Project Name: Grand Traverse Stream Search
Final Project Report (Project Code: #3003-VSM2005-03)
Grantee Name: The Watershed Center Grand Traverse Bay

<u>GOALS:</u>
The main goal of the Grand Traverse Stream Search project is to continue to implement The Watershed Center's (TWC) Stream Search volunteer monitoring program. Stream Search, launched in June 2003, is TWC's bi-annual monitoring program which consists of groups of volunteers, led by a trained team leader, that are assigned to area streams to sample macroinvertebrates and complete habitat assessments in the spring and fall of each year.

In addition to providing valuable water quality data where we can track and detect early changes to a stream system, Stream Search also serves as an important educational tool. Most importantly, our goal was to have Stream Search increase interest and awareness of watershed issues and stewardship of the resource among area residents and visitors.

<u>OBJECTIVES:</u>
Major project objectives included the following:
- Conducting team leader training and monitoring events
- Developing the Quality Assurance Project Plan (QAPP);
- Planning sampling events and recruiting volunteers;
- Compile and summarize all monitoring results and report to partners and community.

<u>EXTENT TO WHICH GOALS AND OBJECTIVES WERE MET:</u>
In general, all goals and objectives were met successfully.

- **Task Outcomes (noting identified challenges or obstacles and how they were overcome):**
  Task 1: Grant and Project Management
  This task was completed successfully; grant reporting was timely with few problems that needed follow-up. Management of this project went smoothly, with some unforeseen challenges that were overcome by the project's end. One of the challenges is that we ran out of money in the project budget, due to the extensive amount of time spent writing the QAPP and following its directives. However, this problem was solved by the additional grant money from the MiCorps program we received in 2006. Our only concern is that we had expected more timely grant reimbursements from the Great Lakes Commission (compared to the MDEQ). Grant reimbursements were often received near the end of the following quarter, which made it difficult for a nonprofit organization such as ours to carry the costs of the program without reimbursement for 4-5 months.

  Conduct Monitoring Tasks (Team Leader Training, Sampling Events, Develop QAPP):
  Team leader trainings were conducted throughout the grant period coinciding with scheduled sampling events. With each training period we drew from the questions and experiences from previous monitoring events to help us train leaders better. The first two trainings were done by TWC staff along with Don McNew from Great Lakes Environmental Center. However, Todd Kalish, fisheries biologist with the MDNR offered to help with team leader training and had good teaching experience so he was recruited for the remaining two training sessions.

  Four sampling events were held in October 2005, May 2006, October 2006, and June 2007, with a total of 75 volunteers participating in these events. Each monitoring event was successful: participants met at a local park (and later at TWC's new office) and received equipment and assignments. TWC staff met participants as they returned to drop off samples and completed

sheets. Most participants had questions about what they saw and were eager to see results from theirs and others' streams. Some had useful suggestions as to additional items to include in kits (i.e. trash bags, more eyedroppers, etc.).

One of our biggest issues with Grand Traverse Stream Search is that we continually get new team leaders and new volunteers every year, but a low number of repeat participants. We only have 4-5 reliable team leaders that consistently participate (and sometimes there are conflicts so they are not available on both training and sampling days). From conversations we've had with team leaders they indicate that they enjoy doing the event, but they also feel overwhelmed with all the information they're responsible for and sometimes indicate they'd rather just participate as a volunteer next time. Training for reliable macroinvertebrate identification and effective stream sampling cannot realistically be done in a one-day session – it takes much practice and multiple times of trying to identify the bugs for someone to feel comfortable in their skills. This is why it is important to get 'repeat' team leaders so they can grow in their skills with each training and sampling event. Another explanation is that sometimes people's priorities change and one year they are interested in the environment and then next year they are busy with a different cause.

Additionally, we only had a handful of volunteers reliably showing up for each event, most of them are board members to TWC. This is troubling to see, but can most likely be explained simply because not everyone is always available on one specific Saturday for the sampling event.

TWC is planning to address these concerns and is working on a strategy to hopefully retain more team leaders and volunteers. We are currently developing an Adopt-A-Stream program concept for our watershed, which will encompass Stream Search activities. We feel that we will get better team leader and volunteer 'buy-in' to our monitoring activities if groups or individuals adopt a stream or stream section and pledge to monitor it every year. The concept will encompass a two-week window each spring and fall where groups will be responsible for conducting macroinvertebrate sampling. This will allow people to schedule sampling in their stream at their leisure. One of our biggest issues with Grand Traverse Stream Search is that we continually get new team leaders and new volunteers every year, but a low number of repeat participants. Experienced team leaders and volunteers are necessary to set up a long-term monitoring program – this is especially true from a management standpoint. It is our hope that this new concept for Stream Search will not only give our program more public awareness to recruit more team leaders and volunteers, but it will have participants feel like they have more invested in the program and drive them to participate year after year. We have developed a 4 ½ minute video (copy enclosed) that will be used to market the program and recruit stream sponsors and volunteers.

Event Planning and Volunteer Recruitment
Planning and coordinating sampling events went well. The event was first held at a public park and later at TWC's new office location. While it is hard to find a venue with ample parking that is central to every sampling location, we feel that hosting the event at our office is the best choice because it decreases the amount of equipment we need to transport.

The event was advertised in a number of local media sources (newspapers, radio, flyers, advertisements) as well as email notification lists. We also recruited volunteers through these means as well. We were exceptionally pleased with the numbers of volunteers we had for each event, and found that the number of volunteers increased with each event. The number of team leaders we had for the last two events was encouraging as well. While we would have liked more 'repeat' leaders and volunteers, the numbers of people were satisfactory to complete sampling for our selected streams.

Evaluation (Compile and summarize all monitoring results, Report findings to volunteers, community, website, and MiCorps):
This task was completed successfully as well. Results were compiled, summarized and reported to the media and volunteers. Spreadsheets and tables were made to keep track of streams sampled, their rankings, and the numbers of team leaders and volunteers for each event. Results were also uploaded to the MiCorps website.

While the task was completed successfully, we found it somewhat confusing and time consuming to follow every detail of the QAPP. This is especially so because we had so many new team leaders each time and the QAPP dictated that we check the preserved samples for new team leaders. The good thing that came out of double-checking virtually all of the preserved samples is that for the last two sampling events Don McNew, a highly experienced biologist with training in insect taxonomy, volunteered to help identify samples. With his help, we actually double-checked all the specimens for October 2006 and June 2007. Our main concern is that, using the formula in the QAPP, virtually all of the samples (except for 4 each season) were over the 5% RPD and outside of our quality objectives. Please see the attached spreadsheet for results from the bug identification re-checks; the spreadsheet also contains a column for the suspected/probable cause for differences in scoring. The most common errors we found for the differences in scores were: caddisfly misidentification, not putting the actual specimen in the jar, not putting correct number of specimens in jar, and empty snail and/or caddisfly cases. This information was and will be used in our team leader training programs.

- **Summary of Training and Monitoring Events:**

Training or Monitoring Event	Date	# of Volunteers	#of Sites Monitored
Team Leader Training	10/8/05	5 team leaders	N/A
Stream Search Day	10/15/05	15 volunteers 5 team leaders	10 sites (6 streams)
Team Leader Training	5/13/06	3 team leaders	N/A
Stream Search Day	5/20/06	6 team leaders 21 volunteers	12 sites (8 streams)
Team Leader Training	9/30/06	7 team leaders	N/A
Stream Search Day	10/7/06	8 team leaders 19 volunteers	16 sites (10 streams)
Team Leader Training	5/19/07	10 team leaders	N/A
Stream Search Day	6/2/07	9 team leaders 30 volunteers	16 sites (10 streams)
Total Team Leaders Trained (some repeat leaders)	**25 trained leaders**		
Total Event Day Volunteers	**75 volunteers**		

ENVIRONMENTAL AND OTHER BENEFITS OF PROJECT – SUMMARY OF LESSONS LEARNED, SIGNIFICANT OUTREACH ACTIVITIES, AND EVALUATION

- <u>Environmental and Other Benefits from Project</u> – Environmental benefits of this project are that we were able to track the general health of our area's streams and take a 'snapshot' in time of stream health. TWC can note significant differences from year to year in stream scores and follow-up with a site visit to determine if something is happening to the stream. Other benefits of the project include an increased awareness of areas streams by local citizens. We bill Stream Search as a way for residents to get out into their environment and learn something about stream ecology and discover all the wonderful insects that live in a stream (making them 'citizen scientists'). They can then start to be aware of how what happens on land can directly affect what happens in a stream and begin to make connections from their behavior to the environment.
- <u>Evaluation and Lessons Learned</u> – We learned that it takes time for people to feel comfortable making aquatic insect identification and the way to do that is to retain team leaders and volunteers from year to year (see discussion on our planned 'Adopt-A-Stream' program). We also learned that the bigger picture is important – which is that we got 100 people to get out into their environment and learn about their area streams. While environmental water quality monitoring is important, it is also important to educate the public and make them aware of how they can directly and indirectly affect the health of our area waters.

PARTNERS

List of partners and their contributions are as follows:
- <u>Traverse Bay Area Intermediate School District</u> (TBAISD) – provided location for training team leaders for Fall 2005 and Spring 2006 events. Also let us use their video microscope to assist with training.
- <u>Don McNew</u> – biologist with the Great Lakes Environmental Center, volunteered his personal time to help train team leaders for Fall 2005 and Spring 2006 events. He also is assisting in rechecking the contents of preserved specimens for our QAPP.
- <u>Todd Kalish</u> – fisheries biologist with Michigan Department of Natural Resources, volunteered his personal time to help train team leaders for Fall 2006 and Spring 2007 events.

PRODUCTS

- Summary sheets – see attached

PROJECT SUSTAINABILITY – ACTIVITIES THAT WILL CONTINUE AFTER PROJECT

- The Watershed Center intends to continue our Stream Search monitoring program, however, we are planning on making some changes in how it is administered. We are committed to monitoring the health of our areas streams through macroinvertebrate sampling and other means. We are developing an Adopt-A-Stream program concept for our watershed, which will encompass Stream Search activities. We feel that we will get better team leader and volunteer 'buy-in' to our monitoring activities if groups or individuals adopt a stream or stream section and pledge to monitor it every year. One of our biggest issues with Grand Traverse Stream Search is that we continually get new team leaders and new volunteers every year, but a low number of repeat participants. Experienced team leaders and volunteers are necessary to set up a long-term monitoring program – this is especially true from a management standpoint. It is our hope that launching an Adopt-A-Stream program in our watershed will help us to sustain our goals of establishing a long-term monitoring program.
- The Watershed Center Grand Traverse Bay will continue to preserve, protect, and advocate for the environmental health of Grand Traverse Bay and its watershed through a variety of methods (education, on-the-ground restoration, research, and advocacy).

October 2005 sample day – Ptobego Creek
(Dick Thompon and Liz DeLaRossa)

Volunteer Liz DeLaRossa looking at bug samples

October 2006 Team Leaders: Front Row (L-R) – Meral
Jackson, Sam Clark, Liz DeLaRossa, and Damian Curry;
Back Row (L-R) – Bob Carstens, Mark Leugers, John
Harrold, Todd Kalish, and John Nelson.

Our youngest volunteer, Cole, sampling in
October 2006.

June 2007 Team Leaders: Front Row (L-R) – Liz DeLaRossa, Meral Jackson,
Meghan Norton and Zara Julin; Middle Row (L-R) - Teresa Molano, Karen
Nelson, Tray Posavatz, and Mark Leugers; Back Row – Todd Kalish (L) and
Steve Lagerquist (R)

Teresa Molano, Troy Naperala, and Alice Montie
sorting insect samples at June 2007 event

Stream Summary by Year

Event Results

Bug Re-Check Scores

Team Leader Assignment By Year

<u>Sample Press Releases</u>