FINAL PROJECT REPORT
MiCorps Volunteer Stream Monitoring Grant #VSM 2013-03
Alger Waters Stream Team Monitoring Project

Grantee: Alger Conservation District
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Project goals and objectives
The goals of this project were: To educate adults and youth about threats to our waters; to recruit citizens, students, and new partners into a cohesive effort to identify threats to and monitor the health of our streams; to acquire useful data by monitoring selected threatened watersheds and to make that data available to local governments and stakeholders; to incorporate that data into the Alger Conservation District's watershed protection and prioritization effort; and to seek ways to sustain the volunteer monitoring program after the grant by training and motivating volunteers and seeking new partnerships and funding. We identified the following objectives in order to implement those goals.

- Preparation for project implementation. This included developing and refining a QAPP, purchasing equipment, scouting and mapping 12 site locations on six streams, sending staff to MiCorps training, and scheduling and planning outdoor and indoor training and identification events for volunteers.
- Outreach, education and recruitment. General outreach was planned through local media to include PSAs, newsletter articles, web and social media, and District presence at events such as the county fair, home shows, and farmers' markets. Targeted outreach and volunteer recruitment was planned for partner groups, local high school science classes, university biology and ecology majors and related extracurricular groups, and outdoor organizations such as Trout Unlimited. Local government partners were kept informed of program and volunteer opportunities through District annual report and in-person updates.
- Sampling and sorting events. A side-by-side sampling with MiCorps staff was planned to prepare staff for volunteer collection events and ensure that MiCorps procedures were followed. Collection events were planned to be held in September 2013, late May 2014, September 2014, and late May 2015. Habitat assessments were to be held in conjunction with sampling events once per year. In order to more accurately identify samples and accommodate volunteers who prefer indoor work, separate indoor ID sessions were to be held after the collection events. Data was to be recorded and samples were to be stored per MiCorps protocols, as delineated in the approved QAPP.
- Data management. Data was to be entered in to the MiCorps Data Exchange Network, and generalized results disseminated to the public via District web site.
- Assessment and Planning. In order to improve events and effectiveness of program, staff, partners, and key volunteers (once identified) were to hold debriefings after each sampling event. District staff and board members were to regularly discuss the program at board meetings and seek new sources of partnerships, volunteers, and sustainable funding to carry the program beyond the grant period.
- Project management. Administrative staff and field staff were to review deliverables and compile quarterly status and financial reports and prepare final report documents as specified in grant contract.

Successes and Challenges.
Our staff successfully met the goals of preparing the QAPP and setting ourselves up for implementation, including preparing outreach materials, stocking field kits, and locating & marking sampling sites.
Our outreach and recruitment was fairly comprehensive given the outlets available to us, however, recruitment of active volunteers met with limited success. We foresaw that this would be the case, given our small population and our knowledge of other MiCorps grantees' experience, but were still disappointed with the number of adult residents who committed to the program. We had much interest in the educational programs but little commitment on the ground. Additional snail mail contacts, social media, and PSA reminders were used, but these did not increase active response very much. Our best source of enthusiastic volunteers remains Northern Michigan University, as discussed below under Lessons Learned.

A total of 11 sites in five watersheds across Alger County were monitored in fall 2013, spring and fall 2014 and spring 2015. These watersheds were: the Anna River in the Munising Bay watershed near Munising (3 sites); Baker Creek, a tributary of the Sucker River near Grand Marais (two sites); Slapneck Creek, a tributary of the Au Train River near Chatham (two sites); Werner Creek, a tributary of the West Branch of the Whitefish River (two sites); and Dexter Creek, a tributary of the East Branch of the Whitefish River (two sites). These sites were selected based on potential threats to the watersheds, including non-point source contamination from agricultural sources, degraded gravel road-stream crossings, historical logging operations, and recreational use, and potential contamination from County-designated brownfield sites. We had planned to monitor Bohemian Creek near Chatham due to its proximity to known UST contamination, but were unable to find a stretch long enough to meet MiCorps criteria. We substituted a third site on the Anna River.

Data management and assessment of program were conducted regularly and we met our objectives on both of those counts. We felt our identification was particularly accurate due to participation of expert volunteers and partners.

Our pursuit of sustainability, though, met with limited success, as discussed in the Project Sustainability section below.

Training events:

October 5, 2013: in-stream training, Munising
October 2013: in-class and on-site training and orientation for Burt Township HS science teacher and students and North Star Academy teacher and students
March 2014: Intro to Macro ID presentation to NMU Wildlife Society.
April 2014: in-stream training, Whetstone Creek, Marquette
May 7, 2014: Lab ID workshop, NMU
September 17, 2014: Training at the Gwinn Clubhouse 165 N. Maple St, Gwinn
September 20, 2014: Training at Marquette Township Hall (joint training with Marquette CD)
March 2015: Lab ID training at NMU
May 2015: Lab ID training in Chatham
May 2015: In-stream training, Skandia

Monitoring events: October 10-12 2013; June 4-7, 2014; October 1-6, 2014; June 1-6 2015. Habitat assessments conducted once per year during summer.

65 volunteers have been involved over the course of the program so far. Sounds impressive; but this includes many college interns and students who were trained and moved on after a semester or two. A few non-student volunteers only attended a few events; some frankly admitted that they were unlikely to return due to the mosquitos. (2015 was a particularly buggy year.) Several are often unable to make events due to multiple other commitments, but are regular enough to stay on our list. A few of those have proved to be here for the long haul.

Environmental benefits, other benefits, and lessons learned

The primary environmental benefit was that of learning, based on the plentiful macro populations found in our sampling, that our stream sites were in good health. Other benefits, especially related to outreach, were an increased awareness in the general public of stream health in general and stream ecology, non-point source threats, and riparian food chains in particular. Gearing the educational opportunity to the audience sometime required thinking on the fly: general outreach at, say, a farmers' market could be considered a success if the audience learned what macroinvertebrates are and that they are important to stream and fishery health. To our delight, some of our outreach to university students showed us that many were already familiar with macros, and we switched to a more advanced discussion of macro ID when we saw that they were ready for that level. Some students knew almost as much as our staff—and were ready to put in some volunteer time during their college years. (We recruited a few of these students and they required very little training.)

The main lessons learned fell into the categories of volunteer recruitment and event planning. We knew at the outset that volunteer recruitment and retention in a county of our size (9,000 residents) would be a challenge, but we perhaps did not anticipate just how much of a challenge it would be. Many of the county residents who crowed about how wonderful it would be to have an active stream monitoring program were noticeably reticent when we contacted them to volunteer. We also faced the challenge of scheduling events to accommodate the work and

family responsibilities of the pool of trained and willing volunteers. We found that designating a single weekend day for all stream collections would leave out those volunteers with non-traditional schedules, and we frankly had too few volunteers to cavalierly write those folks off. We ended up designating a 3 to 5-day period each spring and fall as 'sample week', scheduling events at each stream during that period based on what volunteers were available. We found that adults of working age were hard to bring on board. Work, family, and other activities made this group a difficult pool to recruit.

We identified an excellent core group of volunteers in retired resource professionals. Alger County is rich in public land, and there is a pool of potential volunteers employed by the park service and state and federal agencies. We tapped that pool as much as we were able.

We learned that a number of college students were willing to participate at multiple sites over several days, and we took full advantage of those students' willingness and expertise by scheduling them at several sites. We expect that this would improve their experience and confidence and produce greater consistency in technique than might be expected from a group of volunteers with only our standard training and one event each season. We do, however, recognize the limitations of college students as volunteers. They are enthusiastic and, as mentioned, often have a science background which makes them easy to train; but the duration of their volunteer stint is about as long as their college career. Long-term volunteers are a challenge to find.

The main lesson learned in event planning was that spring sampling can seldom reliably be scheduled in the Upper Peninsula before the first week of June. Spring melt usually occurs much later than it does in regions farther south, and, coupled with spring rains, often means that all but the smallest streams are fast and dangerous through May. In speaking with local sportsmen and entomologists, though, we also learned that insect maturation happens later in the UP than in other areas, so scheduling in the first week of June does not mean we will miss the Mayfly hatch.

We learned that the old adage about a picture being worth a thousand words held true: most people are visually oriented, so we attempted to refine our events by focusing on strong visuals. We printed color images of insects culled from MiCorps presentations onto half-size card stock and laminated them so that each team would have an ID flip book. We also had a GIS professional prepare site packets including maps, written directions, and photos for each site, as we discovered that despite (or because of?) the ubiquity of GPS, many volunteers are directionally challenged and require detailed and explicit directions to ensure that they find and sample the correct site.

General information, education or outreach activities

July 2014: Kiwanis volunteer recruitment presentation
September 2014: NMU Fall Fest recruitment/info booth
September 2013 and 2014: Agri-Palooza Conservation Fest: education for youth; outreach to parent chaperones as potential volunteers
October-November 2014: Presentations to Au Train, Munising, and Burt Township boards
October 2014: presentation at Alger CD annual meeting
These activities are in addition to outreach materials presented via farmers' markets, tree sales, home shows, other District workshops, annual meeting, newsletters, and free media PSAs.

Other evaluation: No other evaluation was done as part of this project.

Partners:

City of Munising provided financial support for Alger CD's work in their jurisdiction, which gives Alger CD the cash flow necessary to participate in reimbursement grants such as this.
Au Train Township provided financial support for Alger CD's work in their jurisdiction.
Superior Central School provided transportation and support for team leader/science teacher Tim Bliss to train and bring student team to site.
The Forestland Group, LLC provided staff to assist with monitoring near its property on the Anna River.
Greenstone Mapping donated in-kind services to create comprehensive site packets.
MSU Agricultural Experiment Station provided meeting space near the Chatham sites.
Rock River Township provided meeting space and waived hall fees.
Superior Watershed Partnership provided assistance with expert sample identification and use of lab equipment.
Marquette County Conservation District shared resources for workshops and trainings.
Burt Township provided financial assistance for Alger CD's work in their jurisdiction.

Burt Township School and North Star/Polaris Charter School provided transportation and support for team leader/science teacher to train and bring student team to site.
Northern Michigan University provided lab space, equipment and staff assistance for ID workshops and collection.

Products completed

Three major products were created under his project (files included in attachments). The first was a packet for each site which included maps, written directions, and photos to make it easy for volunteer teams to find sites. The second was a field card ID packet for each team kit. Images were compiled from MiCorps materials and public domain images. Cards were printed, laminated and strung onto small carabiners for easy on-site reference. The third was a set of full-size (8.5" x 11") color cards taken directly from MiCorps online materials, laminated for repeated use in educational and recruitment displays (files for this not attached, as they are identical to Power Point materials on webpage).
In addition, numerous flyers and outreach materials were created to promote the program and individual events, a selection of which are attached.

Project sustainability

After three years (this two-year grant and the startup grant prior to that), it has become clear that no volunteer program can be totally self-sustaining, regardless of how competent and dedicated volunteers are. While we have identified four key volunteers who can assume responsibility for discrete aspects of the program, we have not found one single volunteer who is able and willing to step up and completely oversee the program (including all protocols for data collection and entry). We have a retired aquatic biologist who will be able to train new volunteers and continue to head teams; we have a another retired Park Service biologist who can reliably head teams and assist with training; and we have two MiCorps-trained high school instructors who will train students in MiCorps protocols each season and lead teams in a collection. However, none of these volunteers are able to step up to program oversight or promotion, and none feel ready to assume data entry duties. It will therefore be necessary for District personnel to continue to recruit new volunteers to replace those lost to attrition, to find funds to replace any damaged equipment, to schedule and promote events, and to oversee data entry. Our estimate, based on experience under this grant, is that these tasks on the most basic level would cost approximately $2,000 to $3,000 per year to sustain the entire program (11 monitoring sites, twice per year) at its current level. Since Conservation Districts receive no operations money, there is no in-house pool of cash from which to draw such funding.
Despite that, we believe we have the means to continue monitoring at least some of the sites going forward. Due to our active intern program and relationship with Northern Michigan University, we have access to a pool of college-age volunteers already somewhat familiar with macroinvertebrate monitoring, and we have access to training facilities and some staff assistance.
We should be reliably able to monitor Slapneck Creek and Baker Creek thanks to the high school instructors mentioned above. The limitations on their participation however, are that they are not able to travel with the students to different sites, and we understand that it is desirable to send teams to different locations each collection day to balance any idiosyncracies of a team's collection technique.
We also should be able to get teams out to the Anna River and Werner's Creek on a regular basis, though there may be times that we have no volunteer availability and no staff time/funding to aggressively pursue additional volunteers for a particular sampling event.
We may not be able to continue monitoring of current sites on Dexter Creek due to recent change of land ownership.
To some extent, the promotional materials we have already created can be reused/revamped with minimal effort for recruitment, and some such recruitment can piggyback on other District events; but our ability to plan and hold stand-alone recruitment and training and to do volunteer outreach and contact prior to each event will be limited by staff funding. As mentioned, though, we do have a competent volunteer trainer, so we will be able to conduct some training events.
We expect that our Township and City partners will continue to provide some limited financial support for our District, though most often such support must, for the sustainability of the District itself, be earmarked towards matching specific **current** grant activities. We do attempt to make the case for a small pool of funding to be

directed toward sustaining the monitoring program, but our partners have financial issues of their own, and we have not been successful on this front.

Photos of activities and copies of products are attached separately.