VSM2012-5

Grantee: White River Watershed Partnership

Title: Upper White River Watershed

Watershed(s): Cobmossa Creek

Funding Amount: \$1,600

Project Duration: 2012-2014

This startup grant will assist in the development of a monitoring program to be piloted in Cobmossa Creek in Oceana County. Through this effort, the project team intends to train enough volunteers to initially monitor one tributary for a period of three years and then begin to build the necessary expertise and community interest and support to expand the monitoring program to other parts of the watershed over time. Goals for the project include the establishment of benchmarks and the evaluation of changes to habitats and macroinvertebrate populations over time following culvert replacements and other habitat improvements, or degradation from land and water use changes. Participation by volunteers, including educators and community leaders, will help to raise awareness of the need for habitat and water quality protection.

6

Grant #: VSM2012-6

Grantee: Coldwater River Watershed Council

Title: Coldwater River Monitoring Program

Watershed(s): Coldwater River (a tributary of the Thornapple River)

Funding Amount: \$2,170

Project Duration: 2012-2014

This startup project is intended to fund the development of a monitoring plan for the Coldwater River, a tributary to the Thornapple River. Other project efforts will include leading an educational program on the benefits of and improvements to the River, involving schools, parents, teachers and riparian landowners; and the completion of a detailed inventory of erosion sites along the riparian corridor of the Coldwater River mainstream, as well as Duck and Tyler Creeks. Over time, the project team hopes to recover and restore the River to a safe and functional recreational asset for the burgeoning West Michigan population.

7

Grant #: VSM2012-7
Grantee: Calhoun Conservation District
Title: Wilder Creek Watershed Volunteer Stream Monitoring Program
Watershed(s): Wilder Creek (a tributary of the Kalamazoo River)
Funding Amount: \$2,990
Project Duration: 2012-2013

This startup grant is intended to help initiate a monitoring program for the Wilder Creek watershed at several different locations from its headwaters to its drainage point. This effort will include meetings with the principal investigators, attending an established group's monitoring event, developing an outreach plan, and developing a full stream grant proposal for a future funding cycle. In addition, the project team plans to further gauge community interest in other area stream monitoring projects and plan for future volunteer training for those groups as well.

8

Grant #: VSM2012-8
Grantee: Alger Conservation District
Title: Alger Waters Monitoring Team Development Project
Watershed(s): Bohemian Creek and Slapneck Creek
Funding Amount: \$2,929
Project Duration: 2012-2013

This startup grant will fund the development of a monitoring plan for Bohemian Creek and Slapneck Creek in western Alger County in the Upper Peninsula. This project will help to: fill a void that exists in monitoring data for western Alger County streams; build a sustainable and dedicated volunteer base that will not only gather baseline data but provide a consistent and credible data stream in the future; and provide a workable volunteer program template which can be transferred for use in other key watersheds in the county. In addition, this effort will help prioritize future restoration activities within the watershed.

Ongoing grants from past award cycles

9

Grant #: VSM2011-1
Grantee: Cannon Township
Title: Macroinvertebrate Study on Bear Creek
Watershed(s): Bear Creek, Grand River (Michigan)
Funding Amount: \$13,556.81
Project Duration: 2011-2013

Cannon Township wishes to address macroinvertebrate stream health on Bear Creek for the purpose of comparing it to similar studies done in the early 1990s and to track any changes that may occur in the future related to increased development. Cannon Township and its volunteers will sample benthic macroinvertebrates and conduct a habitat survey at five sites on Bear Creek from Fall 2011 through Spring 2013. Grant funds will assist with the cost of implementing the volunteer-based stream study program.

10

Grant #: VSM2011-3
Grantee: Gogebic Conservation District
Title: Gogebic Conservation District Volunteer Stream Monitoring
Watershed(s): Presque Isle and Black River Watersheds (Michigan)
Funding Amount: \$8,975
Project Duration: 2011-2013

This project provides an opportunity for the Gogebic Conservation District to initiate a program to collect meaningful data on habitat and macroinvertebrates in the Presque Isle Watershed (specifically the Black River and tributaries). The data collected will enable regulatory agencies to make informed decisions when considering watershed management practices; create a baseline; track significant changes; and prioritize stream projects accordingly. In total, seven sites will be monitored: six on Black River tributaries and one on the Black River main branch.

11

Grant #: VSM2011-4

Grantee: Clinton River Watershed Council

Title: Adopt-a-Stream Monitoring Expansion Project

Watershed(s): Clinton River Watershed

Funding Amount: \$1,350

Project Duration: 2011-2013

The overall goal of this project is to add to the Clinton River Watershed Council's current efforts to develop and maintain a long term assessment of stream health, and increase stewardship and awareness of our freshwater resources throughout our local communities. This funding will support the addition of six new monitoring locations to their existing Adopt-A-Stream program to gather information about stream habitat and macroinvertebrate communities, and enable CRWC to recruit local civic and conservation groups to help monitor in the Clinton River Watershed.

12

Grant #: VSM2010-3

Grantee: Flint River Watershed Coalition

Title: Flint River Watershed Coalition 2010 Retraining, Recruitment, Retention, and Assessment Program

Watershed(s): Flint River (Michigan)

Funding Amount: \$10,111.55

Project Duration: 2010-2013

The ultimate goal of the MiCorps Volunteer Stream Monitoring Grant is to expand and strengthen the monitoring program to the point that comprehensive stream habitat data for the Flint River Watershed may be adequately collected. Funding is being provided to strengthen the Coalition's existing program and to coordinate monitoring at more than 30 sites within the Flint River watershed to track the long-term health of the system.

Grants completed during the 2011-2012 Program Year

1

Grant #: VSM2011-6

Grantee: Tip of the Mitt Watershed Council

Title: Expanding Volunteer Monitoring to the Maple and Sturgeon Rivers

Watershed(s): Maple and Sturgeon Watersheds (Michigan)

Funding Amount: \$9,351.66

Project Duration: 2011-2012

Final Report: Available on MiCorps website.

The overall goal of this project was to protect the water quality and aquatic ecosystem integrity of the Maple and Sturgeon Rivers through biological monitoring of aquatic macroinvertebrate populations. The Tip of the Mitt Watershed Council Volunteer Stream Monitoring program was expanded to include four additional sites on each of these rivers, which resulted in the collection of additional baseline water quality data. Monitoring included macroinvertebrate collection identified to the family level and habitat assessment. The Miller Van Winkle chapter of Trout Unlimited partnered with Tip of the Mitt by providing volunteer support for monitoring these rivers.

2

Grant #: VSM2011-10

Grantee: Kalamazoo Nature Center

Title: Planning Benthic Macroinvertebrate Monitoring in the Kalamazoo River Watershed

Watershed(s): Kalamazoo River Watersheds (Michigan)

Funding Amount: \$3,000

Project Duration: 2011-2012

Final Report: Available on MiCorps website.

This startup grant helped the Kalamazoo Nature Center plan for a stream monitoring program on the Kalamazoo River. The Kalamazoo Nature Center obtained a full grant in 2012.

3

Grant #: VSM2011-11

Grantee: Mason-Lake Conservation District

Title: Upper Hamlin Lake Watershed Stream Monitoring Project

Watershed(s): Hamlin Lake and the Big Sable River Watersheds (Michigan)

Funding Amount: \$2,988

Project Duration: 2011-2012

Final Report: Available on MiCorps website.

This startup grant funded the development of a program to monitor several creeks and small tributaries which flow into Hamlin Lake and the Big Sable River. The Mason-Lake Conservation District had a hard time getting interest among citizens and decided not to apply for a full grant in 2012.

4

Grant #: VSM2011-7

Grantee: Macatawa Area Coordinating Council

Title: Developing a Volunteer Stream Monitoring Program in the Macatawa Watershed

Watershed(s): Macatawa Watershed

Funding Amount: \$2,980.48

Project Duration: 2011-2012

Final Report: Available on MiCorps website.

This startup project funded the efforts of the Macatawa Area Coordinating Council in developing a long term volunteer stream monitoring program to assess water quality based on the health of stream macroinvertebrates and stream habitat throughout the Macatawa Watershed. The Macatawa Area Coordinating Council obtained a full grant in 2012.

5

Grant #: VSM2011-8

Grantee: Cass River Greenway Committee

Title: Cass River Water Study

Watershed(s): Cass River Watershed

Funding Amount: \$1,033

Project Duration: 2011-2012

This startup grant funded the development of a long-term macroinvertebrate monitoring program in the Cass River. The group had a hard time coming together and decided to not pursue a full grant in 2012.

6

Grant #: VSM2011-9
Grantee: Lake Leelanau Lake Association
Title: Volunteer Stream Monitoring Program: Start-Up
Watershed(s): Lake Leelanau area streams
Funding Amount: \$2,500
Project Duration: 2011-2012

This startup grant assisted in the effort to increase volunteer participation, educate volunteers on identification and the ecological significance of macroinvertebrates in determining stream quality, and measure the effectiveness of watershed improvement projects conducted under the group's watershed protection plan. The Lake Association applied for a full grant in 2012 but did not receive it due to the group's limited geographic scope as compared to competing applications.

7

Grant #: VSM2010-1
Grantee: Michigan Trout Unlimited
Title: Monitoring on the Kalamazoo, Rogue, AuSable, and Pilgrim River
Watershed(s): Kalamazoo, Rogue, AuSable, and Pilgrim River Watersheds (Michigan)
Funding Amount: \$17,562
Project Duration: 2010-2012

The overall goal of this project was to monitor the health of coldwater streams in Michigan by establishing baseline data and then monitoring the streams for changes. Monitoring involved 14 sites in the Kalamazoo, Rogue, AuSable, and Pilgrim River watersheds and included habitat and macroinvertebrate assessments. In addition, MITU developed a coldwater database which included MiCorps data and data from other MITU monitoring efforts.

8

Grant #: VSM2010-2
Grantee: Branch County Conservation District
Title: Coldwater River Stream Monitoring Program
Watershed(s): Coldwater River (Michigan)
Funding Amount: \$15,403.81
Project Duration: 2010-2012

Branch County Conservation District monitored ten sites within the Hodunk-Messenger Chain of Lakes watershed, a subwatershed of the Coldwater River, in order to document the extent and locations of possible threats and impairments in the watershed, establish a baseline for quantifying changes, and foster a stewardship ethic among watershed residents. Results from the proposed study were used to inform the community and leverage further efforts to protect the watershed.

Appendix B – CLMP Participation

The following 223 lakes were registered for the 2012 season of the CLMP.

Lake	County
Allen	Gogebic
Angelus	Oakland
Ann	Benzie
Antoine	Dickinson
Arbutus	Grand Traverse
Arnold	Clare
Barlow	Barry
Barton	Kalamazoo
Bass	Kalkaska
Beaton	Gogebic
Bear	Kalkaska
Bear	Manistee
Beaver	Alpena
Bellaire	Antrim
Big Lake	Osceola
Big Pine Island	Kent
Big Twin	Kalkaska
Bills	Newaygo
Bills (Waits)	Newaygo
Birch (Fallon)	Cass
Birch (Temple)	Cass
Blue (Chancellor)	Mason
Blue	Kalkaska
Blue	Mecosta
Blue Herron Lagoon	Wayne
Bostwick	Kent
Bradford (Big)	Otsego
Bradford (Little)	Otsego
Brevoort	Mackinaw
Brooks	Leelanau
Brown	Jackson
Bruin	Washtenaw
Byram	Genesee
Canadian (Main)	Mecosta
Canadian (West)	Mecosta
Cedar	Alcona/Iosco
Cedar	Leelanau
Cedar	Van Buren
Center	Osceola
Chabenau	Marquette
Chain	Iosco

Lake	County
Clark	Jackson
Clear	Jackson
Clear	Ogemaw
Chemung	Livingston
Christiana	Cass
Clam	Antrim
Clifford	Montcalm
Cobb	Barry
Coldwater	Branch
Cora	Van Buren
Corey	St. Joseph
Cranberry	Oakland
Crockery	Ottawa
Crooked	Kalamazoo
Crooked	Kalkaska
Crooked (Big)	Kent
Crooked (Upper)	Barry
Crystal	Benzie
Crystal	Montcalm
Crystal	Oceana
Cub	Kalkaska
Deer	Alger
Deer	Oakland
Derby	Montcalm
Devils	Lenawee
Diamond	Cass
Dinner	Gogebic
Duck	Calhoun
Duck	Gogebic
Duck	Muskegon
Duncan	Barry
Eagle	Allegan
Eagle	Cass
Eagle	Kalkaska
Earl	Livingston
Emerald	Kent
Emerald	Newaygo
Evans	Lenawee
Fair	Barry
Farwell	Jackson
Fenton	Genesee

Lake	County
Fish	Van Buren
Fisher (Big)	Leelanau
Fisher's	St. Joseph
Fremont	Newaygo
Freska	Kent
Gallagher	Livingston
George	Clare
Glen (Big)	Leelanau
Glen (Little)	Leelanau
Gratiot Lk. Con.	Keweenaw
Gravel	Van Buren
Gull	Kal/Barry
Hamburg	Livingston
Hamlin - Lower	Mason
Hamlin - Upper	Mason
Hannah Webb	Iron
Harper	Lake
Hawk	Oakland
Hicks	Osceola
High	Kent
Higgins (South)	Roscommon
Higgins (North)	Roscommon
Horsehead	Mecosta
Houghton (site #1)	Roscommon
Houghton (site #2)	Roscommon
Hubbard	Alcona
Hunter	Gladwin
Hutchins	Allegan
Independence	Marquette
Indian	Kalkaska
Indian	Kalamazoo
Indian	Osceola
Island	Grand Traverse
James	Roscommon
Juno	Cass
Kelsey	Cass
Kelsey (Big)	Cass
Kimball	Newaygo
Klinger	St. Joseph
Lakeville	Oakland
Lancer	Gladwin

Lake	County
Lancelot	Gladwin
Leelanau (North)	Leelanau
Leelanau (South)	Leelanau
Little Island	Iosco
Little Long	Kalam/Barry
Little Twin	Kalkaska
Long	Gogebic
Long	Iosco
Long	Oakland
Maceday/Lotus	Oakland
Magician	Cass
Marl	Genesee
Mary	Iron
Mary	Dickinson
Margrethe	Crawford
Maston	Kent
Maynard	Alcona
Mecosta	Mecosta
Middle Straits	Oakland
Moon	Gogebic
Murray	Kent
Muskellunge	Kent
Muskellunge	Montcalm
Muskoday	Wayne
Nepessing	Lapeer
North Blue	Kalkaska
North Buckhorn	Oakland
Ore	Livingston
Orion	Oakland
Osterhout	Allegan
Oxbow	Oakland
Painter	Cass
Papoose	Kalkaska
Park	Clinton
Parke	Oakland
Paw Paw (Little)	Berrien

Lake	County
Payne	Barry
Pentwater	Oceana
Perch	Iron
Perrin	St. Joseph
Pickerel	Kalkaska
Pickerel	Newaygo
Platte (Big)	Benzie
Pleasant	St. Joseph
Pleasant	Washtenaw
Pleasant	Wexford
Portage	Livingston/Wash
Posey	Lenawee
Pretty	Mecosta
Puterbaugh	Cass
Randall	Branch
Rifle	Ogemaw
Robinson	Cass
Round	Lenawee
Round	Jackson
Round	Livingston
Round	Mecosta
Sand	Lenawee
Sanford	Benzie
Sanford	Midland
School Section	Mecosta
Sherman	Kalamazoo
Shinanguag	Genesee
Shingle	Clare
Silver	Genesee
Silver	Van Buren
Silver (Green Oak)	Livingston
Silver	Oceana
South Bar	Leelanau
Spider	Grand Traverse
Squaw	Kalkaska
Starvation	Kalkaska

Lake	County
Stoneledge	Wexford
Stony	Oceana
Strawberry	Livingston
Sturgeon	St. Joseph
Sweezey	Jackson
Sylvan	Newaygo
Tahoe	Oceana
Taylor	Oakland
Torch (South)	Antrim
Cascade Imp.	Kent
Triangle	Livingston
Twin (Big-North)	Cass
Twin (Little-South)	Cass
Twin (East)	Montmorency
Twin (West)	Montmorency
Upper Herring	Benzie
Upper Long	Oakland
Van Etten	Iosco
Vaughn	Alcona
Viking	Otsego
Vineyard	Jackson
Webinguaw	Newaygo
White	Oakland
Wildwood	Cheboygan
Windover	Clare
Woods	Kalamazoo
Zukey	Livingston
Templene	St. Joseph

Appendix C – CLMP Data Summary

The following data are a summary of the measurements taken during the 2012 CLMP field season.

Secchi Disk Transparency

- 221 basins were sampled.
- Total number of measurements = 2,986
- Transparency data summary:
 - Transparency range: 2-46 feet
 - Mean: 13.1 feet
 - TSI_{SD}*: 27-59 (average: 41)

*For more information on TSI measurements, please see the CLMP annual reports at:
<http://www.micorps.net/lakereports.html>

Spring Total Phosphorus

- 150 lakes were sampled
- Data summary:
 - range: <5-46 ug/l
 - mean: 11.0 ug/l
- 25 QA/QC samples were taken.
 - 19 replicate samples
 - 2 side-by-side samples
 - 1 field blank
 - 1 equipment blank

Summer Total Phosphorus

- 191 lakes were sampled
- Data summary:
 - range: <5-74 ug/l
 - mean: 13.9 ug/l
 - TSI_{TP}: <27 - 70 (40.0 average)
- 31 QA/QC samples
 - 24 replicate samples
 - 3 side-by-side sample
 - 2 field blanks
 - 2 equipment blanks

Chlorophyll *a*

- 128 lakes were sampled
- 511 volunteer samples were analyzed.
- Data Summary:
 - range: <1-43.0 ug/l
 - mean: 3.8 ug/l
 - TSI_{CHL}: <24-60 (average: 41.0)
- 28 QA/QC samples
 - 14 replicate samples
 - 3 side-by-side samples

Dissolved Oxygen/Temperature

- 59 lakes were sampled throughout the summer.
- A total of 328 oxygen/temperature profiles were taken.
- Between 5-27 measurements were made for each profile.
- In total, 5152 oxygen/temperature measurements were taken in 2012.

Aquatic Plant ID and Mapping

9 lakes enrolled

Exotic Aquatic Plant Watch

25 lakes enrolled

Appendix D – New VRSCCP Grants

New Grants Awarded in 2012

1

Grant #: VRSCCP2012-1

Grantee: City of Charlotte

Title: 8th Annual River Cleanup Day

Watershed(s): Butternut Creek, Battle Creek River

Funding Amount: \$756

Final Report: Available upon request

To clean up and improve approximately 1.5 miles along Butternut Creek and 1 mile along the Battle Creek River within the City of Charlotte and to educate the public about the importance of such efforts.

2

Grant #: VRSCCP2012-2

Grantee: Missaukee Conservation District

Title: Missaukee/Muskegon Project

Watershed(s): Muskegon River

Funding Amount: \$2,130

Final Report: Available upon request

To clean up approximately 20 miles of the Muskegon River by removing trash and debris from the water and along the banks.

3

Grant #: VRSCCP2012-3

Grantee: City of Ann Arbor

Title: A2 Huron River Cleanups

Watershed(s): Huron River

Funding Amount: \$2,985

Final Report: Available upon request

To keep a 7-mile stretch of the Huron River free of trash throughout the summer season while building knowledge and understanding of the river and its ecosystem among groups of volunteers who will become stewards of the river now and in the future.

4

Grant #: VRSCCP2012-4

Grantee: Tuscola Conservation District

Title: 4th Annual Cass River Cleanup

Watershed(s): Cass River

Funding Amount: \$1,010

Final Report: Available upon request

To clean a 3-5 mile section of the river from the Bray Road Bridge to the dam in Vassar, removing trash, tires, and scrap metal.

5

Grant #: VRSCCP2012-5

Grantee: St. Joseph County Conservation District

Title: River Cleanup 2012

Watershed(s): Rocky, St. Joseph, Fawn, Prairie, Portage, and White Pigeon rivers

Funding Amount: \$5,000

Final Report: Available upon request

To implement the second year of a 5-year plan to clean 150 miles along the Rocky, St. Joseph, Fawn, Prairie, Portage, and White Pigeon rivers, cleaning roughly 35 miles in 2012.

6

Grant #: VRSCCP2012-6

Grantee: City of Battle Creek

Title: 2012 Global Citizens River Conservation Day

Watershed(s): Kalamazoo River

Funding Amount: \$1,500

Final Report: Available upon request

To promote the protection of the water resources within the Kalamazoo River watershed, promote the beauty of the water resource, encourage continued stewardship of the resource, and participate in an international cleanup effort through the removal of trash and discarded tires.

7

Grant #: VRSCCP2012-7

Grantee: Ingham Conservation District

Title: Sycamore Creek Cleanup

Watershed(s): Sycamore Creek

Funding Amount: \$1,250

Final Report: Available upon request

To carry out a cleanup along a 2-mile stretch of Sycamore Creek where it passes through the City of Mason, using canoes, kayaks, and waders during the fall of 2012.

8

Grant #: VRSCCP2012-8

Grantee: Shiawassee County Health Department

Title: 15th Annual Friends of the Shiawassee River Cleanup

Watershed(s): Shiawassee River

Funding Amount: \$1,970

Final Report: Available upon request

To remove anthropogenic sources of trash and debris from the mainstem of the Shiawassee River from Byron to Oakley, targeting rural areas and road/stream crossings for tires and large debris items.

9

Grant #: VRSCCP2012-9

Grantee: Hillsdale Conservation District

Title: The Maumee Watershed Monitoring Project - St. Joseph River System

Watershed(s): St. Joseph River

Funding Amount: \$1,790

Final Report: Available upon request

To target the Maumee's four primary river systems and 71 miles of flowing main stream water within Hillsdale County for a community cleanup to improve the quality of the waters and have a lasting positive impact on both them and their habitats.

10

Grant #: VRSCCP2012-10

Grantee: Barry Conservation District

Title: 17th Annual Thornapple River Cleanup

Watershed(s): Thornapple River

Funding Amount: \$1,750

Final Report: Available upon request

To remove all safely accessible trash from the water and along the banks along 85 river miles while recruiting volunteers from at least six watershed communities.

11

Grant #: VRSCCP2012-11

Grantee: Van Buren Conservation District

Title: River Rescue in the Paw Paw River

Watershed(s): Paw Paw River

Funding Amount: \$1,795

Final Report: Available upon request

To improve the water quality and vitality of local creeks, stream banks, and the health and biodiversity of critical wildlife populations and habitats by removing anthropogenic sources of trash and debris from approximately 20-39.5 miles of waterway, while raising environmental concerns and water quality issues with participants on a personal level.

12

Grant #: VRSCCP2012-12

Grantee: Grand Traverse Conservation District

Title: 8th Annual Boardman River Clean Sweep

Watershed(s): Boardman River

Funding Amount: \$1,281

Final Report: Available upon request

To conduct the 8th annual community-wide cleanup of the Boardman River in conjunction with the American Rivers' National River Cleanup 2012 and the National Cherry Festival, including river and bank trash pick-up of human induced trash along all navigable segments of the River totaling approximately 20 miles.

13

Grant #: VRSCCP2012-13

Grantee: City of Grand Rapids

Title: Mayors' Grand River Cleanup

Watershed(s): Grand River

Funding Amount: \$3,300

Final Report: Available upon request

To remove waste from the Grand River, promote water quality, and increase the region's aesthetic appeal, making the Grand River and its tributaries a safer and cleaner place for West Michigan residents and an inviting place for visitors.

Appendix E – Data Exchange User Survey Data

Results from an optional user survey in the Michigan Data Exchange (for 2012). These results show the different ways that MiCorps data is being used.

161 entries.

Academia or Educational: 44

Business: 10

Federal Agency: 1

Individual: 42

Lake Association or Homeowners Association: 40

Media: 1

Non-government Organizations: 8

Other Government: 3

State Agency: 12

Highlights:

Affiliation	Organization	Data Use
Academia	Annis Water Resources Institute - GVSU	To compare with in house data and other sources for the Duck Creek Watershed. Preparation of a 319 Watershed Management Plan.
Academia	Geography and Planning, Grand Valley State University	Just looking to see what's available on lake water quality
Academia	Indiana University Northwest	For Science Olympiad Water Quality event
Academia	Michigan State University	Outreach
Academia	Michigan Tech University	Working with high school students to analyze local stream data.
Academia	MSU Geography	Research
Academia	Ohio State University	Graduate research
Academia	Oregon State University	Graduate student research
Academia	Siena Heights University	Reference for labs
Academia	St. Cloud State University	Zebra Mussel Research Report
Academia	University of Michigan-Dearborn	Research project
Academia	United States Military Academy	Capstone Lab Project
Academia	University of Michigan	SNRE Master's Project
Academia	University of Michigan	Development of land use/TSI model
Academia	University of Washington	Graduate Research Project
Academia	University of Wisconsin-Stevens Point	Zebra mussel research
Academia	Western Michigan University	Master's Thesis
Business	CH2M HILL	To assist in performing a conceptual design of a new outfall to the Thornapple River.
Business	ECT	Reports
Business	Kieser & Associates	Research
Business	Lumenistics, LLC	Researching lakes in Michigan to understand their algae and muck status.
Business	Progressive AE	Providing water quality information to our clients
Business	Savin Lake Services	Trend Spotting

Business	West Michigan Shoreline Regional Development Committee	To develop sustainable/partnership/multi-disciplinary natural resource restoration and protection plans and projects in the Lake Michigan watershed.
Business	White Water Associates	Water Quality Report
Federal Agency	US Army Corps of Engineers	Supporting information for an environmental assessment
Individual		Monitoring lake quality and trends in response to concerns regarding stormwater runoff.
Individual		We want to see the quality of our streams thrive, and would like to monitor should events change the quality of the water....for example the recent exploratory mining on the shores of the Menominee River.
Individual		Checking for water quality before swimming
Individual		I live on Baseline Lake. Curiosity.
Individual		Personal fishing
Individual		To get a baseline for the Kalamazoo River prior to and during
Lake Assoc.	Blue Lake Association	Manage Blue Lake
Lake Assoc.	Blue Lake-Coldsprings Lake	Historical data to analyze health of lake
Lake Assoc.	Clifford Lake Improvement Assoc	Private information only
Lake Assoc.	Duck Lake Riparian Association	Checking on our sampling results and how we compare to other lakes
Lake Assoc.	Freska Lake Association	Historical records of lake quality
Lake Assoc.	Friends of Silver Lake	Monitoring Lake Quality
Lake Assoc.	Hamilton Lakes Association	To track the quality of our lakes.
Lake Assoc.	Indian Lake Association of Vicksburg	Report to membership
Lake Assoc.	Klinger Lake Association	Checking clarity of the lake
Lake Assoc.	Muskellunge lake Association	To present data at annual meeting.
Lake Assoc.	Sanford Lake Association	To compare Sanford Lake phosphorus levels over several years.
Lake Assoc.	Taylor Lake Homeowners Association	Checking the evolvement of the lake over time
Media	Mrgreatlakes.com	For a report on the monitoring program.
NGO	Indian Lake Association	Presentation to the Board of Directors
NGO	Marinette County Land & Water Conservation Division	Educational/informative purposes for schools
NGO	Mid-Michigan Environmental Action Council	Reviewing data with new interns
Other Gov't	Hamburg Township	General interest, water quality monitoring
Other Gov't	Ingham Conservation District	Research
Other Gov't	Jackson County Conservation District	Historical Data
State Agency	Department of Environmental Quality	Monitor for non-native and invasive species

Appendix F – Stakeholder Feedback

Summary of Feedback from the Advisory Panel Session (October 2012)

After a short introduction of each new monitoring parameter, the group was subdivided into teams to discuss the pros and cons of the proposed parameters. The teams were asked the following questions:

Breakout Team Questions
1. Can volunteers reliably collect this data?
2. Would this parameter engage volunteers? Does it seem fun and/or feel important?
3. Would the data produced from this parameter be useful for your management activities on a lake or stream? How?
4. Do you have any negative reactions against this parameter?
5. How would you change the proposed protocol so that it would work more effectively?

Following the team discussions, the teams reconvened into the larger group to give their reports to the MiCorps staff.

1) Bank erosion hazard index (BEHI) (Stream parameter)

The participants felt that this index would be helpful for their management of their stream resources. They liked how this is a parameter that the DEQ currently measures themselves, and how BEHI results could possibly be used to help them get additional grant monies from other sources. However, BEHI was criticized for being overly complex. It would require extensive training, and there was a valid concern that volunteers may not come back after being trained, thus wasting a lot of time and resources. There was agreement in the group that although the parameter had merit, it was not best suited for volunteer use.

2) Road/stream crossing inventory (Stream parameter)

The participants agreed that this parameter was straightforward, required little training, and could be performed by a wide variety of volunteers. The data was seen as useful for planning restoration projects. No negatives were raised by the group. The majority of the feedback from the participants was related to how they would like to see this parameter operate.

3) Nearshore temperature (Lake parameter)

The participants felt this parameter would be useful for the DNR to help formulate stocking rules and understand fish growth, but for lake homeowners the data would not provide value for lake management. Finally, because the protocol calls for a temperature logger to simply be put in the lake and later removed, the participants all agreed that the parameter was not very exciting and therefore would not engage volunteers.

4) Lake shoreline habitat assessment (Lake parameter)

Some participants believed the information developed for the parameter could potentially turn neighbors against each other, since some property owners would feel “judged” based on the assessment of their shoreline. However, most of the participants liked this parameter since it would produce valuable information for lake management goals. There seemed to be a high level of enthusiasm for this parameter among the participants who lived on lakes.

At the end of the advisory group meeting, MiCorps staff took a poll by show of hands as to which parameters were preferred overall. The road/stream crossing inventory (stream parameter) and the lake shoreline habitat assessment (lake parameter) were the clear winners.

Summary of Feedback from the 2012 MiCorps Annual Conference (October 2012)

42 respondents.

1) What is your overall rating of the conference?

Excellent: 20

Good: 17

Fair: 0

Poor: 0

2) How often do you attend this conference?

Every year: 13

Often: 5

Rarely: 3

First Time: 19

3) Will you be back next year?

Yes / I hope to: 30

No: 1

Undecided: 9

4) Did you have enough time to interact and network with other participants?

Yes: 33

No: 4

Additional Comments:

- Like the small group discussions and panels. Social time was valuable and gained a lot.
- So many new successes and comments.
- 1 hour after lunch for networking.
- Building in a little more networking time would be useful! So many questions.
- After-dinner meeting followed by networking is a good idea.
- Wish I had registration materials with contact info and bios on the first day when I attended workshops.
- Break us into regional groups for open discussion and collaboration opportunities.
- Perfect.

5) Were the conference facilities comfortable and appropriate?

Yes: 41

No: 1

Additional Comments:

- All okay except no heat in room so froze and didn't sleep Monday night.
- The rooms were cold (overnight lodging).
- Yes absolutely, the atmosphere maintains sense of place.

6) Is the MacMullan Conference Center on Higgins Lake convenient for you?

Yes: 40

No: 0

Additional Comments:

- Timing is good to counter MLSA Spring meeting.

Suggestions for other meeting locations:

- Somewhere in the Central UP: 2
- Ket Center

- Nice to be closer to UP than Lansing
- Kellogg Biological Station a possibility

7) For future conferences and training, do you prefer:

Weekday: 24

Weekend: 4

Doesn't matter: 14

8) How did you hear about the conference?

Letter: 2

Email: 30 (from: Paul and Laura - 1, MiCorps - 16, Kevin Cronk - 1, MACD - 1, Jo Latimore - 1, Heidi Frei - 1)

Postcard: 2

Other: 8

9) Were the conference presentations clear and relevant to your needs?

Yes: 35

No: 2

Additional Comments:

- The presentations were clear the speakers were easy to understand and I'm interested in accessing some of the power points online if possible.
- Nice variety. Useful to hear stories of other lakes.
- For the most part, some sessions were not as relevant considering we have not yet (we hope to) receive a monitoring grant. The introduction to MiCorps was most useful for my needs.
- Many were, but some highly specific details in presentations are of little use. Topics were interesting.
- Mark Janeczko: good information but presenter/presentation hard to follow. Are presenters vetted?
- Clear, often not relevant. Of course, I'm not sure how you would make these unique programs relevant to all.
- I personally prefer a smaller conference where the participants have genuine real-world problems and concerns.

10) Which topics were of greatest interest to you, or best responded to your needs?

- Monitoring the Effects of Human Impacts on Watersheds (13)
- Perspectives of Past and Present Stream Monitoring Grantees (12)
- Lake Monitoring for Human Disturbances (8)
- Enbridge/Kalamazoo River Update (8)
- National Lakes Assessment Survey in Michigan (7)
- MiCorps 101 (4)
- Insect ID (Monday training) (4)
- New Parameters Discussion (Monday evening) (3)
- Plants of Michigan's Lakes and Streams (Monday training) (3)
- All were interesting. Great speakers. People with passion, people that volunteer, are the best. They love what they are doing.

11) If you attended a Monday training session, why did you choose the one session over the other?

- Attended both (2)
- I do benthic testing.
- The plant session was attractive but I'm still struggling with bugs.
- Because I already do the stream monitoring and ID macroinverts to family well, I chose the plants.
- Aquatic plants presentation and invasive species.
- Very comfortable with invertebrate (bugs), not so much with plants. What about mollusks?
- I thought that plant ID would be most useful for me as a lake volunteer.
- We have two employees from our office. We each went to one session.
- Insect ID because I'm new to the program and only participate in stream monitoring at this point.
- We are a stream monitoring grant recipient, so I wanted to learn about beetle ID.

- I chose bugs because I want to learn more about detailed ID.
- To specifically learn about aquatic vegetation.
- Weeds are a massive problem on local lakes, and identifying them is critical for determining eradication or control.
- Aquatic plant ID – refresher and information on completing a lake inventory of aquatic plants.
- I feel invasive plants are a leading reason for the deterioration of lake/stream habitat.
- I forgot which one I signed up for and went to the other by error.
- Interest.
- Beetle ID applied more to streams.
- Beetle Mania – New to stream monitoring & wanted to learn more about bug ID.
- Refresh plant ID.
- Macroinvertebrates I know – wanted to increase my aquatic plant knowledge – desired more technical.
- I needed a better aquatic plant understanding.
- Keep a fix of a focus theme and current events and inputs from volunteer groups.
- I chose plants but I'm an advanced master gardener.
- The plant identification was more relevant to our business.

12) What topics would you like to see addressed in future MiCorps conferences or newsletters?

- Current topics of concern: fracking (3), endangered species, invasives of concern (3), dam removal (2), DEQ monitoring update, DNR fisheries update, pipeline use and condition, blue green algae, water quality impacts/monitoring related to mining, what to be concerned with across the state right now related to water, sedimentation concerns, human impacts in relation to volunteer monitoring.
- More lake topics: natural shoreline restoration techniques, remediation management projects, buffer zone, integrated lakes management, aeration, comparisons of lake quality results among lakes and/or year to year.
- Training sessions: another bug ID class (e.g., to order) (4), more on plant ID, other appropriate monitoring, techniques and tools used by groups when monitoring (e.g., meter use, logger installation and data).
- Data analysis, presentation, and usage (2).
- Volunteer recruitment: How to build your volunteer base, how to inform lake residents (and public) about water issues so that they become motivated to work on issues and then motivate others (2).
- Follow-up on new parameters (2).
- More about grant-funded projects, success stories, work being done by “typical volunteers” (not just PhD scientists).
- Information about other events and grant opportunities with groups in our regions around the state.
- Watershed connections: linking individuals from similar watersheds or with similar issues (i.e., Shallow, warm surfaced streams, facing dam removal, etc.).
- Additional contacts and assistance to expand the study portions of our programs.
- Intro to monitoring and watershed management (for the non-science folks!)
- More advanced sessions: many are natural resource professionals so sessions geared toward volunteers with different backgrounds are somewhat frustrating.

13) General Comments:

- You have not had a heavy academic since the fellow from GVSU. I like the presentations, but if one gets technical they must define all terms used.
- Seems MiCorp's expanding. Several new faces.
- A data heavy presentation might not be best for the last session!
- Some problem hearing presentations until I moved to front of room. Some spoke too fast, mumbled or moved away from mic. Good slides and good presentations.
- As lake association leaders we bring information to our residents, but they then must decide what to do with it. Dealing with individuals to change their behaviors can be difficult. We have limited resources regarding behavior change. What can we do? What can groups such as MiCorps, MLSA, etc. do or advise? As a public health professional I am used to learning about studies where groups must change behaviors to prevent diseases, improve health, etc. and many individuals here are unwilling to do so. But social marketing techniques are used by professionals. The primary scenario here is smoking: after many years smoking prevalence has decreased due to social marketing, despite activities by the tobacco industry who use their

own techniques to lobby and advertise. Conclusion: we have gathered knowledge about water quality, but how can we apply this when few residents show the required enthusiasm to form coalitions that will produce change?

- Very nice conference. Great topics and all the presenters were well versed.
- If possible, use more environmentally friendly provisions for snacks, beverages, etc. For example: no bottled water: suggest participants use tap water with the travel mugs that were given (thanks, very nice gift). Recycled napkins and biodegradable snack plates or reusable plates.
- Good conference.
- Very well done.
- Overall the conference was good. I really don't have an answer to address the differences in skill/background level unless different tracks are made available with advanced and intermediate (I wouldn't want to call anyone a beginner!)
- Possibly add a session for marketing programs, recruiting volunteers, more tools for volunteer management from media releases. Volunteer hours tracking, training, engaging for retention, etc.
- Funding opportunities to supplement monitoring activities? In speaking with some programs and groups, they are having difficulty making match or paying for the portion of the monitoring programs that are not funded by MiCorps.
- I found the lake monitoring for human disturbances the most interesting even if it was not directly relevant – learning is always good!
- It would be helpful to have contacts listed and an idea of potential costs for some of the chemical, biological testing. Where are groups going to and what test methods (or equipment) are reliable?
- I liked the evening session on parameter expansion/evaluation. The Paint Creek dam removal talk by Jeremy Geist was most cogent!
- For the conservation stewardship program (MSU Ext) my final project was a power point presentation named "A Citizen's Guide to Greening City Hall." This was a "How to" guide to using zoning to protect the environment. I've been a Township planning commissioner for 20 years and am a master citizen planner (MSU Ext). Also, check www.mywatersheds.org under publications and our ordinance manual.