Final Project Report

Project Name: Monitoring in the Au Sable, Kalamazoo, Rogue, and Pilgrim Watersheds

Organization Name: Michigan Trout Unlimited

Project Goals and Objectives

The goals of this project were to begin to collect baseline data on select coldwater streams in each watershed, to engage volunteers in conducting this sampling, and to create a sustainable monitoring program in each watershed that will track the health of each stream. We have begun to establish baseline data and then will continue to monitor the streams for changes. Both negative and positive impacts will be portrayed in our data, reflecting effects of agriculture, CAFO's, development, stream improvement projects, and the implementation of best management practices. In addition, MITU has developed a coldwater database which includes MiCorps data and data from other MITU monitoring efforts.

KVCTU sampled 5 coldwater tributaries to the Kalamazoo River. The Kalamazoo River watershed has a large amount of agriculture and many CAFO's. Both agriculture and CAFO's pose serious threats to water quality. Monitoring benthic macroinvertebrates will help us detect changes in water quality and document stream health.

SWMTU was committed to sampling 2 coldwater streams in the Rogue River watershed; in recent events 5 sites have been sampled. The Rogue River is a coldwater stream on the edge thermally. There is a large amount of development and agriculture within the watershed that threaten the coldwater fishery. It is important we monitor macroinvertebrates and habitat in the Rogue to monitor the health of the river.

MGFTU sampled 2 sites in the upper Au Sable River watershed. The Au Sable River is a renowned trout stream. There are many stakeholder and user groups working to protect and restore the Au Sable River. Currently there is not a focus on the headwaters section. The headwaters are extremely important to the health of the river. MGFTU is beginning an Au Sable River Headwaters Initiative, one part of that initiative is to do MiCorps monitoring in the headwaters area. Data collected will be compared to historic data and will be used to track stream health.

CCTU was committed to sampling 4 sites in the Pilgrim River watershed; in recent events 8 sites have been sampled. The Pilgrim River is a pristine river near Houghton. It flows, unimpeded into Lake Superior. It is important we protect this watershed for anadramous salmonids.

Initially, our goal was to begin to determine the condition of each coldwater stream. Going forward, we plan to use collected data to monitor these streams for changes and identify areas that need restoration and protection. In the future, we plan to increase the number of sampling sites to get a better picture of each watershed. Ultimately, we plan to create a long term data set for each stream, which will fit in well with temperature, flow, and fish data collected through the MITU River Keepers Program.

WORK PLAN

1.0 Administrative

1.1 Develop and submit QAPP within 60 days. MITU Project Manager 5%
1.2 Attend 1-day MiCorps training session. Kristin Thomas and chapter project managers 2%
1.3 Joint sampling evaluation event with MiCorps staff. MITU project manager and chapter project managers 2%
1.4 Organize and facilitate a meeting with Mason-Griffith Chapter representatives, Kristin Thomas, Tom Dale, Steve Sendek, and Jeff Cooper to discuss site selection, data use, and coordinating sampling events 1%
1.5 Coordinate a phone call with Bill Taft and George Madison to discuss site selection on the Pilgrim River 1%
1.6 Participate in annual MiCorps Conference during grant terms. MITU project manager and available chapter project managers 2%
1.7 Development and submission of quarterly status and financial reports. MITU Project Manager 3%
1.8 Develop and submit final report. MITU Project Manager 1%
1.9 Submit release of claims statement. MITU Project Manager 1%
1.10 Maintain volunteer database. MITU Project Managers 1%
1.11 Develop and maintain database for monitoring data. MITU Project Manager 3%
1.12 Submit provision of products and deliverables. MITU Project Manager 1%
1.13 Submit data to MiCorps data exchange network. MITU Project Manager 1%

2.0 Education and Training

2.1 Develop training program and materials for volunteers. MITU/Chapter Project Mangers 5%
2.2 Develop sampling session evaluation form. MITU Project Manager 1%
2.3 Hold training session for all new volunteers prior to each sampling session. MITU Project Manager, Chapter Project Managers 15%

3.0 Sampling Session

3.1 Confirm volunteers prior to each sampling session and make assignments. Chapter Project Managers 1%
3.2 Perform sampling events. MITU and Chapter Project managers and volunteers 40%
3.3 Conduct sample identification session within two weeks of sampling event. MITU and Chapter Project Managers and some volunteers 10%
3.4 Inform volunteers and chapter members of sampling results. Project Managers 2%
3.5 Review sampling evaluation forms. MITU Project Manager 1%
3.6 Write newsletter articles and press releases, will aid in recruiting volunteers. MITU and Chapter Project Managers 1%

Success of Goals and Objectives

Overall, execution of the goals and objectives outlined in the grant proposal was very successful. The proposal called for sampling 5 sites in the Kalamazoo River watershed, 2 sites in the Rogue River watershed, 3 sites in the headwaters of the Au Sable River, and 4 sites in the Pilgrim River watershed. The actual number of sites sampled was 5 in the Kalamazoo, 5 in the Rogue, 2 in the Au Sable, and 8 in the Pilgrim. Two additional sites are planned for the Au Sable River in 2012.

Sampling was conducted twice per year beginning in the fall on 2010. Four sampling events were held at most sites (fall 2010, spring 2011, fall 2011, and spring 2012). A few sites did not get sampled at every event. In the Rogue River, two sites were added in the spring of 2011 and one was added in the fall of 2011. Huff Creek in the Kalamazoo watershed was not consistently sampled; this was due to private access to the site. In hind-site it was a poor site choice due to limited access. The Pilgrim River sites have not yet been sampled in the spring of 2012, sampling is scheduled for June 2.

All verified data has been entered into the MiCorps database. If Kristin Thomas or Steve Kohler has not yet verified the identifications, data has not yet been entered. As soon as samples are received, and verified the data will be entered into the database.

We are still collecting the baseline data at all sites. We do not yet have three years of data for any site. Habitat evaluations have been conducted at the sites on the Au Sable River. Other habitat evaluations will be conducted during the summer of 2012 (Rogue and Kalamazoo Rivers) or the summer of 2013 (Pilgrim River). We still plan to continue to collect data at all sites to build long-term data sets. In addition, this data will be used as before data to study the impact of any stream improvement projects conducted at sampling sites.

Work Plan: Successes and Challenges

<u>Administration</u>
All of the administrative tasks outlined in the work plan have been completed.

- QAPPs were developed for each project and approved my MiCorps staff.
- Kristin Thomas attended training and did a joint sampling event with MiCorps staff.
- Communication between the Mason-Griffith Chapter and the Gahagan Nature Preserve has been open and productive. Mason-Griffith Chapter volunteers consistently continue to help the Gahagan Nature Preserve with sampling and identification.
- Additional sites were added higher in the watershed on the Pilgrim River per the suggestion of Bill Taft.
- Kristin Thomas attended both MiCorps conferences during the grant cycle and presented at the 2011 conference.
- Quarterly reports have been submitted on a regular basis and a final report will also be submitted.
- Data has been entered into the MITU volunteer database as well as the MiCorps database. Any un-entered data will be entered as soon as it is verified.

<u>Education and Training</u>
Most of the education and training tasks were also completed successfully.

- A training program and materials were created for volunteers. This included using the MiCorps PowerPoint presentation to train volunteers in sampling techniques and what bugs to look for. In addition, in-stream instruction on sampling was done as was laboratory training for identification. Some of the more successful training tools developed included large pictures of each “order” of bug for volunteers to look at and a “quiz” on all of the bug “orders” for volunteers to take to test their knowledge.

- Sampling session evaluation forms were created. However, they were only distributed at a few sampling events and the results have not yet been tabulated. Getting the evaluations out to volunteers, and getting volunteers to fill them out, was a challenge. We often forgot to distribute evaluations, or if we remembered it wasn't until the very end of the day and few were returned. We need to do a better job of capturing volunteer feedback.
- Training sessions were held before each event. This was done in two ways. In all cases, a brief training was held immediately before each event. This short training was designed for new volunteers. It provided information on the basics of sampling and what to look for. Our stream leaders were trained prior to each sampling event. Stream leader training was a half day event during which we covered sampling techniques and identification to the order level. Stream leader trainings were held with volunteers from each watershed.

Sampling Session

- All volunteer confirmation was done by volunteers (or TU national staff in the case of the Rogue River) for each river. They took care of tracking how many volunteers we would have, their experience, and where those volunteers were assigned.
- We did not miss any scheduled sampling events during the grant period.
- In all cases, identification was done within two weeks of each sampling event. Most of the groups do sampling in the morning, followed by lunch, and identification. This model seems to work well for most of our groups, especially when people have to travel long distances to attend events.
- Volunteers were informed of sampling results in a few different ways. In some cases, scores and a description were emailed to volunteers. In other cases, presentations with summary information were given. Developing a protocol for relaying results to volunteers was a challenge. During the winter of 2011-12 we developed a format for summarizing results for each site. We will continue to use this summary system to disseminate results to volunteers.
- As mentioned before, evaluation of sampling evaluations has been a challenge for us. We do not currently have data summarizing the few sample evaluation forms we have collected.
- Advertising sampling events and results through newsletters and press releases has also been a challenge. A couple of newsletter articles and press releases have been completed; however, we have not done this for each event or each river. In the future it would be a good idea to find a volunteer to lead this activity as staff has very limited time and a volunteer perspective would be interesting.

Sites Monitored, Events, and Volunteers

Site	Watershed	Dates Monitored
Cedar Creek	Rogue River	4/7/12, 10/11/11, 4/9/11, 10/21/10
Stegman Creek	Rogue River	4/7/12, 10/11/11, 4/9/11, 10/21/10
Rogue 12 Mile and Summit	Rogue River	4/7/12, 10/11/11, 4/9/11,
Rogue Jericho	Rogue River	4/7/12, 10/11/11, 4/9/11,
Rum Creek	Rogue River	4/7/12, 10/11/11
Silver Creek	Kalamazoo River	*4/7/12*, 10/1/11, 4/2/11, 10/16/10
Sand Creek	Kalamazoo River	*4/7/12*, 10/1/11, 4/2/11, 10/16/10
Rice Creek	Kalamazoo River	*4/7/12*, 10/1/11, 4/2/11, 10/16/10
Spring Brook	Kalamazoo River	*4/7/12*, 10/1/11, 4/2/11, 10/16/10
Huff Creek	Kalamazoo River	10/1/11
Au Sable 612	Au Sable River	4/25/12, *9/7/11*, 5/4/11, 9/14/10
Au Sable Pollack Bridge	Au Sable River	4/25/12, *9/7/11*, 5/4/11, 9/14/10
Pilgrim 1112	Pilgrim River	9/24/11, 5/21/11, 10/2/10
Pilgrim 1314	Pilgrim River	9/24/11, 10/2/10
Pilgrim 1516	Pilgrim River	9/24/11, 5/21/11, 10/2/10
Pilgrim 1718	Pilgrim River	9/24/11, 5/21/11, 10/2/10
Pilgrim 1920	Pilgrim River	9/24/11, 5/21/11, 10/2/10
Pilgrim 2122	Pilgrim River	9/24/11, 5/21/11, 10/2/10
Pilgrim 2324	Pilgrim River	9/24/11, 5/21/11, 10/2/10
Pilgrim 2526	Pilgrim River	9/24/11, 5/21/11, 10/2/10

Sites in *italics* have been sampled but not yet entered into the MiCorps database because identifications have not been verified. MITU does not yet have possession of these samples to verify the identifications.

Volunteers and Hours at MiCorps Sampling Events.

Watershed	Total Volunteers	Total Volunteer Hours
Rogue River	36	278
Kalamazoo River	21	185
Au Sable River	11	84
Pilgrim River	27	316
Total Volunteers	**95**	**863**

Training Sessions (Separate from sampling session) and Project Updates.

Watershed	Date	Volunteers	Volunteer Hours
Rogue River – training	3/29/2011	16	32
Rogue River – training/update	3/24/2012	14	42
Kalamazoo River - training	3/7/2011	11	44
Kalamazoo River – training	9/21/2011	4	12
Kalamazoo River - update	2/4/2011	20	40
Total volunteers training and update events		**65**	**170**

Benefits: Environmental and Other

This project has benefited both the environment and the communities in which sampling has been conducted. Environmentally, we have much more knowledge about each stream monitored than was available previously. This dataset will continue to grow and will provide very valuable information on the status of each stream over time. Information of this type is hard to come by and very valuable.

Communities benefited from increased awareness of the rivers in their areas. A large percentage of the active volunteers are not Trout Unlimited members. This means they are members of the community who care about the streams in their area. There were particularly high proportions of non-TU volunteers on the Rogue and Pilgrim Rivers. It was wonderful to see community members get involved in stream monitoring. Many volunteers also brought their kids along, which will help instill a value in water in those young people.

Partners

- Trout Unlimited (the national organization)
- Mason-Griffith Founds Trout Unlimited
- Kalamazoo Valley Trout Unlimited
- Schrems West Michigan Trout Unlimited
- Copper Country Trout Unlimited
- Michigan State University Kellogg Biological Station (use of building and equipment)

- The City of Rockford (use of building)
- Algoma Township (Use of building)
- The Superior Watershed Partnership
- Western Michigan University – Dr. Steve Kohler

Project Sustainability

We plan to continue all of the monitoring activities after the grant funding cycle. Most of the projects have conducted at least one volunteer event without the MITU project manager being present. These events have gone well and we anticipate they will continue to flourish in the future. The MITU project manager will continue to assist with sampling as much as possible. In addition, she will continue to verify identification, at least to the order level, and will continue to maintain the MiCorps and volunteer databases. Consumable supplies will be purchased by chapters involved with each project or MITU. MITU is presently seeking donations for consumable supplies and to fund a portion of the project manager's salary. However, regardless of the status of these efforts, the project manager will have adequate time and funding to continue to coordinate these projects, at least on a minimal level.

At this we don't have plans for expanding monitoring in any of our watersheds. If the number of volunteers who consistently attend events increases over time we will explore the possibility of adding additional sites in those areas. At present we have personnel and funds to maintain our current sampling level; we do not have personnel or funds to expand sampling.

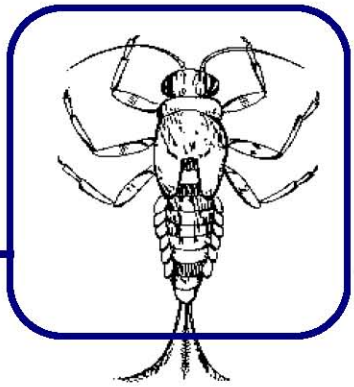
Photos, Brochures, Flyers

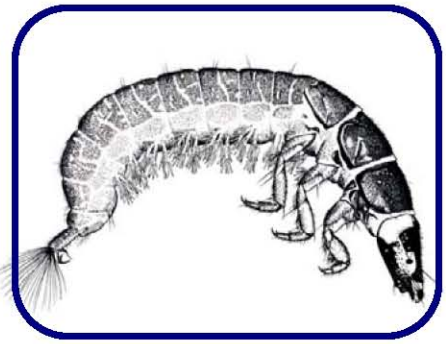
Flyers – We modified this flyer for all events.

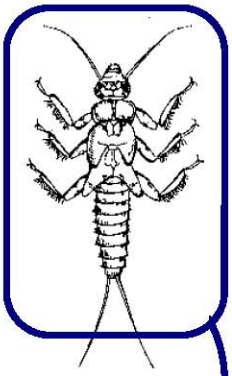
STREAM INSECT MONITORING

TROUT UNLIMITED ROGUE RIVER HOME RIVERS INITIATIVE &
MI TROUT UNLIMITED RIVER STEWARDS PROGRAM

CONTACT PERSON: NICHOL DE MOL NDEMOL@TU.ORG OR 231-557-6362







Why monitor stream insects? Stream insects are a good measure of water quality since many are pollutant sensitive and can be rapidly identified.

What will we do? Volunteers will be assigned to a monitoring group with a team leader. Each group will collect and identify insects from different stream sites. You don't need any experience with stream insects to participate and all ages are welcome.

What will I need? Please RSVP to Nichol De Mol if you would like to attend. Lunch will be provided for all volunteers. Please bring waders if you have them and dress for the weather conditions.

DATE: 4/7/12 TIME: 9:00 A.M.—1:00 P.M.

WHERE:

Algoma Township Hall

10531 Algoma Ave, Rockford

TROUT UNLIMITED