



Mission: To Preserve and Enhance the Natural Resources of Benzie County

FINAL PROJECT REPORT

Project Name: *Benzie Watersheds Volunteer Stream Monitoring Project*

Project Code: VSM 2012 01

Grantee: Benzie Conservation District 231-882-4391
280 S Benzie Blvd, PO Box 408
Beulah, MI 49617

Contact: Mike Jones, mike@benziecd.org

Project Goals

There are four primary goals for the project:

1. Educate Benzie County residents on monitoring, quality, and protection of our water resources.
2. Engage stakeholder groups and individuals in hands-on water monitoring and protection.
3. To monitor stream health in the three major watersheds of Benzie County. This includes establishing baseline conditions and monitoring deterioration or improvements over time.
4. Identify or verify problem areas where degradation has occurred and remediation or best management practices can be implemented.

Objectives

1. Finalize study plan, site locations and sampling schedule
2. Develop and submit QAPP to MiCorps Project Manager for approval
3. Acquire necessary sampling equipment through purchase and donation
4. Attend MiCorps training event
5. Host training events for project volunteers
6. Host event for side by side sampling with MiCorps representative
7. Collect stream macroinvertebrate samples in the fall and spring of each project year
8. Identify all macroinvertebrate samples to family level
9. Calculate MiCorps score, Total Taxa, EPT (Ephemeroptera, Plecoptera, Tricoptera), and Hilsenhof Sensitive Families indices for each sampling event at each sampling site
10. Enter compiled data into the MiCorps Data Exchange network and BCD Stream Monitoring Database
11. Update GIS and District website as data is compiled
12. Recruit project volunteers through newspaper articles, through Watersheds Coalition mailings and meetings, at public meetings, and through the District website and Facebook pages

13. Report project findings regularly through newspaper articles, at public meetings, through Watersheds Coalition mailings and meetings, and through the District website and Facebook pages
14. Attend MiCorps Annual Conferences and give presentation at 2013 conference
15. Prepare and submit quarterly status and financial status reports
16. Submit the final project report, fact sheet, release of claims letter, financial status report, and all project electronic deliverables including GIS maps and website link, at conclusion of project

Objectives Met

The Benzie Conservation District (BCD) was able to meet all project objectives. Some objectives were modified during the course of the project to better fit the available resources, personnel, and time availability.

Problems encountered

1. People are your most important resource. Attendance at monitoring events was sometimes sporadic and many people only came for one event. Personal contact/phone calls worked best for getting volunteers out to the collection/training/ID events. It was important to identify volunteers with a great personal interest and motivation. These people have developed into our most dedicated and skilled volunteers/leaders.
2. Our data management and what indices we derived from the data was a work in progress. We developed our own spreadsheet for recording family-level data, which was modified several times during the grant period for greater ease of use. The stream quality indices we used (MiCorps, total taxa, EPT, and Hilsenhof) were based on recommendations from Tip of the Mitt Watershed Council.
3. Reporting was sometimes not completed on schedule.
4. The QAPP was not completed on schedule.
5. Bug ID events were a challenge due to lack of skilled volunteers. ID events became more of an outreach/learning experience tool for inexperienced volunteers instead of focusing on identifying all specimens. Most family-level ID was done at the BCD office by the Project Manager and lead volunteers.

Summary of training and monitoring events

Volunteers monitored a total of nine sampling sites in the Betsie River, Platte River, and the Herring Lakes watersheds. For each event, there were three crews that sampled three sites from their assigned watershed. At least 62 volunteers participated in at least one event, with 22 volunteers participating in multiple events.

1. Five volunteer training events were held during the grant period. Training consisted of an indoor classroom period with hands-on field session following.
2. Five sample collection events were held during the grant period. The Project Manager accompanied each crew for at least one sample collection event.
3. Three indoor sorting/ID events were held during the grant period. Two were held at the biology room at the local high school, and one was held at the BCD office. The focus of these events was education and building ID skills rather than just identifying bugs.

Environmental and other benefits of the project, including lessons learned

The grant-related activities and water quality data collected directly relate to the four stated goals of this project: Educate people about water resources, engage local residents and visitors in hands-on water monitoring and stewardship, monitor stream health in the three watersheds of Benzie County, and identify or verify problem areas where degradation has occurred.

We now have nearly three years of stream macroinvertebrate data. With one more monitoring event, we will have sufficient data to establish a good baseline for each monitoring site. As monitoring is continued into the future, we will be able to track any changes which may indicate conditions getting better or worsening. Overall, it has been found that our streams are very healthy. With continued monitoring, we can hopefully ensure that they stay that way. The data collected has been shared with local government, lake associations and watershed groups, and the general public.

Perhaps the greatest benefit from this project has been the education and outreach aspects of the project. More than 60 people have directly participated in a training or monitoring event, and we estimate that at least 600-1000 people have been reached through our project promotion, public displays, and presentations. All these people have learned something new about their local streams and deepened their connection with these resources. It is hoped that these connections will mean people care more about the streams and are willing to take care and protect them. The value of outreach and education was a huge lesson learned for the project. We developed a portable bug display with a poster and preserved specimens for outreach purposes. It has been used at several BCD functions, meetings, and community events. It is estimated that over 1200 people have seen this display. In addition, volunteers are the core of this program. It was very important to establish relationships with the volunteers to keep them coming back. Food is a good motivator. The BCD provided lunches to all volunteers at field collection events. Portable folding tables were a great purchase for streamside bug sorting/picking.

Significant information/education or outreach activities

The BCD provided information and education to the public about the stream monitoring project through a variety of means. Press releases were sent to local newspapers, and the BCD promoted project-related events through email blasts and posts to its website and Facebook pages. Radio announcements also went out on Interlochen Public Radio, and events were posted to the Benzie Community Calendar. In the second year of the project, we developed a portable bug display with a poster and preserved bug specimens. The display was used at several BCD functions, meetings, and community events including: BCD Annual Meetings, presentation at a community dinner, Benzie Water Festival, the Crystal Lake Walkabout, and Nuts 4 Nature day camps. Display and project results were also presented at meetings of the Benzie Watersheds Coalition, Betsie River Restoration Committee, Betsie River Watershed Steering Committee, Platte River Watershed Steering Committee, and the Herring Lakes Watershed Steering Committee.

Evaluation done as part of the project

Field data sheets were checked after all monitoring events to ensure completeness. The project manager accompanied all three monitoring teams on at least one event to observe and give feedback on techniques and procedures. Discussions were held between team leaders and the project manager to give feedback on what worked best and possible improvements.

Project Partners and their contributions

1. Benzie Watersheds Coalition: member groups provided project leaders and volunteers and promoted project events within their memberships.
2. Riparian property owner: allowed permission to access monitoring sites.
3. Benzie Central High School: provided facilities and equipment for indoor ID sessions.
4. Bear Lake High School: Science class sent numerous volunteers for monitoring events.

Products completed (Deliverables)

- Monitoring data collected during the grant period has been entered into the MiCorps Data Exchange as well as the BCD Stream Monitoring Database.
- A GIS map of monitoring sites has been developed.
- The BCD has a page on the project on its website.
- The project manager gave a presentation on the BCD stream monitoring program at the 2014 Fall MiCorps Conference.
- The BCD maintains a file containing all hardcopy attendance and data sheets for stream monitoring collection and training events.
- All preserved macroinvertebrate specimens from collection events are kept at the BCD office.

Project sustainability

The BCD is committed to continued coordination and implementation of the volunteer stream monitoring program started through this grant after the grant period has ended. The BCD is primarily funded through a taxpayer-supported county millage which was recently renewed for four years in August of 2014. The BCD will continue to enter monitoring data into the MiCorps Data Exchange and the BCD Stream Monitoring Database.