

Cannon Township Final Project Report

Project name: Bear Creek Stream Study
Project duration: Sept 2011 – May 2013
Applicant name: Cannon Township
6878 Belding Rd
Rockford MI 49341
(616) 874-6966
Applicant contact: Julie Lovelace, Watershed Coordinator
Project location: Kent County/Cannon Twp

Goals:

- a) Collect stream data
- b) Interpret data
- c) Use the data in a useful way i.e. make better planning decisions, prioritize stream projects, and use data to update the Bear Creek Watershed Management Plan
- d) Use the stream study as a way to educate residents regarding our watershed
- e) Share data and its meaning with the public through Cannon Township newsletter, website, festivals, school, and community presentations.

Primary Objective: Utilize the grant to acquire the skills and equipment needed to conduct a stream study long term. We have more than succeeded in utilizing the educational tools made available to us. Our equipment and training are already being utilized by local schools and colleges. We hope to continue to find ways to educate our residents on watershed issues.

Challenges/Barriers: Our only challenge is retaining the volunteers. We do have a dedicated core group and it is nice to be able to rely on them as team leaders. I do get a few new faces each time and hope that continues. It would be nice if I have enough volunteers, regardless of the season and other competing events that are going on at the time. I currently have 10-15 people per sampling and I would like to double that consistently.

Our only major event during a sampling was the flood we experienced this spring. We were unable to sample in April as we usually do. Instead, we waited until the first weekend in May. The weather was still comparable, but the water and sediment were very deep and dangerous. The macroinvertebrate numbers were not as high, but I think they represented perfectly the effects the flooding had on our stream life.

One major benefit of the project is that it brought to my attention the effects an old dam at the mouth of our creek has on sedimentation, temperature, fish passage, and invasives. When I first started this study I didn't even realize it was there.

I have met with consultants, the DNR, and the DEQ to discuss whether or not it should come out. The dam was put under a great deal of stress during the recent flooding and that gave me the perfect opportunity to discuss it with the owners. Another benefit of this project is that it opens up a dialog with riparians concerning natural shoreline protection and restoration.

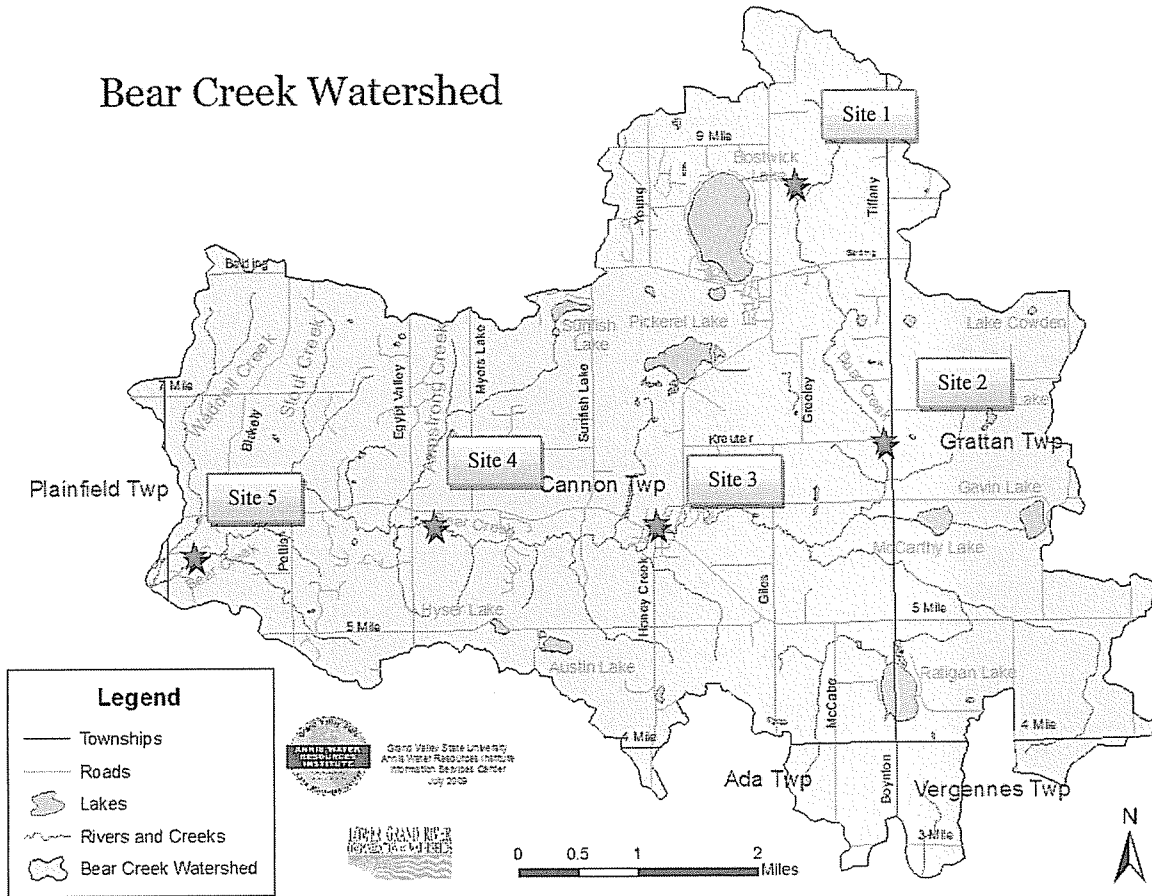
Education/Outreach: I included as an attachment an article I wrote for our Township newsletter entitled Bear Creek News. In it I describe an opportunity I had to teach watershed education to 6th and 7th graders in our school district. This is the first time I have been able to break into our local schools and I was so happy for the opportunity. It went very well. Nichol DeMol from Trout Unlimited and I team taught. For this event we created a bug matching game on laminated cards. Students had to match a black and white picture of a macroinvertebrate with a completely different color picture. The color picture had the name of the bug and also a number. This number represented the number of that bug that they “caught” in their sampling. They identified and counted their bugs and then filled out a data sheet. On a different day we then took them down to the creek and had them do a real sampling.

Nichol and I also worked on collecting bug samples and creating unmarked (numbered) samples that correspond with a key. We now have three sets. These will be used in training to practice identification.

Now that we have the tools in place to sustain us in this study, I hope to focus my future efforts on bringing in new volunteers and continuing my efforts to educate the public.

**Volunteer Stream Monitoring
Quality Assurance Project Plan**

Bear Creek Watershed



The project manager will provide a map of sampling sites to volunteers. On-site flags will be placed prior to sampling date. The length of the creek to be sampled will also be marked.

Bear Creek Stream Study



When I began working for Cannon Township as the Watershed Assistant in April 2011 I dove in with both feet, literally. Cannon Township had already received the Start-Up Grant through MiCorps and had just received the Large Grant for a macroinvertebrate study in Bear Creek. I underwent my MiCorps training right here in Bear Creek with Paul Steen. Initially, I felt overwhelmed. If I were responsible for the study all by myself, that would have been one thing. I have a background in biology and I find the macroinvertebrate study fascinating. The hard part was learning the history of the grant, the history of Bear Creek, training for sampling and ID, writing the QAPP, *and* being prepared to organize and train others (the clincher) ASAP.

Lucky for me our Township Clerk, Bonnie Blackledge, is very knowledgeable about Bear Creek. Also, she had already established a great volunteer base so I didn't have to start from scratch, as I know other grant recipients had to do. The prep work had been done for me. I just had to dive in!

While writing the QAPP (Quality Assurance Project Plan) initially seemed daunting, I quickly found it to be very educational and useful. Reading through it and editing it to fit the needs of our creek and our study really helped in my training. I felt much more confident by the time I was done.

Another thing I did that really helped me was to go down to Bear Creek and practice taking samples. I kept all my samples and practiced the ID as well. Once I had tried my hand at the identification I had Paul confirm them during my side-by-side training (I am continually impressed by how accessible Paul is). I now keep the samples to compare to later samples and aid in the ID. Kids like to look at them too!

We are fortunate enough to have a lot of volunteers with environmental backgrounds on our team. Some of them had participated in similar studies before. They were easy to train and I was very confident in their abilities to lead teams by themselves. One thing I found is that, even with our backgrounds, inconsistencies in sampling technique were found when we mixed the teams up at the next sampling. It does help avoid consistent errors!

It has been fun watching our volunteers hone in on their skills with each sampling. I'm getting to know them better and we are even getting volunteers from other stream studies. It is definitely a bonding experience for the community. We had four kids join us (two were mine). They had a ball and are quite good at the ID. It is my hope that we can continue to draw people young and old to mix together and have such a good time. It's valuable data, it's good for our creek, and it's fun for us!

Julie Lovelace
Cannon Twp Watershed Assistant



FOR IMMEDIATE RELEASE

CONTACT: Julie Lovelace (616) 884-2206 jlovelace@cannontwp.org

Bear Creek Stream Study

Bear Creek is a trout stream that runs approximately 17 miles through Cannon Township. The Bear Creek Watershed drains approximately 20,096 acres of land and is located primarily in Cannon Township. Bear Creek is also a subwatershed to the Grand River Watershed.

Many do not know that the health of a creek is indicative of the health of the entire watershed. Point source pollution and nonpoint source pollution (such as water runoff from agriculture and development) have a direct impact on both the watershed as a whole and the health of a creek. What happens miles away from a body of water will eventually affect the quality of that water. Adequate filtration of rain and runoff through wetlands is essential.

Cannon Township takes its watershed health very seriously. Recently, Cannon Township applied for (and received) the Start-Up grant *and* the Volunteer Stream Monitoring grant from the Michigan Clean Water Corps (MiCorps) through the Department of Environmental Quality for a stream study of Bear Creek.

The concept of studying the insects that live in a creek is much the same as the concept of a canary in a coal mine. There are insects that are tolerant of pollution, somewhat tolerant, and intolerant. Finding these insects (macroinvertebrates) and counting their numbers in a given sampling can help determine the health of a creek. The more bugs you have in the creek that are intolerant to pollution, the healthier your creek is. The more samplings you take, the more reliable your data is. We have only taken two samplings so far. We will need a wide range of data before we can draw any conclusions.

The MiCorps grants have funded the supplies and training for this stream study for two years. Cannon Township has committed to continuing this study indefinitely after that. This stream study relies heavily on volunteers. Many volunteers have previous experience and education in this field. That is certainly not a requirement! Cannon Township would like to welcome anyone ages 8+ interested in helping collect and identify macroinvertebrates. All equipment necessary will be provided. Two samplings will be taken per year, spring and fall. The next sampling will be April 14, 2012 at 10:00 a.m. We will provide training.

If you are interested in getting your "feet wet" in this study please call Julie Lovelace at Cannon Township (616) 884-2206 or E-mail her at jlovelace@cannontwp.org.

Bear Creek Stream Study

When: Saturday April 13, 2013 @ 9:00 a.m.

Where: Cannon Township Building
6878 Belding Road, Rockford

We are currently studying the macroinvertebrates (bug) populations in Bear Creek. Their identification and numbers will tell us a lot about the health of Bear Creek and our watershed. We sample five sites along the creek.

Please join us...you do not need experience to help! Training, equipment, and lunch are provided.

Contact Julie Lovelace at jlovelace@cannontwp.org or 884-2206

Watershed News

Julie Lovelace

Bear Creek Study

Cannon Township is conducting an ongoing study of the macroinvertebrates (bugs) that live in Bear Creek. These bugs tell us a whole lot about the health of the creek and the part we play in our watershed. We will be conducting our fourth sampling of Bear Creek macroinvertebrates (bugs) on Saturday, April 13 from 10:00 a.m. – 2:00 p.m. We sample five sites along the creek. Bug collection will be done in the morning. We will break for lunch (provided by the Township) and then identify the bugs in the afternoon. Anyone can volunteer to help out. Training and equipment are provided. We will hold a training/review night on April 4 at 6:00 p.m. here at the Township in the fire training room. You may contact Julie Lovelace (jlovelace@cannontwp.org) 884-2206 for more information. We would love to have you!

Cannon Trail Season 2013

Cannon Township has four miles of paved trail starting behind the Township building and ending at Townsend Park. The trail officially “opens” April 11. Many members of our community volunteer to keep our trail clean and maintained. Maintenance includes trash pickup, trail sweeping, weed pulling, tree/brush pruning, and reporting any damage. We will be having a volunteer cleanup trail “kick-off” on Saturday April 20 starting at 9:00 a.m. here at the Township Building. Please join our great group!

Waterfest 2013

It's time for Waterfest! Waterfest is an annual event held by Cannon Township at Townsend Park. This year it will be held Saturday April 27 from 8:00 a.m. to noon. A pancake breakfast will be offered by the Cannonsburg Village Christmas Light Committee. The Cannon Township Historical Society will have a bake sale. Entertainment will feature live music by Hawks and Owls and an amphibian/reptile exhibit by Nature Discovery. See what animals live in a Michigan wetland! Nature/science-inspired activities will be presented for children along with the annual duck race in Bear Creek.

Bear Creek News – Julie Lovelace

This May I had the privilege of working with 6th and 7th graders at East Rockford Middle School. A grant was awarded to ERMS by Groundswell (<http://www.gvsu.edu/coe/groundswell-great-lakes-stewardship-initiative--188.htm>) to incorporate Watershed education into their curriculum. Nichol DeMol from Trout Unlimited and I presented lessons on what a Watershed is, how we can protect the health of our watershed, and a few studies to determine if we are doing a good job protecting our lakes and streams. One study is looking at the macroinvertebrate (bug) population in a stream. The range of bugs and their numbers can tell us a lot about effects human impact are having on the stream. Another study involves taking samples of phosphorus and chlorophyll and measuring dissolved oxygen and temperature in a lake to determine if human impacts are speeding up the aging process of the lake. We took students down to Bostwick Lake and also got them into Bear Creek and Rum creek to show them how these studies are done. If you are interested in learning more, or becoming involved in ongoing studies of Bear Creek and the Rogue River, please contact me at jlovelace@cannontwp.org or Nichol DeMol at NDeMol@tu.org. We can put your on our E-mail lists. Studies are done spring and fall every year and we would love for you and your children to join us. Training and equipment are supplied.

“Fracking”

Many of you may be familiar with the term “fracking”, which refers to hydraulic fracturing of shale rock below the earth’s surface to extract oil and gas. There are many controversial issues surrounding this method. A group called FLOW (For the Love of Water) has agreed to come to the Township to deliver a three-part educational series on the topic. If you would like more information on this topic please contact Brian Keeley at brianpkeeley@gmail.com.