



**Annual Program Report
for
October 2010 – September 2011**

Prepared by

**The Great Lakes Commission
&
The Huron River Watershed Council**

January 6, 2012

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 is 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 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 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 and 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 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, Ph.D., MiCorps project manager

Department of Natural Resources and Environment (DEQ):

- Bill Dimond, MiCorps Administrator, CLMP Administrator, Water Bureau

Other CLMP staff:

- Jean Roth, Michigan Lake and Stream Associations (MLSA)
- Scott Brown, Michigan Lake and Stream Associations (MLSA)
- Jo Latimore, Ph.D., 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 October 2010 – September 2011 program year.



VSMP volunteers learn how to collect bugs during a collection event on Hatlem Creek.



CLMP volunteers from the Glen Lake Association prepare to take a water sample that will be sent to the DEQ water quality lab for chlorophyll a analysis.



VRSCCP volunteers enjoy some time on the river while paddling to pick up trash.

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 DEQ 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 DEQ documents and publications, tips for publicity and volunteer retention, and other tools.



At the annual stream training event, MiCorps grant recipients learn the proper procedures for collecting macroinvertebrates and assessing stream habitat.



Darren Bagley, a volunteer with the Flint River Watershed Coalition, shows other volunteers how to identify critters at their fall 2010 water quality monitoring lab day.

- 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 27 full grants and 14 start-up grants have been awarded under the VSMP, totaling nearly \$330,000 in grant funding to award recipients. A total of nine groups received grants under the VSMP during the 2011 grant cycle, including four full grants and five start-up grants (Appendix A).
- From a programmatic perspective, over 500 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 provides 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: CLMP volunteers conduct an invasive plant survey on Big Fisher Lake.

Right: Volunteer John Lund prepares to take a secchi disk measurement on Little Glen Lake.



- 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.
- 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 2011, 225 lakes were enrolled in the CLMP (Appendix B). This number has held steady over the past several years of monitoring. A short summary of 2011 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 2011 annual report for the CLMP will be available in early 2012.

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.



The 2011 Au Sable River Cleanup proved to be a draw for families, local anglers, and area property owners. Engaging volunteers in their own watershed is a great way to create a sense of ownership and stewardship that can last a lifetime.



Grant recipients are encouraged to engage youth and community groups, such as the Kingsley and St. Clair 4-H Clubs who participated in this year's Boardman River Clean Sweep. Volunteer recruitment and participation is a critical part of the program.

- GLC staff assists 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, 94 grants totaling greater than \$185,000 have been awarded to recipients around the state under the VRSCCP. During the 2011 grant cycle, 15 clean-up projects were awarded grants totaling \$34,148.11 in project funds (Appendix D).

MiCorps Steering Committee

- The steering committee 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 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, private citizen
 - Robert Burns, Friends of the Detroit River
- During the 2010-2011 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.



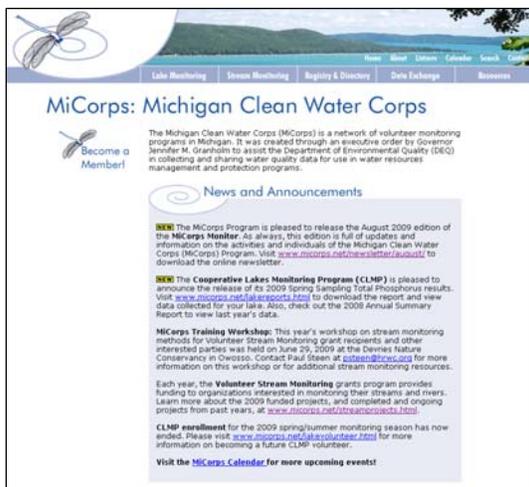
The 2010 MiCorps Volunteer Stream Monitoring Program start-up grant recipients with their Certificates of Recognition at the 2010 Annual MiCorps Conference. Both Cannon Township and Gogebic Conservation District are now recipients of full VSMP grants in 2011. (From left: Ralph Bednarz, Michigan DEQ; Joe Smith and Ronald Johnson, Midland Conservation District; Bruce Jones, Muskegon River Watershed Assembly; Mary Powell, Gogebic Conservation District; and Kim Sapkowski, Cannon Township.)

MiCorps Program Marketing and Promotion

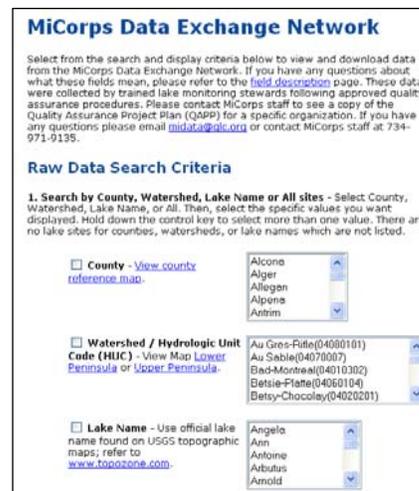
- In order for the MiCorps program to succeed, MiCorps staff needed to continually spread the word about what MiCorps does. Program promotion is an ongoing and essential component of the MiCorps program.
- MiCorps staff have developed a MiCorps logo (see cover), and incorporated it into all program materials. References to the DNRE were updated to reflect the previous DEQ 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, 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.
- In 2011, MiCorps staff assisted with the Deer Lake volunteers' development of a CLMP method instructional video. The video has been posted to YouTube for access and promotional purposes: <http://www.youtube.com/watch?v=2RbwFZdbDI4>.

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.



This is a screen shot of the home page at www.micorps.net



The MiCorps Data Exchanges 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 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.
- There is optional user survey in the Data Exchange so that the program can better understand how MiCorps data is being used. The results from the 2010-2011 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 2011, 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.
- 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, workshops on stream flow measurements, and workshops on mussel biology and identification. The purpose of these trainings 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.



Participants at the 2010 annual conference gather around the fireplace on the evening of the first day to discuss their experiences with recruiting and engaging volunteers in monitoring programs.

- 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)
- 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.

MiCorps Annual Newsletter

- MiCorps staff writes and distributes 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 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 2010-2011 program year was released in October 2011.

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Contact the Editor:

For information about the MiCorps program or the *MiCorps Monitor* newsletter, or to submit items for future newsletter issues, please contact Laura Kaminski, Great Lakes Commission, 734-971-9135, laurak@qlc.org.

Upcoming Events:

View the MiCorps [calendar of events](#).

The MiCorps Monitor: Fall 2011

The newsletter of the Michigan Clean Water Corps, Issue 9



Welcome to the Fall 2011 edition of the *MiCorps Monitor*! As always, this edition is full of updates and information on the activities and individuals of the Michigan Department of Environmental Quality's Michigan Clean Water Corps (MiCorps).

Please select an article from the listing below or use the quick links to the left. If you're experiencing trouble with the online format or have questions about the *MiCorps Monitor*, email the editor, Laura Kaminski, at laurak@qlc.org.

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Yoopers Love Bugs: Gogebic Conservation District Prepares to Start their Aquatic Insect Program

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Internal Phosphorus Loading: The Unseen Source

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*John Hayes collects macroinvertebrates in Hatlem Creek with the Glen Lake Association.
Photo by Gen Lake Association.*

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 December 2009 through September 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 DEQ staff and MiCorps Steering Committee members. Possible parameters include stream flow, invasive species monitoring, road-crossing evaluations, stream temperature, and turbidity. While only one new 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



A volunteer sets a velocity meter for measuring stream flow.



CLMP volunteers prepare a water sample for laboratory analysis.

Summary of Program Funding

From 2004 to 2011, DEQ has awarded funding to the GLC in the amount of \$1,634,683 to develop and implement MiCorps during its first seven years. By the end of September 2011, over \$390,000 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 \$85,000 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 \$509,635 in resources in support of volunteer water quality activities in Michigan. Enrollment fees - also considered local match - in the amount of \$175,792, have also been contributed by CLMP participants during the last seven 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 2010 through September 2011 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 2010 – September 2011

| Program Task | Estimated Cost |
|--|-----------------------|
| Volunteer Stream Monitoring Program (VSMP): | \$90,853 |
| Cooperative Lakes Monitoring Program (CLMP): | \$47,544 |
| Volunteer River, Stream, and Creek Cleanup Program (VRSCCP): | \$24,268 |
| MiCorps Steering Committee: | \$1,907 |
| MiCorps Program Marketing and Promotion: | \$3,424 |
| Website and Data Exchange Platform: | \$21,697 |
| MiCorps Annual Volunteer Monitoring Conference: | \$19,660 |
| MiCorps Annual Newsletter: | \$5,868 |
| MiCorps Future Directions: | \$10,317 |
| Total DEQ Program Cost: | \$225,538 |
| Estimated Local Match Committed: | \$121,922 * |

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

Appendix A

New and Ongoing MiCorps VSMP Grants

New Full Grants Awarded in 2011

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.

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.

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.

Appendix A, continued.

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: 2011-2013

The overall goal of this project is 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 will be expanded to include four additional sites on each of these rivers, which will result in the collection of baseline water quality data to assess impacts from known stressors, as well as continued monitoring to detect additional problems that emerge in these river systems. Monitoring will include macroinvertebrate collection identified to the family level and habitat assessment. The Miller Van Winkle chapter of Trout Unlimited has committed to provide volunteer support for monitoring these rivers.

New Start-Up Grants Awarded in 2011

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

This startup project is intended to fund 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.

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 will improve the water quality of the Cass River through the development of a long term study of the water quality through macroinvertebrate monitoring by volunteers.

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 will assist 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.

Appendix A, continued.

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

This startup grant is intended to help plan for a stream monitoring program that will train volunteers to sample and identify macroinvertebrates, make their data publicly available, and provide other information that is useful for citizens and scientists alike.

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

This startup grant will fund the development of a program to monitor several creeks and small tributaries which flow into Hamlin Lake and the Big Sable River to document where there are known water quality problems and pinpoint areas with good water quality.

Ongoing Full Grants (awarded in 2010)

Grant #: VSM2010-11

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 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 (Michigan)

Funding Amount: \$15,403.81

Project Duration: 2010-2012

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

Appendix A, continued.

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 (Michigan)

Funding Amount: \$10,111.55

Project Duration: 2010-2012

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.

VSMP Grants Completed during the 2010-2011 Program Year

2010 Grants

Grant #: VSM2010-7

Grantee: Muskegon River Watershed Assembly

Title: Hersey River Watershed Monitoring Program: Start Up

Watershed(s): Hersey River, Muskegon River (Michigan)

Funding Amount: \$3,000

Project Duration: 2010-2011

Final Report: Available on MiCorps website

This startup grant funded the formulation of monitoring plans for the Hersey Watershed, a subwatershed of the Muskegon River. The Hersey River is a high quality trout stream and is one of the main urban centers in the Muskegon River watershed, flowing through Reed City. It provides scenic, recreational, and wildlife/fisheries benefits to the local community, but has also been historically impacted by local industry. While this grant was closed successfully, the leaders of the program decided to concentrate on monitoring with the local high schools and determined that a full grant through MiCorps would not help them accomplish these goals.

Grant #: VSM2010-6

Grantee: Gogebic Conservation District

Title: Presque Isle Watershed Volunteer Stream Monitoring Start-Up Program

Watershed(s): Black River (Michigan)

Funding Amount: \$2,000

Project Duration: 2010-2011

Final Report: Available on MiCorps website

This startup grant funded the formulation of monitoring plans for the Black River, a subwatershed of the Presque Isle watershed on the far western side of the Upper Peninsula. The Black River is a high quality trout stream and very little data has been collected on this stream. However, the healthy connectivity of the tributaries to the Black River is extremely valuable and important, and data

Appendix A, continued.

collected through this monitoring program would be paramount to future aquatic habitat restoration projects. The Gogebic Conservation District assembled a steering committee, assessed key conservation needs, built a monitoring strategy, and worked closely with interested citizens. They received a full grant in 2011.

Grant #: VSM2010-4
Grantee: Cannon Township
Title: Presque Bear Creek Stream Study Start-Up
Watershed(s): Bear Creek, Grand River (Michigan)
Funding Amount: \$1,054.25
Project Duration: 2010-2011
Final Report: Available on MiCorps website

This startup project funded the efforts of Cannon Township in setting up a monitoring program for Bear Creek in Kent County. Bear Creek is a small watershed (29 square miles) but has seen a large increase of population in the past 20 years. Increased population has introduced more development and higher volumes of runoff into Bear Creek and its tributaries. Through this grant the group expanded their knowledge and monitoring efforts with macroinvertebrate monitoring to better understand the health of the system. They receive a full grant in 2011.

2009 Grants

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
Final Report: Available on MiCorps website

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

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
Final Report: Available on MiCorps website

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

Appendix A, continued.

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 worked to further develop and strengthen the Upper Grand River Watershed Adopt-A-Stream program into a sustainable and watershed-wide monitoring program.

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

Final Report: Available on MiCorps website

The Friends of the St. Clair River Watershed have proposed to assess habitat and conduct macroinvertebrate monitoring in the St. Clair River Watershed. Through this grant Friends of the St. Clair River Watershed was able to accomplish its goals of recruiting and retain volunteers and establishing a stream monitoring program, educating the public, local watershed groups, and the St. Clair River Area of Concern (AOC)'s Binational Public Advisory Council (BPAC) about habitat conditions and restoration needs of the St. Clair River Watershed.

Grant #: VSM2008-04

Grantee: Marguerite Gahagan Nature Preserve

Title: Upper AuSable River Watersehd Water Quality Monitoring Project

Watershed(s): Upper AuSable River Watershed

Funding Amount: \$13,297

Project Duration: 2008-2011

Final Report: Available on MiCorps website

The primary goal of this project was to produce quality-assured data on the water quality of the watershed to establish baseline data for the AuSable River. Specifically, site monitoring included benthic macroinvertebrate specimen collection and identification to the family level, habitat assessment, and the monitoring of dissolved oxygen and pH levels.

Appendix B

The following 225 lakes were registered for the 2011 season of the CLMP.

| Lake | County | Lake | County | Lake | County |
|------------------|-----------------|---------------------|----------------|-------------------|-----------|
| Maynard | Alcona | Twin (Little-South) | Cass | Sweezey | Jackson |
| Vaughn | Alcona | Wildwood | Cheboygan | Vineyard | Jackson |
| Hubbard | Alcona | Arnold | Clare | Barton | Kalamazoo |
| Cedar | Alcona/Iosco | George | Clare | Crooked | Kalamazoo |
| Deer | Alger | Shingle | Clare | Gull | Kalamazoo |
| Eagle | Allegan | Windover | Clare | Indian | Kalamazoo |
| Hutchins | Allegan | Margrethe | Crawford | Sherman | Kalamazoo |
| Osterhout | Allegan | Antoine | Dickinson | Woods | Kalamazoo |
| Scott (Upper) | Allegan | Louise | Dickinson | Bear | Kalkaska |
| Wetmore | Allegan | Byram | Genesee | Blue | Kalkaska |
| Beaver | Alpena | Fenton | Genesee | Blue (Big) | Kalkaska |
| Bellaire | Antrim | Marl | Genesee | Blue (North) | Kalkaska |
| Clam | Antrim | Shinangaug | Genesee | Crooked | Kalkaska |
| Torch (North) | Antrim | Silver | Genesee | Cub | Kalkaska |
| Torch (South) | Antrim | Beatons | Geogebic | Eagle | Kalkaska |
| Barlow | Barry | Hunter | Gladwin | Indian | Kalkaska |
| Cobb | Barry | Lancelot | Gladwin | Papoose | Kalkaska |
| Crooked (Upper) | Barry | Lancer | Gladwin | Pickerel | Kalkaska |
| Duncan | Barry | Bass | Gogebic | Squaw | Kalkaska |
| Fair | Barry | Dinner | Gogebic | Starvation | Kalkaska |
| Payne | Barry | Long | Gogebic | Twin (Big) | Kalkaska |
| Long (Little) | Barry/Kalamazoo | Moon | Gogebic | Twin (Little) | Kalkaska |
| Ann | Benzie | Arbutus | Grand Traverse | Bostwick | Kent |
| Crystal | Benzie | Island | Grand Traverse | Crooked (Big) | Kent |
| Platte (Big) | Benzie | Spider | Grand Traverse | Emerald | Kent |
| Sanford | Benzie | Diane | Hillsdale | Freska | Kent |
| Paw Paw (Little) | Berrien | Lansing | Ingham | High | Kent |
| Coldwater | Branch | Chain | Iosco | Maston | Kent |
| Randall | Branch | Island (Little) | Iosco | Murry | Kent |
| Duck | Calhoun | Long | Iosco | Muskellunge | Kent |
| Birch (Fallon) | Cass | Van Etten | Iosco | Pine Island (Big) | Kent |
| Christiana | Cass | Mary | Iron | Gratiot | Keweenaw |
| Diamond | Cass | Perch | Iron | Harper | Lake |
| Eagle | Cass | Gorr | Isabella | Metamora | Lapeer |
| Juno | Cass | Brown | Jackson | Nepessing | Lapeer |
| Magician | Cass | Clark | Jackson | Brooks | Leelanau |
| Painter | Cass | Clear | Jackson | Cedar | Leelanau |
| Puterbaugh | Cass | Farwell | Jackson | Fisher (Big) | Leelanau |
| Shavehead | Cass | Pleasant | Jackson | Glen (Big) | Leelanau |
| Twin (Big-North) | Cass | Portage (Big) | Jackson | Glen (Little) | Leelanau |

| Lake | County |
|--------------------|--------------------------|
| Leelanau (North) | Leelanau |
| Leelanau (South) | Leelanau |
| South Bar | Leelanau |
| Devils | Lenawee |
| Evans | Lenawee |
| Posey | Lenawee |
| Round | Lenawee |
| Sand | Lenawee |
| Baetcke | Livingston |
| Chemung | Livingston |
| Earl | Livingston |
| Gallagher | Livingston |
| Green Oak (Silver) | Livingston |
| Hamburg | Livingston |
| Ore | Livingston |
| Round | Livingston |
| Strawberry | Livingston |
| Triangle | Livingston |
| Portage | Livingston/ Washtenaw |
| Brevoort | Mackinaw |
| Bear | Manistee |
| Chabenua | Marquette |
| Independence | Marquette |
| Chancellor (Blue) | Mason |
| Hamlin (Lower) | Mason |
| Hamlin (Upper) | Mason |
| Oxbow (North) | Mason |
| Blue | Mecosta |
| Canadian (Main) | Mecosta |
| Canadian (West) | Mecosta |
| Horsehead | Mecosta |
| Mecosta | Mecosta |
| Pretty | Mecosta |
| Round | Mecosta |
| School Section | Mecosta |

| Lake | County |
|-------------------|-------------|
| Sanford | Midland |
| Baldwin | Montcalm |
| Clifford | Montcalm |
| Crystal | Montcalm |
| Crystal | Montcalm |
| Derby | Montcalm |
| Muskellunge | Montcalm |
| Twin (East) | Montmorency |
| Twin (West) | Montmorency |
| Duck | Muskegon |
| Bills (Reinhardt) | Newaygo |
| Bills (Waits) | Newaygo |
| Emerald | Newaygo |
| Fremont | Newaygo |
| Kimball | Newaygo |
| Pickereel | Newaygo |
| Sylvan | Newaygo |
| Webinguaw | Newaygo |
| Angelus | Oakland |
| Buckhorn (North) | Oakland |
| Cranberry | Oakland |
| Deer | Oakland |
| Hawk | Oakland |
| Lakeville | Oakland |
| Long | Oakland |
| Middle Straits | Oakland |
| Orion | Oakland |
| Ottawa | Oakland |
| Oxbow | Oakland |
| Parke | Oakland |
| Taylor | Oakland |
| Walled | Oakland |
| White | Oakland |
| Crystal | Oceana |
| Pentwater | Oceana |
| Stony | Oceana |

| Lake | County |
|--------------------------|-----------------|
| Tahoe (formerly Schmidt) | Oceana |
| Clear | Ogemaw |
| Rifle | Ogemaw |
| Center (Kettunen) | Osceola |
| Hicks | Osceola |
| Indian | Osceola |
| Viking | Otsego |
| Bradford (Big) | Otsego/Crawford |
| Crockery | Ottawa |
| Higgins (N. Basin) | Roscommon |
| Higgins (S. Basin) | Roscommon |
| Houghton | Roscommon |
| Corey | St. Joseph |
| Fishers | St. Joseph |
| Klinger | St. Joseph |
| Perrin | St. Joseph |
| Pleasant | St. Joseph |
| Sturgeon | St. Joseph |
| Templene | St. Joseph |
| Cedar | VanBuren |
| Cora | VanBuren |
| Crooked (Big) | VanBuren |
| Crooked (Little) | VanBuren |
| Fish | VanBuren |
| Gravel | VanBuren |
| Silver | VanBuren |
| Bridgeway | Washtenaw |
| Bruin | Washtenaw |
| Greenook | Washtenaw |
| Pleasant | Washtenaw |
| Blue Heron Lagoon | Wayne |
| Muskoday | Wayne |
| Pleasant | Wexford |
| Stoneledge | Wexford |

Appendix C

The following data are a summary of the measurements taken during the 2011 CLMP field season.

Secchi Disk Transparency

- 198 lakes (219 basins) were sampled.
- Total number of measurements = 3,047
- Transparency data summary:
 - Transparency range: 1-57 feet
 - Mean: 12.2 feet
 - Median: 11 feet
 - TSI_{SD}*: 27-66 (average: 42.1)

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

Spring Total Phosphorus

- 145 lakes were sampled
- Data summary:
 - range: <5-113 ug/l
 - mean: 14.4 ug/l
 - median: 9.0 ug/l
- 26 QA/QC samples were taken.
 - 18 replicate samples
 - 3 side-by-side samples
 - 3 side-by-side replicates
 - 1 field blanks
 - 1 equipment blanks

Summer Total Phosphorus

- 186 lakes were sampled
- Data summary:
 - range: <5-74 ug/l
 - mean: 13.0 ug/l
 - median: 10 ug/l
 - TSI_{TP}: <27 - 66 (40.0 average)
- 27 QA/QC samples
 - 22 replicate samples
 - 1 side-by-side sample
 - 2 field blanks
 - 2 equipment blanks

Appendix C, continued.

Chlorophyll a

- 125 lakes were sampled
- 571 volunteer samples were analyzed.
- Data Summary:
 - range: <1-37.0 ug/l
 - mean: 3.4 ug/l
 - median: 2.3 ug/l
 - TSI_{CHL}: <24-60 (average: 38.7)
- 28 QA/QC samples
 - 14 replicate samples
 - 5 side-by-side samples

Dissolved Oxygen/Temperature

- 44 lakes were sampled throughout the summer.
- A total of 302 oxygen/temperature profiles were taken.
- Between 5-27 measurements were made for each profile.
- In total, 4,939 oxygen/temperature measurements were taken in 2011.

Aquatic Plant ID and Mapping

5 lake enrolled

Exotic Aquatic Plant Watch

26 lakes enrolled

Appendix D

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

2011 Grants

Grant #: VRSCCP2011-01

Grantee: South Branch Township

Title: Au Sable River Annual River Cleanup

Watershed(s): Au Sable River

Funding Amount: \$2,692

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

To clean up approximately 75 miles of the mainstream, south branch and north branch of the Au Sable River.

Grant #: VRSCCP2011-02

Grantee: City of Ann Arbor

Title: Cleanup the Huron River

Watershed(s): Huron River

Funding Amount: \$3,419

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

To keep the Ann Arbor area section 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.

Grant #: VRSCCP2011-03

Grantee: City of Battle Creek

Title: 2011 Global Citizens River Conservation Day

Watershed(s): Kalamazoo River

Funding Amount: \$1,500

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

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 tires.

Grant #: VRSCCP2011-04

Grantee: City of Cedar Springs

Title: Cedar Creek Cleanup

Watershed(s): Cedar Creek

Funding Amount: \$1,222

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

To publicize, educate, and inform the watershed's citizens of the need to protect and maintain its natural resources through the removal of trash from Cedar Creek.

Appendix D, continued.

Grant #: VRSCCP2011-05

Grantee: Saginaw Conservation District

Title: Cass River 3rd Annual Clean-Up

Watershed(s): Cass River

Funding Amount: \$2,450

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

To clean a 3-5 mile section of the river from the Dixie Highway to the Bridgeport Township Park.

Grant #: VRSCCP2011-06

Grantee: City of Charlotte

Title: 7th Annual River Cleanup

Watershed(s): Butternut Creek and Battle Creek River

Funding Amount: \$739.61

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

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

Grant #: VRSCCP2011-07

Grantee: Barry Conservation District

Title: 16th Annual Thornapple River Cleanup

Watershed(s): Thornapple River

Funding Amount: \$1,680

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

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

Grant #: VRSCCP2011-08

Grantee: Chippewa/East Mackinac Conservation District

Title: 1st Annual Munuscong River Cleanup Project

Watershed(s): Munuscong River

Funding Amount: \$2,846

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

To engage the Munuscong River Watershed Association, Pickford High School, and the Conservation District in the first annual Munuscong River Cleanup Project to clean the lower eight miles of the navigable river channel and six historic water trail sites.

Grant #: VRSCCP2011-09 (*Declined Award*)

Grantee: Tuscarora Township

Title: 2011 Big Splash Clean Up

Watershed(s): Indian and Sturgeon Rivers

Funding Amount: \$1,345

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

To provide for the physical and biological enhancement of the Indian and Sturgeon Rivers through the clean-up of approximately two one-mile stretches of each river system, removing both trash and debris.

Appendix D, continued.

Grant #: VRSCCP2011-10

Grantee: City of Marshall

Title: Marshall Area River Clean Up & Conservation Day

Watershed(s): Kalamazoo River

Funding Amount: \$1,760

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

To work together as a community to preserve, protect, and enhance Marshall's natural resources through in-river and river bank collection of trash at nine different area sites.

Grant #: VRSCCP2011-11

Grantee: St. Joe County Conservation District

Title: St. Joe County River Cleanup 2011

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

Funding Amount: \$3,910

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

To implement the first year of a three-year plan to clean 150 miles along the Rocky, St. Joseph, Fawn, Prairie, and White Pigeon rivers, cleaning roughly 37.5 miles in 2011.

Grant #: VRSCCP2011-12

Grantee: Van Buren Conservation District

Title: River Rescue in Black and Paw Paw River and Hickory Creek Watersheds

Watershed(s): Black River, Paw Paw River, and Hickory Creek

Funding Amount: \$4,098

Final Report: Available upon request; will be submitted to DEQ at end of 2011 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 from approximately nine different river branches.

Grant #: VRSCCP2011-13

Grantee: City of Grand Rapids Environmental Services Department

Title: Mayors' Grand River Clean Up

Watershed(s): Grand River

Funding Amount: \$3,094

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

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.

Grant #: VRSCCP2011-14

Grantee: Shiawassee County Health Department Environmental Health Division

Title: 14th Annual Shiawassee River Cleanup

Watershed(s): Shiawassee River

Funding Amount: \$1,935

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

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.

Appendix D, continued.

Grant #: VRSCCP2011-15

Grantee: Grand Traverse Conservation District

Title: Boardman River Clean Sweep 2011

Watershed(s): Boardman River

Funding Amount: \$1,457.50

Final Report: Available upon request; will be submitted to DEQ at end of 2011 grant cycle

To conduct the 7th annual community-wide cleanup of the Boardman River in conjunction with the American Rivers' National River Cleanup 2011 and the National Cherry Festival.

Appendix E

Results from an optional user survey in the Michigan Data Exchange (for 2011). These results show the different ways that MiCorps data is being used.

136 entries.

Academia or Educational: 20
 Business: 5
 Federal Agency: 2
 Individual: 35
 Lake Association: 36
 Non-government Organizations: 15
 Other Government: 4
 State Agency: 19

Highlights:

| Affiliation | Organization | Data Use |
|----------------|---------------------------------|---|
| Academia | Delta College | I conduct stream monitoring with my students and would like to create/join a stream monitoring group. I would also like to have students aware of existing data that can be used to develop a comprehensive plan for state wide improvement of water quality. |
| Academia | Main Street School | We are doing research on the Great Lakes hydrology. |
| Academia | Michigan State University | Teaching concepts, civic engagement, monitoring, science |
| Academia | University of Michigan | I am a grad student performing a "hypothetical" ecological risk assessment on the Clinton River. |
| Academia | University of Maryland | Investigating use of satellite data for monitoring. |
| Academia | New Lothrop Area Public Schools | Education |
| Academia | Michigan state | Research project |
| Academia | South Arbor Academy | Student report |
| Academia | | Looking for info to include in Research project about the Flint River Watershed. |
| Business | Progressive AE | Reporting and interpreting the data for a lake association. |
| Business | Public Sector Consultants | Develop watershed plan |
| Business | Keller Williams | Details on cottage listing |
| Business | Public Sector Consultants | Watershed planning |
| Federal Agency | USGS | Report |
| Individual | Self | Looking to buy lakefront property for retirement life and fishing. |
| Individual | | Scuba diving information |

| | | |
|-------------------|--------------------------------------|--|
| Lake Association | Indian Lake Association of Vicksburg | Education of lake residents |
| Lake Association | Van Etten lake Association | For membership meeting report |
| Lake Association | Round Lake Preservation | Monitoring lake quality |
| Lake Association | Crockery Lake Assn | Publish in newsletter |
| Lake Association | Pleasant Lake Wexford County | To determine the overall water quality of the lake. |
| Lake Association | Sanford Lake Association | Monitor weed control program |
| NGO | Upper Manistee River Association | Monitoring water quality of the Upper Manistee River |
| NGO | Clinton River Watershed Council | Would like to see if data exists for Lake Orion. |
| NGO | ODCMG | Merely curious |
| NGO | Duck Creek Watershed Assembly | As an aid in developing a watershed management plan |
| NGO | Duck Creek Watershed Assembly | Planning and management |
| NGO | Bear Lake Property Owners Assoc. | Help prepare watershed plan |
| NGO | Sierra Club Michigan Chapter | Checking the progress of a group I helped to get started in water monitoring under the MiCorps program in 2006. It looks like they're doing great! |
| NGO | Gratiot Lake Conservancy | Lake monitoring |
| NGO | Southeast Michigan Land Conservancy | Organizational strategic planning and conservation planning |
| Other Gov | Benzie Conservation District | We work with lake associations in our county on monitoring, and want to collect the same data with the same parameters as MiCorps. |
| Other Gov | Hamburg Township | Reviewing lake water quality. |
| State Agency | DEQ | Plan 2011 watershed monitoring. |
| State Agency | Institute for Fisheries Research | To make predictions of lake temperature in other lakes throughout the state, to help with fisheries management. |
| State Agency | DEQ/Aquatic Nuisance Control | Look at past and current lake conditions |
| State Agency | DEQ | Historical data record for a report |
| State Agency; NGO | Midwest Glacial Lakes Partnership | We are looking for water quality data to use as a response variable in an assessment of lakes across 8 states, including MI. |