Annual Program Report
for
September 2009 – September 2010

Prepared by

The Great Lakes Commission
&
The Huron River Watershed Council

December 22, 2010
What is MiCorps?

The Michigan Department of Natural Resources and Environment (DNRE) (formerly the Department of Environmental Quality) is responsible for environmental monitoring of Michigan’s surface water resources to assure that they meet Michigan’s Water Quality Standards. The DNRE 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, DNRE staff is increasingly relying on volunteer water quality monitoring data to support water resources management and protection programs decisions. The DNRE began a volunteer lake monitoring program in 1974 and a volunteer stream monitoring program in 1998.

Governor Jennifer M. Granholm formally recognized the need and importance for volunteer monitoring groups to assist DNRE’s lakes and streams monitoring program. In September 2003, Governor Granholm issued Executive Order #2003-15 creating 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 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, 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 DNRE in establishing and administering the MiCorps program. The GLC is partnered with the Huron River Watershed Council to develop, implement, and administer the program, under the direction of DNRE. 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 DNRE 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 and to close out the remaining open grants that were awarded during the initial contract period. Currently, the program is administered under a new contract with the GLC from December 2009 through September 2014 (pending fund availability from DNRE each year), and under the extension grant through August 2011.

MiCorps staff also subcontracts 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
- Hao Zhuang, MiCorps support staff

**Huron River Watershed Council (HRWC):**
- Paul Steen, MiCorps project manager
- Ric Lawson, MiCorps support staff

**Department of Natural Resources and Environment (DNRE):**
- Ralph Bednarz, MiCorps Administrator, CLMP Administrator, Water Bureau
- Kay Edly, MiCorps staff, Water Bureau

**Other CLMP staff:**
- Jean Roth, Michigan Lake and Stream Associations (MLSA)
- Scott Brown, Michigan Lake and Stream Associations (MLSA)
- Jo Latimore, Michigan State University (MSU)
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:

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

MiCorps staff also administers 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 period September 2009 – September 2010.
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 reviews applications in consultation with DNRE staff and administers these grants.
- MiCorps staff provides 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 DNRE documents and publications, tips for publicity and volunteer retention, and other tools.

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 works closely with each group, encouraging leadership, offering technical advice, and providing assistance where possible.
- 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 expected to submit an application for a full grant the next year.
- Since 2005, a total of 23 full grants and nine start-up grants have been awarded under the VSMP, totaling nearly $285,000 in grant funding to award recipients. A total of seven groups received grants under the VSMP during the 2010 grant cycle, including three full grants and four start-up grants (Appendix A).
- From a programmatic perspective, over 470 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 DNRE, 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 DNRE 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.
- The CLMP strictly follows a QAPP (quality assurance project plan) that guides the program in maintaining consistent and accurate data collection.
- MiCorps staff holds 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.
- DNRE 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 DNRE staff samples (based on R² 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 2010, 224 lakes were enrolled in the CLMP (Appendix B). This number has held steady over the past several years of monitoring. A short summary of 2010 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 2010 annual report for the CLMP will be available in early 2011.
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 waterbodies 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.

GLC staff assists the DNRE 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 DNRE staff - and administer these grants to the award recipients.

- Since 2005, 79 grants totaling greater than $125,000 have been awarded to recipients around the state under the VRSCCP. During the 2010 grant cycle, 12 clean-up projects were awarded grants totaling $21,335.61 in project funds (Appendix D).
MiCorps Steering Committee

- The steering committee is responsible for advising MiCorps staff and DNRE members on the development of the MiCorps program and suggesting improvements to make the program more effective and sustainable.
- The current steering committee is composed of the following members:
  - Elwin Coll, Chair, private citizen
  - Kevin Cronk, Tip of the Mitt Watershed Council
  - Lori Phalen, Michigan Association of Conservation Districts (since 2006)
  - Joan Martin, Huron River Watershed Council
  - Robert Burns, Friends of the Detroit River
  - 2 vacant positions
- During the 2009-2010 program year, the Steering Committee met once in person to discuss the program, provide input on future program directions, and present new ideas to the staff. Additional input was also provided by Steering Committee members on MiCorps activities and promotional materials throughout the year.

MiCorps Program Marketing and Promotion

- In order for the MiCorps program to succeed, MiCorps staff needed to continually spread the word about what MiCorps does. Program promotion is an ongoing and essential component of the MiCorps program.
- MiCorps staff have developed a MiCorps logo (see cover), and incorporated it into all program materials. References to the DEQ were updated to reflect the new DNRE name and logo.
- 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 composes 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 gives 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, DNRE staff (formerly DEQ and DNR), and other environmentally focused government and nonprofit groups.
- In 2010, a CLMP Volunteer Mentor worked with the local news media to publicize local monitoring events and the CLMP.
- MiCorps staff have also recently developed fact sheets that describe the different parameters sampled in the CLMP.
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.
  - Used for 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.

- 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 meet 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.
- In 2010, an optional user survey was added to the Data Exchange so that the program could better understand how MiCorps data was being used. These results 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 2010, MiCorps has held two-day conferences 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.
- 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 workshops and workshops on stream flow measurements. The purpose of this training is to give VSMP member groups more advanced exposure to methods than what they received at the introductory training day earlier in the year.

On the first day of the conference, MiCorps staff offers additional training in MiCorps procedures—often this training revolves around macroinvertebrate collection and identification.

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

- Participants have noted in conference evaluations that they enjoy hearing from other volunteers. Starting at 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 lessons they have learned.
- In 2010, three CLMP volunteer mentors gave presentations at the conference.
MiCorps Annual Newsletter

- MiCorps staff writes and distributes an annual newsletter: *The MiCorps Monitor*. Prior to 2009, this newsletter was published at least twice per year.
- The purpose of the newsletter is to highlight MiCorps successes, member programs, exceptional volunteers, and important issues in the field of water monitoring.
- 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 2009-2010 program year was released in December 2010.

The MiCorps monitor is an important part of program promotion. Specifically recognizing the successes of our member programs and highlighting volunteers’ commitments is a useful way of earning program loyalty and attracting new volunteers.
The MiCorps Horizon - Future Directions

In addition to maintaining the current activities of the program, the current contract, which runs from September 2009 through August 2014, calls for the following enhancements to be made in the MiCorps program.

- **VSMP**: Addition of another monitoring parameter, with corresponding educational documents, training, and data exchange support. A list of possible parameters was developed in 2010 and shared with DNRE staff and MiCorps Steering Committee members. Possible parameters include stream flow, invasive species monitoring, road-crossing evaluations, stream temperature, and turbidity. While only one parameter can be funded through grants, it may be possible to develop standard operating procedures for other parameters so that groups throughout the State can generate comparable data on their own dime.

- **CLMP**: Similarly, another parameter will be added to the CLMP. These parameters are being discussed on a regular basis within the CLMP steering group. Possible parameters include toxic algae, e. coli, water temperature, water color, and bathymetry.

- **Data Quality**: MiCorps staff are working to develop a tiered data quality classification and data management and tracking system for all levels of volunteer water quality monitoring data collected in Michigan.

- **Program Promotion**: A new brochure is being developed for the VSMP and parameter fact sheets are being developed for the CLMP. A PowerPoint presentation that assists volunteers and water professionals in using MiCorps data will be created in 2011.

A volunteer team measures and records data for flow measurement on a small stream.

Grand Valley State University student Chantel Caldwell with Assistant Professor Eric Snyder selecting locations for their ecosystem monitoring project.
Summary of Program Funding

From 2004 to 2010, DNRE has awarded funding to the GLC in the amount of $1,394,683 to develop and implement MiCorps during its first six years. By the end of September 2010, over $322,000 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 $90,000 in grant funds from this contract will be paid out to grantees to complete their approved project work.

All grants awarded under MiCorps 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, the grant funds provided by DNRE over the last six years have leveraged an additional $416,998 in resources in support of volunteer water quality activities in Michigan. Enrollment fees - also considered local match - in the amount of $146,507 have also been contributed by CLMP participants during the last six 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 DNRE funding from September 2009 through September 2010 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 VSM and VRSCCP grant recipients during this period been disbursed.

MiCorps Support Contract Expenditures for the Period
September 2009 – September 2010

<table>
<thead>
<tr>
<th>Program Task</th>
<th>Estimated Cost</th>
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<tr>
<td>Volunteer Stream Monitoring Program (VSMMP):</td>
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<td>Cooperative Lakes Monitoring Program (CLMP):</td>
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<td>MiCorps Annual Newsletter:</td>
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<tr>
<td>MiCorps Future Directions:</td>
<td>$11,856</td>
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Total DNRE Program Cost: $186,729

Estimated Local Match Committed: $79,980 *

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

Projects Selected for Funding under the 2010 MiCorps VSMP

2010 Grants Awarded

Grant #: VSM2010-1
Grantee: Michigan Trout Unlimited
Title: Monitoring on the Kalamazoo, Rogue, AuSable, and Pilgrim River Watersheds
Watershed(s): Kalamazoo, Rogue, AuSable, and Pilgrim River Watersheds
Funding Amount: $17,562
Project Duration: 2010-2012 (open)
Final Report: Not yet submitted by grantee

The overall goal of this project is to monitor the health of coldwater streams in Michigan by establishing baseline data and then monitoring the streams for changes. Monitoring is to involve 14 sites in the Kalamazoo, Rogue, AuSable, and Pilgrim River watersheds and will include habitat and macroinvertebrate assessments. Both negative and positive impacts will be portrayed in the data, reflecting effects of agriculture, CAFOs, development, stream improvement projects, and the implementation of best management practices. In addition, MITU has developed a coldwater database which will include MiCorps data and data from other MITU monitoring efforts.

Grant #: VSM2010-2
Grantee: Branch County Conservation District
Title: Coldwater River Stream Monitoring Program
Watershed(s): Coldwater River
Funding Amount: $15,403.81
Project Duration: 2010-2012 (open)
Final Report: Not yet submitted by grantee

Ten sites are to be monitored within the Hodunk-Messenger Chain of Lakes watershed, a subwatershed of the Coldwater River, 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. The health of the Coldwater River watershed is a vital concern to all watershed stakeholders and partner organizations. Results from the proposed study will serve to inform the community and leverage further efforts to protect the watershed.

Grant #: VSM2010-3
Grantee: Flint River Watershed Coalition
Title: Flint River Watershed Coalition 2010 Retraining, Recruitment, Retention, and Assessment Program
Watershed(s): Flint River
Funding Amount: $10,111.55
Project Duration: 2010-2012 (open)
Final Report: Not yet submitted by grantee

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. The ultimate goal 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.
Appendix A, continued.

2010 Start-Up Grants:

Grant #: VSM2010-4  
Grantee: Cannon Township  
Title: Bear Creek Stream Study Start-Up  
Watershed(s): Bear Creek (Grand River)  
Funding Amount: $1,054.25  
Project Duration: 2010-2011 (open)  
Final Report: Not yet submitted by grantee

The Bear Creek Adopt-a-Stream group, run by Cannon Township, is using this funding to develop macroinvertebrate and habitat monitoring plans that will bolster their program that currently monitors some simple chemical and physical parameters. Main goals are to collect stream data and use it in useful ways, such as making better planning decisions, prioritize stream projects, and update the Bear Creek Watershed Management Plan.

Grant #: VSM2010-5  
Grantee: Midland County Adopt-a-Stream  
Title: Midland Conservation District  
Watershed(s): Sturgeon Creek  
Funding Amount: $866.37  
Project Duration: 2010-2011 (open)  
Final Report: Not yet submitted by grantee

This funding is meant to foster Midland Conservation District as the leader of change for habitat restoration and improvement in Midland County. The funding will assist the group make monitoring goals and start to build a program. The long-term goals of the group are to establish baseline data that can be used by environmental governing bodies, and introducing the general public to watershed quality. Individuals will learn about their local watershed quality, how it compares with other watersheds, and learn about how development impacts watershed quality. The program intends to foster environmental stewardship by teaching skills and cultivating responsibility of individuals.

Grant #: VSM2010-6  
Grantee: Gogebic Conservation District  
Title: Presque Isle Watershed Volunteer Stream Monitoring Start-Up Program  
Watershed(s): Presque Isle (Black River)  
Funding Amount: $2,000  
Project Duration: 2010-2011 (open)  
Final Report: Not yet submitted by grantee

The goal of this project is to develop macroinvertebrate and habitat monitoring plans for the Black River. The groups will assemble a "steering committee" of interested individuals, organizations, and agencies (federal/state/local), promote public awareness and understanding, engage and utilize community volunteers and identify local stewards; and define strategies that identify and assess current and emerging water quality and aquatic habitat problems.
Appendix A, continued.

Grant #: VSM2010-7
Grantee: Muskegon River Watershed Assembly
Title: Hersey River Watershed Monitoring Program
Watershed(s): Hersey River (Muskegon)
Funding Amount: $3,000
Project Duration: 2010-2011 (open)
Final Report: Not yet submitted by grantee

The goal of this project is to develop macroinvertebrate and habitat monitoring plans for the Hersey River. The Hersey River Watershed Team plans to develop a sustainable volunteer watershed monitoring program that involves the local adult community with an objective of understanding the Hersey River and its surrounding watershed and promoting stewardship of this important natural resource.

VSMP Projects Completed or Ongoing during the 2009-2010 Program Year

2009 Grants

Grant #: VSM2009-1
Grantee: Muskegon County Conservation District
Title: Duck Creek Stream Monitoring Program
Watershed(s): Duck Creek (Michigan)
Funding Amount: $6,231
Project Duration: 2009-2010 (project completed)
Final Report: Available on MiCorps website

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.

Grant #: VSM2009-3
Grantee: Superior Watershed Partnership
Title: Millecoquins River Watershed Volunteer Stream Monitoring Program
Watershed(s): Millecoquins River (Michigan)
Funding Amount: $9,288
Project Duration: 2009-2011 (open)
Final Report: Not yet submitted by grantee

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
Appendix A, continued.

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.

Grant #: VSM2009-4  
Grantee: Clinton River Watershed Council  
Title: Adopt-a-Stream Improvement and Expansion Project  
Watershed(s): Clinton River (Michigan)  
Funding Amount: $1,995  
Project Duration: 2009-2010 (project completed)  
Final Report: Available on website

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.

Grant #: VSM2009-6  
Grantee: Jackson County Conservation District  
Title: Upper Grand River Watershed Adopt-a-Stream Program  
Watershed(s): Upper Grand River (Michigan)  
Funding Amount: $20,979  
Project Duration: 2009-2011 (open)  
Final Report: Not yet submitted by grantee

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.

2009 Start-Up Grants:

Grant #: VSM2009-7  
Grantee: Michigan Council of Trout Unlimited / Kalamazoo Valley Chapter  
Title: MCTU / KVCTU Stream Monitoring Project  
Watershed(s): Kalamazoo River (Michigan)  
Funding Amount: $1,940  
Project Duration: 2009-2010 (project completed)  
Final Report: Available upon request

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.

**Grant #: VSM2009-8**  
**Grantee:** Branch County Conservation District  
**Title:** Coldwater River Watershed Monitoring Project  
**Watershed(s):** Coldwater River (Michigan)  
**Funding Amount:** $2,000  
**Project Duration:** 2009-2010 (project completed)  
**Final Report:** Available upon request

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.

**2008 Grants**

**Grant #: VSM2008-01**  
**Grantee:** Friends of the St. Clair River Watershed  
**Title:** Friends of the St. Clair River Watershed Stream Leaders  
**Watershed(s):** St. Clair River watershed  
**Funding Amount:** $13,297  
**Project Duration:** 2008-2011 (open)  
**Final Report:** Not yet submitted by grantee

The Friends of the St. Clair River Watershed have proposed to assess habitat and conduct macroinvertebrate monitoring in the St. Clair River Watershed.

**Grant #: VSM2008-02**  
**Grantee:** The Nature Conservancy  
**Title:** Shiawassee River Watershed Benthic Macroinvertebrate Monitoring Program  
**Watershed(s):** Shiawassee River watershed  
**Funding Amount:** $13,297  
**Project Duration:** 2008-2010 (project completed)  
**Final Report:** Available on website

The Nature Conservancy is working in partnership with the Livingston County Drain Commissioner’s Office to conduct assess habitat and conduct macroinvertebrate monitoring in the Shiawassee River watershed in Shiawassee and Livingston Counties.
Appendix A, continued.

Grant #: VSM2008-03
Grantee: Pine River/Van Etten Lake (PRVEL) Coalition
Title: Pine River/Van Etten Lake Monitoring
Watershed(s): Pine River/Van Etten Lake watershed
Funding Amount: $7,420
Project Duration: 2008-2010 (project completed)
Final Report: Available on website

The overall goal of this project is to establish baseline benthic macro invertebrate data and to monitor the health of our watershed as we go forward in the future. It is desired to ensure that the river and associated feeder streams do not significantly degrade further in their ability to sustain a cold water fishery. This project will also help to show any changes in the stream condition, as told through the macro invertebrate populations.

Grant #: VSM2008-04
Grantee: Marguerite Gahagan Nature Preserve
Title: Upper AuSable River Watershed Water Quality Monitoring Project
Watershed(s): Upper AuSable River Watershed
Funding Amount: $13,297
Project Duration: 2008-2011 (open)
Final Report: Not yet submitted by grantee

The primary goal of this project is to produce quality-assured data on the water quality of the watershed to establish baseline data for the AuSable River. Specifically, site monitoring will include benthic macroinvertebrate specimen collection and identification to the family level, habitat assessment, and the monitoring of dissolved oxygen and pH levels. Success of this project will be measured by the production of verifiable data that is of use to the Michigan Department of Environmental Quality and others who make stewardship decisions within the AuSable River watershed.
Appendix B.

The following 224 lakes were registered for the 2010 season of the CLMP.

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## Appendix B, continued.

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Appendix C

The following data are a summary of the measurements taken during the 2010 CLMP field season.

**Secchi Disk Transparency**

- 197 lakes (215 basins) were sampled.
- Total number of measurements = 3,049
- Transparency data summary:
  - Transparency range: 1-46 feet
  - Mean: 12.8 feet
  - Median: 11 feet
  - TSI\textsubscript{SP}\*: 27-65 (average: 41.7)

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

**Spring Total Phosphorus**

- 152 lakes were sampled
- Data summary:
  - range: <5-125 ug/l
  - mean: 14.1 ug/l
  - median: 11.0 ug/l
- 25 QA/QC samples were taken.
  - 18 replicate samples
  - 4 side-by-side samples
  - 1 side-by-side replicates
  - 1 field blanks
  - 1 equipment blanks

**Summer Total Phosphorus**

- 178 lakes were sampled
- Data summary:
  - range: <5-90 ug/l
  - mean: 14.5 ug/l
  - median: 11 ug/l
  - TSI\textsubscript{TP}: <27 - 69 (39.4 average)
- 31 QA/QC samples
  - 23 replicate samples
  - 4 side-by-side samples
  - 2 field blanks
  - 2 equipment blanks
Appendix C, continued.

**Chlorophyll a**

- 609 chlorophyll a samples were collected/analyzed
- 125 lakes (128 basins) sampled:
  - range: <1-160.0 ug/l
  - mean: 4.8 ug/l
  - median: 2.8 ug/l
  - TSI\text{CHL}: <31-63 (average: 43)
- 62 QA/QC samples
  - 13 replicate samples
  - 7 side-by-side samples (SOP field filtered)
  - 7 side-by-side sample reps (SOP field filtered)

**Dissolved Oxygen/Temperature**

- 44 lakes (46 basins) were sampled throughout the summer.
- A total of 421 oxygen/temperature profiles were taken.
- Between 5-27 measurements were made for each profile.
- In total, 4834 oxygen/temperature measurements were taken in 2010.

**Aquatic Plant ID and Mapping**

1 lake enrolled

**Exotic Aquatic Plant Watch**

21 lakes enrolled
Appendix D.

Projects Selected for Funding under the Michigan Volunteer River, Stream, and Creek Cleanup Program (VRSCCP)

2010 Grants

Grant #: VRSCCP2010-01
Grantee: City of Battle Creek
Title: Global Citizens River Conservation Day
Watershed(s): Kalamazoo River
Funding Amount: $1,500
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To promote the protection of the water resources within the Kalamazoo River watershed through the removal of trash and tires.

Grant #: VRSCCP2010-02
Grantee: City of Charlotte
Title: 6th Annual River Cleanup
Watershed(s): Butternut Creek, Battle Creek River
Funding Amount: $739.61
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To clean up and improve approximately 2.5 miles along Butternut Creek and Battle Creek River within the City of Charlotte.

Grant #: VRSCCP2010-03
Grantee: Grand Traverse Conservation District
Title: Boardman River Clean Sweep 2010
Watershed(s): Boardman River
Funding Amount: $1,513
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To conduct the 6th annual community-wide cleanup of the Boardman River in conjunction with the National River Cleanup Week and the National Cherry Festival.

Grant #: VRSCCP2010-04
Grantee: Chesaning Area Parks and Recreation Commission
Title: Annual Shiawassee River Clean-Up
Watershed(s): Shiawassee River
Funding Amount: $1,700
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To clean up approximately 4.5 miles of the Shiawassee River in Chesaning Township, Saginaw County, by removing trash and debris from the water and along the river banks.
Appendix D, continued.

Grant #: VRSCCP2010-05  
Grantee: Muskegon Conservation District  
Title: Muskegon River (Milliron Road) Cleanup Project  
Watershed(s): Muskegon River  
Funding Amount: $970  
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To clean trash and other debris to improve the water quality along a 2-mile stretch of river near Muskegon, Michigan.

Grant #: VRSCCP2010-06  
Grantee: Saginaw Conservation District  
Title: 2nd Annual Cass River Clean-Up  
Watershed(s): Cass River  
Funding Amount: $943  
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To clean a 3-4 mile section of the river from the Frankenmuth Dam to Dixie Highway to better showcase the river trail and attract new visitors to the area.

Grant #: VRSCCP2010-07  
Grantee: Shiawassee County Health Department Environmental Health Division  
Title: 13th Annual Shiawassee River Cleanup  
Watershed(s): Shiawassee River  
Funding Amount: $1,800  
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To remove trash and debris from the river along 8 miles of stream, targeting rural areas and urban concentrations for tire collection.

Grant #: VRSCCP2010-08  
Grantee: Missaukee Conservation District  
Title: Missaukee/Muskegon Cleanup  
Watershed(s): Muskegon River  
Funding Amount: $2,145  
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To clean up two sections of the Muskegon River by removing trash and debris from the water and along the banks.

Grant #: VRSCCP2010-09  
Grantee: Barry Conservation District  
Title: 15th Annual Thornapple River Cleanup  
Watershed(s): Thornapple River  
Funding Amount: $1,825  
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To remove all safely accessible trash from 80 river miles while recruiting volunteers from at least five watershed communities.
Appendix D, continued.

Grant #: VRSCCP2010-10
Grantee: City of Ann Arbor
Title: Ann Arbor Canoe Liveries Keep the River Clean
Watershed(s): Huron River
Funding Amount: $3,204
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To keep the Ann Arbor area section of the Huron River clean throughout the warm weather season while building knowledge and understanding of the river and its ecosystem among groups of volunteers who will become stewards of the river in years to come.

Grant #: VRSCCP2010-11
Grantee: Van Buren Conservation District
Title: Community Creek Cleanup in the Paw Paw and Black Watersheds
Watershed(s): Paw Paw River, Black River
Funding Amount: $3,715
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

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.

Grant #: VRSCCP2010-12
Grantee: Macomb County Public Works Office
Title: Conservation Easement River Cleanup in the North Branch Subwatershed
Watershed(s): Clinton River
Funding Amount: $1,281
Final Report: Available upon request; will be submitted to DNRE at end of 2010 grant cycle

To clean up along one major river site in the conservation easement along the North Branch of the Clinton River, in preparation for public use through recreation, nature trails and an outdoor education area.
Appendix E.

Results from an optional user survey in the Michigan Data Exchange.

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Organization</th>
<th>Data Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academia</td>
<td>American Military University</td>
<td>School research on water monitoring programs.</td>
</tr>
<tr>
<td>Academia</td>
<td>Annis Water Resources Institute - Grand Valley State</td>
<td>We are looking for ways to coordinate the collection, analysis, and dissemination of water quality data throughout the west Michigan region.</td>
</tr>
<tr>
<td>Academia</td>
<td>Annis Water Resources Institute - Grand Valley State</td>
<td>Write a watershed management plan.</td>
</tr>
<tr>
<td>Academia</td>
<td>Eastern Michigan University</td>
<td>I am a graduate student in the Master of Science in GIS program. I am doing a project that may lead to my masters project in tracking water quality change over time for Orchard lake in Oakland County.</td>
</tr>
<tr>
<td>Academia</td>
<td>MATC Student</td>
<td>Homework assignment</td>
</tr>
<tr>
<td>Academia</td>
<td>Miami Ohio University</td>
<td>Research purposes.</td>
</tr>
<tr>
<td>Academia</td>
<td>Michigan State University</td>
<td>Today, I'm summarizing available data to see how it may be used to augment ongoing and future limnological research here at MSU.</td>
</tr>
<tr>
<td>Academia</td>
<td>Michigan State University</td>
<td>I am using the data in a study to help refine remote sensing detecting of algae in lakes.</td>
</tr>
<tr>
<td>Academia</td>
<td>Michigan State University</td>
<td>Looking for phosphorus data on Gull Lake for research.</td>
</tr>
<tr>
<td>Academia</td>
<td>Michigan State University</td>
<td>Class project</td>
</tr>
<tr>
<td>Academia</td>
<td>Michigan State University</td>
<td>Working on a restoration project</td>
</tr>
<tr>
<td>Academia</td>
<td>Montclair State University</td>
<td>Calibrate remote sensing assessments</td>
</tr>
<tr>
<td>Academia</td>
<td>MSU Fisheries and Wildlife</td>
<td>I might use the Secchi depth data to relate to local environmental policy</td>
</tr>
<tr>
<td>Academia</td>
<td>Northwestern Michigan College</td>
<td>Browsing</td>
</tr>
<tr>
<td>Academia</td>
<td>Princeton University</td>
<td>For my coursework</td>
</tr>
<tr>
<td>Academia</td>
<td>Student at St Cloud State</td>
<td>For a school project</td>
</tr>
<tr>
<td>Academia</td>
<td>University of Cantabria</td>
<td>I'm just interested in the biochemical cycles of the lake</td>
</tr>
<tr>
<td>Academia</td>
<td>University of Washington</td>
<td></td>
</tr>
<tr>
<td>Academia</td>
<td>University of Wisconsin</td>
<td>Investigating the Distribution of Aquatic Invasive Species in Northern Wisconsin and the Upper Peninsula of Michigan</td>
</tr>
<tr>
<td>Academia</td>
<td>University of Wisconsin-Marinette</td>
<td>Personal interest</td>
</tr>
<tr>
<td>Academia</td>
<td>UW-Marinette</td>
<td>Instruction</td>
</tr>
<tr>
<td>Academia</td>
<td></td>
<td>Class on Sustainable Design</td>
</tr>
<tr>
<td>Business</td>
<td>ECT</td>
<td>Management Plan</td>
</tr>
<tr>
<td>Business</td>
<td>Environmental Legal Service, P.C.</td>
<td>General interest</td>
</tr>
<tr>
<td>Business</td>
<td>EnviroScience Inc.</td>
<td>Get a better understanding of lake trophic states</td>
</tr>
<tr>
<td>Business</td>
<td>Patriot Realty</td>
<td>lake information for sales</td>
</tr>
<tr>
<td>Business</td>
<td>Prein&amp;Newhof</td>
<td>To study water quality for wastewater collection system planning</td>
</tr>
<tr>
<td>Business</td>
<td>Progressive AE</td>
<td>For submittal to MDNRE for lake management plan</td>
</tr>
<tr>
<td>Business</td>
<td>Prudential Preferred</td>
<td>A client asked for it.</td>
</tr>
<tr>
<td>Business</td>
<td>SuperMax Natural Fertilizer</td>
<td>A conscious company’s efforts to help educate lake citizens and their lawn service providers in staying in compliance with lake laws and best practices, in curbing non-point runoff of possibly harmful chemicals, including phosphates into the lake(s)</td>
</tr>
<tr>
<td>Business</td>
<td>Tetra Tech</td>
<td>To acquire an understanding for the normal levels of dissolved trace metal concentrations in Upper Peninsula Michigan water.</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Federal Agency</td>
<td>USFS</td>
<td>I'm curious about your total phosphorus data for local lakes.</td>
</tr>
<tr>
<td>Federal Agency</td>
<td>USGS</td>
<td>Predictive models</td>
</tr>
<tr>
<td>Federal Agency</td>
<td>USGS</td>
<td>Modeling</td>
</tr>
<tr>
<td>Federal Agency</td>
<td>USGS</td>
<td>Modeling</td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td>looking to see what data may have been gathered on Hunter lake in alcona county</td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td>To monitor history of the water quality in Diamond Lake, Cass Cty.</td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td>Establish a reference and long term history of the lake quality.</td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td>Purchasing lake property</td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td>Checking clean water for recreation</td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td>Trying to find a comprehensive, searchable database of inland lakes in Michigan</td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td>To decide whether to purchase a home.</td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td>Looking for background information on water.</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Bear Lake Watershed Alliance</td>
<td>Monitor Bear Lake and compare to other lakes.</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Big Pine Lake Assoc</td>
<td>I am the CLMP Volunteer</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Blue Lake Association</td>
<td>Manage Blue Lake</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Browns Lake Improvement &amp; Protection Association</td>
<td>For a meeting of our board.</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Crockery Lake Association</td>
<td>Water quality and weeds.</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Crystal Lake Association</td>
<td>Review data of lakes similar to ours</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Deer Lake Association</td>
<td>report at a meeting</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Duncan Lake Association</td>
<td>Review for what I have entered to date</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Eagle Lake Improvement Association, INC</td>
<td>Chart CLMP data for display and analysis</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Farwell Lake Riparian Association</td>
<td>Information for membership</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Glen Lake Assoc</td>
<td></td>
</tr>
<tr>
<td>Lake Association</td>
<td>Greater Lake Shinanguag Association</td>
<td>Chemical control Water quality</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Gull Lake Quality Organization</td>
<td>It is part of our organizations lake monitoring program.</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Hamlin Lake Preservation Society</td>
<td>Monitoring water quality. Reporting results and conclusions to lake association members.</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Indian Lake Association of Vicksburg, Inc.</td>
<td>View historical data</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Indian Lake Association of Vicksburg, Inc.</td>
<td>Review of historical data for reporting to association membership.</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Lake Orion Lake Association</td>
<td>We are using the data for tracking purposes, but could use some specific lake insights on how our compares with others from a current and trend standpoint.</td>
</tr>
<tr>
<td>Lake Association</td>
<td>Little Pine Island Lake Association</td>
<td>To assist in maintaining the quality of Little Pine Island Lake</td>
</tr>
<tr>
<td>Organization</td>
<td>Role Description</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Lake Association Ore Lake Preservation Assoc.</td>
<td>CLMP monitor</td>
<td></td>
</tr>
<tr>
<td>Lake Association PST Lake Association</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Association Rifle Lake Property Owners Association</td>
<td>CLMP volunteer</td>
<td></td>
</tr>
<tr>
<td>Lake Association Sherman Lake Residents Association</td>
<td>Review data entry</td>
<td></td>
</tr>
<tr>
<td>Lake Association Stony Lake (Oceana Co.) Property Owners</td>
<td>Historic record of lake quality.</td>
<td></td>
</tr>
<tr>
<td>Lake Association Three Lakes Association</td>
<td>We are using the data to encourage a PhD student's research on the role of calcium carbonate precipitation on the dynamics of water clarity.</td>
<td></td>
</tr>
<tr>
<td>Lake Association Van Etten lake Association</td>
<td>To prepare a report</td>
<td></td>
</tr>
<tr>
<td>NGO Flint River Watershed Coalition</td>
<td>Reporting Benthic Monitoring scores and habitat information.</td>
<td></td>
</tr>
<tr>
<td>NGO Huron River Watershed Council</td>
<td>Monitor status of lakes in the watershed.</td>
<td></td>
</tr>
<tr>
<td>NGO Huron River Watershed Council</td>
<td>to assist watershed residents with water quality problems</td>
<td></td>
</tr>
<tr>
<td>NGO Marinette County Land and Water Conservation</td>
<td>Baseline to measure against potential future water quality changes.</td>
<td></td>
</tr>
<tr>
<td>NGO Michigan Trout Unlimited</td>
<td>Background information</td>
<td></td>
</tr>
<tr>
<td>NGO Rapid River cleanup</td>
<td>help in the dredging or placement of sand traps in RAPID RIVER.</td>
<td></td>
</tr>
<tr>
<td>NGO Schremes Trout Unlimited</td>
<td>Assessment pf cold water resources</td>
<td></td>
</tr>
<tr>
<td>NGO Sierra Club Michigan Chapter</td>
<td>Comparing Menominee County data to other stream data in U.P.</td>
<td></td>
</tr>
<tr>
<td>NGO West Michigan Environmental Action Council</td>
<td>Comparison to present conditions</td>
<td></td>
</tr>
<tr>
<td>State Agency MDEQ</td>
<td>watershed planning</td>
<td></td>
</tr>
<tr>
<td>State Agency MDNRE</td>
<td>looking for lake data</td>
<td></td>
</tr>
<tr>
<td>State Agency MDNRE</td>
<td>To plan biosurveys</td>
<td></td>
</tr>
<tr>
<td>State Agency MDNRE</td>
<td>search lake data</td>
<td></td>
</tr>
<tr>
<td>State Agency MDNRE</td>
<td>Shoreline assessment</td>
<td></td>
</tr>
<tr>
<td>State Agency MDNRE</td>
<td>Lake shoreline assessment</td>
<td></td>
</tr>
<tr>
<td>State Agency MDNRE</td>
<td>NDPES-related</td>
<td></td>
</tr>
<tr>
<td>State Agency MI CNRE</td>
<td>Watershed survey planning</td>
<td></td>
</tr>
<tr>
<td>State Agency Utah Division of Water Quality</td>
<td>We are forming our own volunteer monitoring program and are using your program as an example!</td>
<td></td>
</tr>
</tbody>
</table>