

Michigan Clean Water Corps

Final Grant Project Report

Project Name: Shiawassee River Watershed

Benthic Macroinvertebrate Monitoring Program (Shiawassee Stream Team)

Grant Number: #3003-VSM2008-02

Grantee: The Nature Conservancy in Michigan

In Partnership with the Livingston County Office of the Drain Commissioner and the Friends of the Shiawassee River

Narrative:

The Shiawassee Stream Team was developed as a partnership between The Nature Conservancy in Michigan and the Livingston County Drain Commissioner's Office to quantify the effects of sediment on the habitats of the Shiawassee River. In collaboration with the Friends of the Shiawassee River, the Stream Team engaged volunteers in data collection to foster appreciation of the aquatic ecosystem and to enhance environmental education opportunities. More specifically, the goals of the partnership are:

- To collect baseline data and initiate a long-term data set on health of the Shiawassee River;
- To determine variability in health of the River within different environs, such as agricultural, urban, and naturally vegetated areas, within the watershed;
- To engage public and youth in data collection and foster appreciation of the Shiawassee River and its habitats.
- To utilize data to mitigate the impacts of future development and to better understand the impacts of existing development.

Through this partnership, we have established ten monitoring sites throughout the Shiawassee River watershed in Livingston and Shiawassee Counties (5 sample sites in each county)

Project successes/Lessons learned:

Site selection: The Shiawassee Stream Team has successfully initiated long-term data collection at 10 locations with five sampling seasons at each site since 2008. These locations were selected as indicators in subwatersheds of interest based on analysis of sub-watershed characteristics by The Nature Conservancy and our collaborators in Livingston County and the Friends of the Shiawassee River. With the exception of one location in Livingston County, all sites were found to be good locations with respect to safety, access, and familiarity with volunteers though there were a few locations that volunteers more readily identified with. We feel confident that we can maintain these locations and hope to add more with interest from Corunna High School (to monitor conditions near the Corunna Dam) and a few other locations. Future sites will be added with consideration of potential groups (service clubs, schools, municipalities, etc.) to target. Site expansion is also a function of volunteer recruitment and site specific interests or concerns.

Volunteer recruitment: Volunteers were easier to retain at some locations due to proximity of passionate volunteers, such as the Scribner Drain and Six Mile Creek sites, or an already existing school or other group, such as Hartland High School, or the DeVries Nature Conservancy. Press releases, web promotion, flyers and emails were used to attract volunteers at other sites. However, it seemed that there were a few locations that were generally unattractive to

volunteers, such as Webb Creek, near Vernon. We are not sure whether it is due to past history with *E. coli* in that region or the generally sedimented appearance of the site but we commonly relied upon relationships with the County Health Department, other professionals in the water quality field and a few dedicated volunteers to ensure continual coverage of this site.

Youth involvement: To help build an appreciation for the river system, youth were actively sought to participate in the program. Students from Hartland High School were very active in monitoring the N. Ore Creek site in Livingston County while New Lothrop High School took particular interest in Six Mile Creek in Shiawassee County. Owosso High students became engaged in the site at DeVries Nature Conservancy but we feel there could be more opportunity to work with other schools, especially those located on or within close proximity to the River. These include Byron, Corunna, Howell and more involvement with Owosso. To help build relationships with schools, presentations were made at Corunna and New Lothrop High Schools.

General obstacles: While each organization lost some capacity during the grant period, we did our best to maintain sampling at each location. We hope that in the future we can dedicate one staff person solely to this program with the intent of building the program and fostering more volunteer involvement. Some groups to target include service clubs, fishing/outdoor clubs, retired science teachers and more schools.

Chart 1. Summary of Volunteer Involvement by County:

Fall 2008	Shiawassee	Livingston	Combined
Training			22
Sampling Event	23	80	103
Bug ID	13	10	23
Spring 2009			
Sampling Event	22	72	94
Bug ID	12	82	94
Fall 2009			
Sampling Event	14	34	48
Bug ID	10	8	18
Spring 2010			
Results Party			21
Sampling Event	13	25	38
Bug ID	8	9	17
Total			478

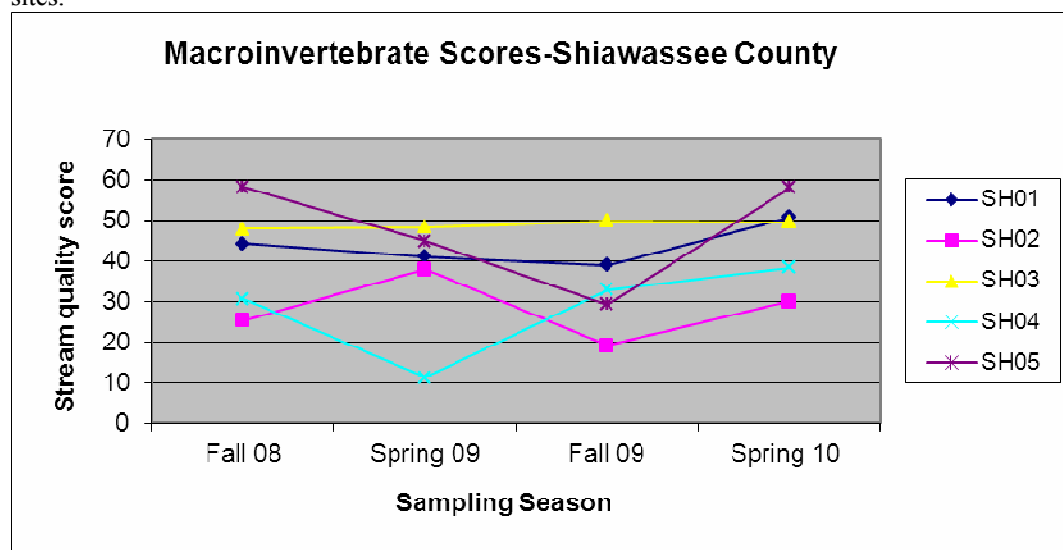
Overall, we found good volunteer support but found enthusiasm towards the end of the grant period to be waning. We estimate volunteer involvement to be approximately 1300 hours of community service to this project for all activities. Several good connections with schools and retired teachers and retirees have been made and will be utilized to supplement existing pools. We also will conduct another training session to reinvigorate existing volunteers and recruit others.

Environmental Benefits:

During the grant period, we have been able to initiate data collection at ten sites that we would otherwise not have information on. This data will be critical to identifying trends and locating sub-watersheds that may need increased efforts in outreach and implementation of best management practices.

While only four data points have been tracked for each site for the duration of the grant, noticeable differences are already emerging between sites (Figure 1). We can identify locations that consistently lack in diversity and abundance of sensitive species, such as Webb Creek and Six Mile Creek, in comparison to other locations. We intend to further investigate conditions in both sub-watersheds, initiating sampling sites upstream, to better assess sedimentation.

Figure 1. Seasonal scores for Shiawassee County sites. SH04 and SH02 consistently ranked among the poorest sites.



Our evaluations have not indicated that there are any quality control issues with any teams or team leaders, as demonstrated by generally consistent scores for each site over time (Figure 1). Repeated measures Analysis of Variance (ANOVA) results indicate sites were significantly different ($P=0.008$). Sites SH02 & SH04 were (statistically) significantly ($P<0.05$) lower than sites SH03 & SH05.

The Livingston County Drain Commissioner's Office is mandated under their Phase II NPDES permit to conduct monitoring within the Shiawassee River Watershed. Through volunteer macroinvertebrate monitoring, a part of this requirement is accomplished. Some of the results are indicating 'good' conditions in North Ore Creek and 'fair' conditions at other sites. Some of these sites are flashy and contain large amounts of sediment. One of the sites on the S. Branch converges with a county drain that receives treated wastewater from two wastewater treatment plants near the City of Howell. It is interesting to compare upstream results to that of the drain.

We have been able to use the existing data as support for the Shiawassee River as an environment that provides great habitat. The DeVries Nature Conservancy (Figure 2) has used results to promote their facility, as it has consistently rated among the highest ranked locations in the watershed.

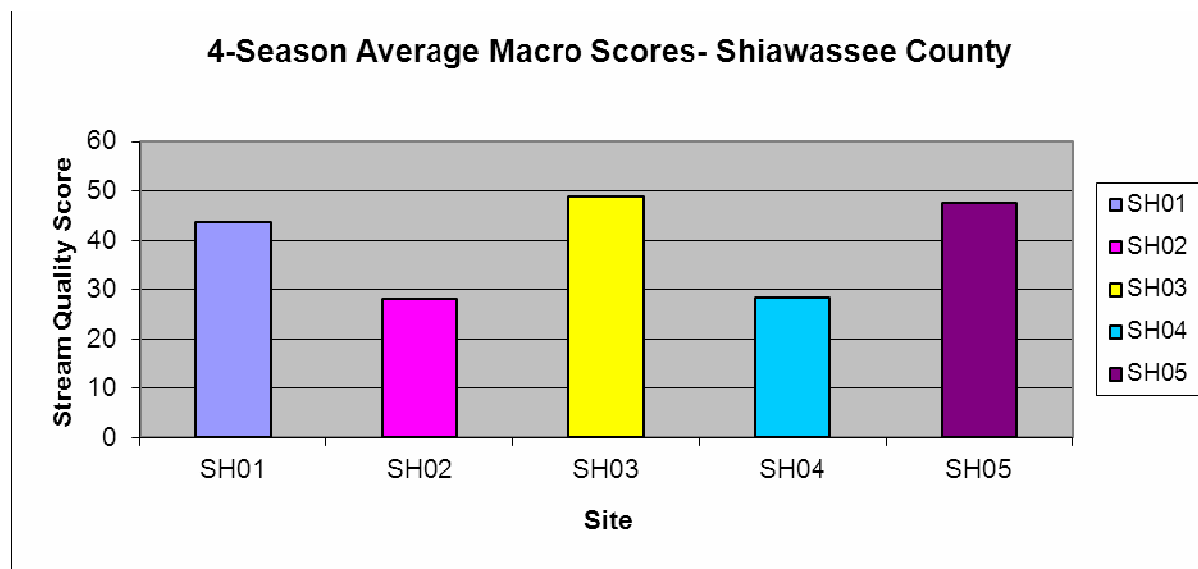


Figure 2. Average scores for all sites in Shiawassee County. Results indicate that the DeVries Nature Conservancy (SH03) on the mainstem of the river has high quality habitat, which has been used by DNC to support their programming.

Other Benefits:

Publicity: This project has given us a platform to discuss water quality and environmental health and provide data to support conditions. Presentations to school groups, Rotary and Kiwanis clubs have further helped us to deliver our message. The Argus Press in Owosso also featured a story on the health of the river based on initial findings.

Education- the River as an Ecosystem: We have found that so many students and volunteers are pleasantly surprised with the abundance of ‘hidden’ life that the river supports. ‘Core’ groups of volunteers in both counties are proficient in identification of species to order and their sensitivity ranking. Public education is a key component to volunteer monitoring and something that can be fostered within this group for years to come. Many students have been engaged directly with the program as well as indirectly through joint efforts to supplement environmental education with the DeVries Nature Conservancy.

Volunteer Engagement: Although enthusiasm has waned slightly, we have been able to engage community volunteers not previously involved in our activities. This has informed them on water quality and the efforts of each agency towards conservation and natural resource management.

Lessons Learned:

- One ‘point-person’ or technician is needed to adequately administer this program. This includes volunteer recruitment, data entry, summarizing, maintenance and tracking of equipment, organization of records, volunteer appreciation. Full-time attention is needed for this position.
- Identification to family level proved to be challenging, especially with reduced capacity.

- Volunteer recruitment and retention needs to be on-going.

Project Partners:

- Friends of the Shiawassee River- promotion through River View newsletter, press releases, Facebook, volunteer recruitment.
- Livingston County Office of the Drain Commissioner- coordination of activities in Livingston County, volunteer relations and promotion, facilities for equipment and Bug ID.
- DeVries Nature Conservancy- storage of equipment, assistance in volunteer recruitment, facilities for meeting and Bug ID sessions and training.
- Shiawassee County Health Department, Environmental Health Division- assistance with sampling locations.
- Baker College- facilities for Bug ID.
- Hartland High School- student involvement.
- New Lothrop High School Envirothon- student involvement.

Products completed:

Presentations: Training, educational (high school class) and results summary PowerPoints

Newsletters: Four issues of the River View with content to promote the Stream Team

Data analysis: Summary of site averages in each county

Report cards: Summary cards for the each year in Shiawassee County to communicate to public.

Project sustainability:

Due to their local presence, The Nature Conservancy feels the Friends of the Shiawassee River are best equipped to sustain monitoring efforts and share information with partners into the future. The Friends are developing systems, including an updated database, to better track and recruit volunteers and are currently seeking funding to support the Shiawassee Stream Team and potentially incorporate data collected within the watershed in Genesee County. .

As the Livingston County Drain Commissioner's Office values this information, they also look forward to continuing to monitor sites but will rely on the Friends to coordinate communications, education and recruitment. Due to limited staff resources, the coordination of volunteers can more effectively be accomplished through the Friends and LCDC can facilitate collections in Livingston County. Volunteer retention and recruitment can be more successful if a designated person through the Friends is the driving force with a consistent message. Another benefit for the Friends is through volunteer recruitment, they may also be able to recruit new members to their organization. This model has worked well with other local watershed groups, notably the Huron River Watershed Council.

Items produced:


1. Presentations
 - a. Training (pp. 6-8)
 - b. Results Party (pp. 9-11)
 - i. Shiawassee County Results (pp.9-10)
 - ii. Livingston County Results (pp.10-11)
2. Newsletters and flyers
 - a. Spring 2008 River View (p. 12)
 - b. Fall 2008 River View (p. 13)
 - c. Spring 2009 River View (p. 14)
 - d. Spring 2010 River View (p.15)
 - e. Volunteer flyer (p.16)
3. Data Analysis
 - a. Summary of Results for All Sites (p.17)
4. Report Cards
 - a. Fall 2008 Report Cards (pp. 18-22)
 - b. Fall 2009 Report Cards (pp. 23-27)
5. Press Releases (pp. 28-50)
6. Photos (pp. 51-54)

1.a. Stream Team Training Power Point

The collage displays six slides from a presentation titled 'Stream Team Training Power Point'. The slides are arranged in two rows of three. Slide 1 (top left) is the title slide for the 'Shiawassee Stream Team Volunteer Stream Monitoring Program', featuring logos for The Nature Conservancy, Michigan Clean Water Corps, and the Shiawassee River. Slide 2 (top middle) lists 'Stream Team Partners' including Michigan Clean Water Corps, Huron River Watershed Council, The Nature Conservancy, Friends of the Shiawassee River, Livingston County Office of the Drain Comm., and DeVries Nature Conservancy. Slide 3 (top right) asks 'Why monitor streams?' and lists reasons such as being good indicators of localized conditions, easy sampling techniques, a primary food source for many fish, and generally abundant communities. Slide 4 (bottom left) also asks 'Why monitor streams?' and lists reasons like volunteers getting involved in data collection, becoming informed on local stream conditions, and getting to know the stream, with a photo of people sampling and the text 'Have Fun!!'. Slide 5 (bottom middle) is a map of the Shiawassee River watershed showing 'MC Corps Sampling Stations' with a legend for 'Station' and 'Observation'. Slide 6 (bottom right) asks 'Your role' and lists roles for Stream Team members: attending training sessions, sampling events, and bug ID days, with a photo of people sampling.

Sampling techniques

Macroinvertebrate sampling



Habitat assessment

10/08/2010 7

Habitat assessment

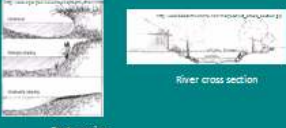
- Physical Habitat assessment
 - Background information
 - Substrate (river bottom)
 - River morphology
 - Physical appearance
 - Bank vegetation
 - Land use
 - Take photos!!



10/08/2010 8

Habitat assessment

- Physical Habitat assessment
 - Bank erosion
 - River cross section



10/08/2010 9


Habitat assessment

- Habitat sketch
 - Note direction
 - Large debris
 - Vegetation
 - Riffles
 - Pools
 - Trees



10/08/2010 10

Habitat assessment



10/08/2010 11

Habitat assessment

- Substrate
- Stream width and depth



10/08/2010 12

Habitat assessment

- Stream flow type
 - Low (L)
 - Flowing water present, but volume below average
 - Medium (M)
 - Flow in average range for the stream
 - High (H)
 - Flow above average

10/08/2010 13

Habitat assessment

- Channel



Natural vs. maintained

10/08/2010 14

Volunteer roles

- Streamside leader
- Picker
- Collector



10/08/2010 15

Macroinvertebrates- Sensitive species

- Caddisflies



10/08/2010 16

Macroinvertebrates- Sensitive species

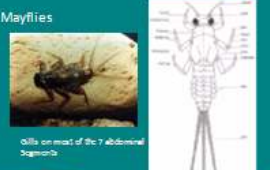
- Hellgramites
- Alderfly



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Macroinvertebrates- Sensitive species

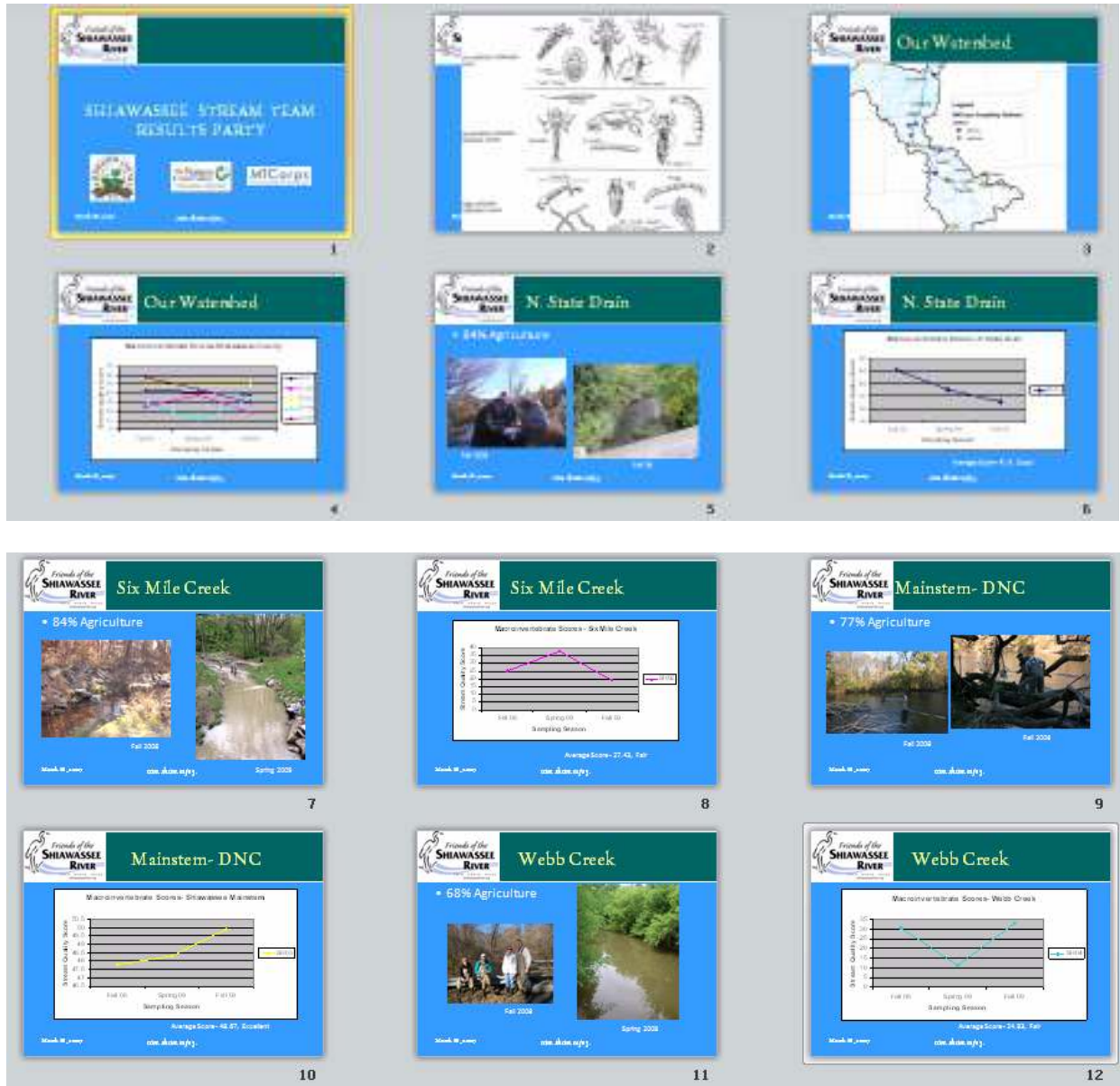
- Mayflies

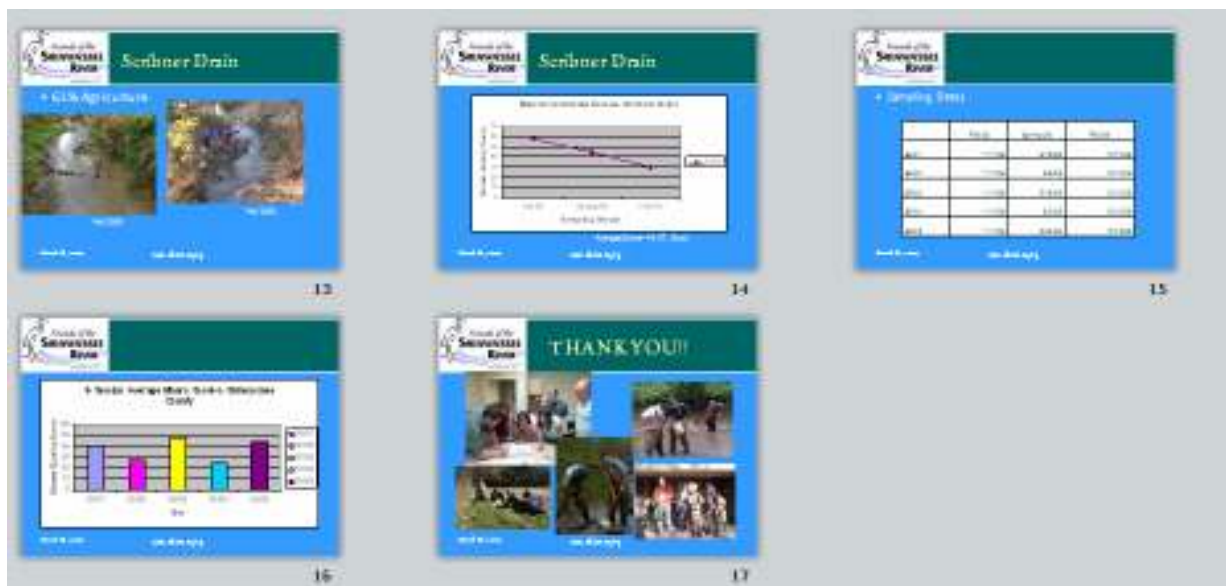


10/08/2010 18

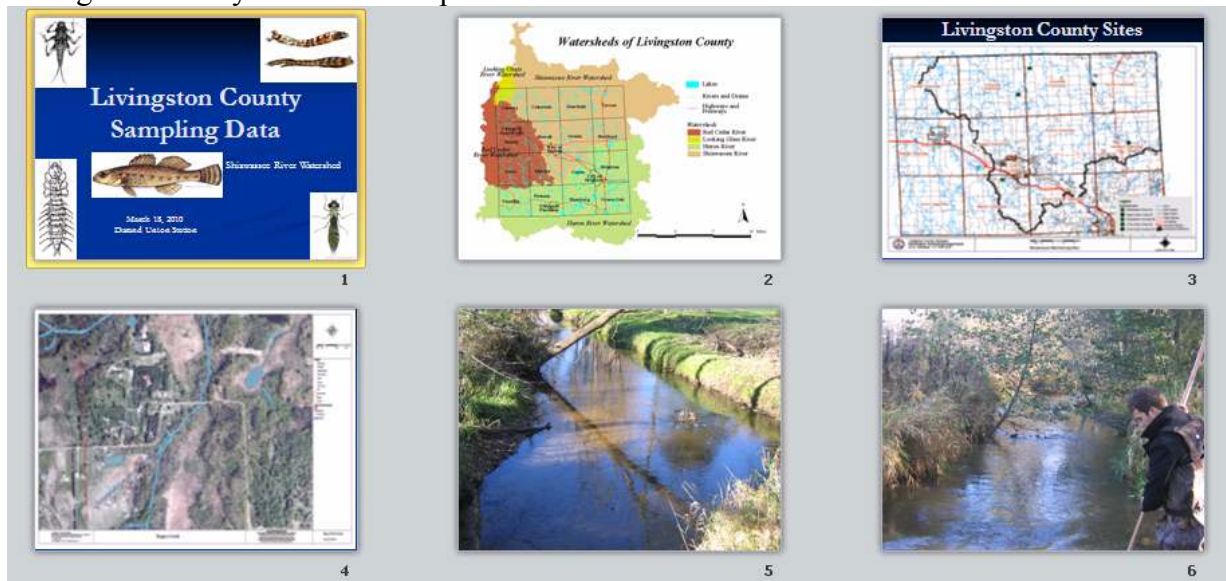
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1.b. Results Party Powerpoints






Livingston County Results Powerpoint



3. Newsletter features in the River View, Friends of the Shiawassee River newsletter



The Nature Conservancy
Protecting nature. Preserving life.

THE RIVER VIEW

News From The Nature Conservancy & Friends of the Shiawassee River

A Seasonal Publication of The Friends of the Shiawassee River • Founded 1995 • Spring 2008 • Vol. 12, Issue 1

MiCorps Grant Supports Shiawassee River

by Heidi Frei, Friends of the Shiawassee River and The Nature Conservancy in Michigan

Get down and dirty with the Friends of the Shiawassee River and Livingston County by helping to sample aquatic life in the River and its tributaries! Through funding from the Michigan Clean Water Corps (MiCorps), the FOSR will be working jointly with the Livingston County Drain Office to sample and identify the critters found in the River. This will help us screen for potential problems and evaluate programs in place to help improve the Shiawassee River.


Bugs have a story to tell
Benthic macro-invertebrates, or bugs that live at the bottom of the river, can tell us about the quality of the water and habitat by identifying which species are present at locations throughout the watershed. The presence or absence of some types can indicate good conditions or bad conditions. Using this information, the Friends can chart the progress of water quality and provide useful information to the Michigan Department of Environmental Quality. Ten locations within the river basin will be selected for sampling.

Identifying the invertebrates living in the River will be both fun and educational and volunteers with an interest in collecting data, learning about the River environment, and having fun are encouraged to contact the FOSR. Sampling crews are needed to help collect and, with the aid of experts, identify bugs in the spring and fall of each year. All volunteers will be trained and led by trained staff and will be assigned to one site along the River.

Call to Action!
The Friends of the Shiawassee River and Livingston County are looking for volunteers with an interest in hands-on discovery and that can help on two weekends each year.

Photo: TNC staff sample macroinvertebrates in the State Rd. Drain, part of the Shiawassee River Watershed, in the fall of 2004. © TNC Archives

Please contact Heidi Frei, shiawassee_mi@tnc.org or volunteer in Shiawassee County or Rebecca Simpson, rsimpson@co.livingston.mi.us, in Livingston County. Find out more on stream monitoring and MiCorps at www.micorps.net.



Calling All Friends!

Join us for Spring
River Stewardship Day!

April 19, 2008
9 a.m. - noon

Help remove debris from the banks of the Shiawassee River and adjacent parks. Volunteers are asked to meet along Miner's Trail behind Comstock Center. Students and service clubs are welcome to participate. For more details, contact Heidi Frei, 989-723-9062.

Want to learn more about
who calls the River
home?

Matt Herbert, Aquatic Ecologist for The Nature Conservancy, will be presenting information on the life found in the Shiawassee, including fish, mussels, and macroinvertebrates, for the FOSR Winter Speaker Series on Thursday, March 20, 2008 at the Baker College Welcome Center, Room B from 7:00-8:00 pm. For more information about this presentation please contact the FOSR and The Nature Conservancy at (989) 723-9062.

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Shiawassee Stream Team Takes to the River!

Teams of Volunteers Collect Bugs from Throughout the Watershed.

By Heidi Frei, Director, FOSR

As stewards of our natural resources, how can we determine the effectiveness of our actions on the watershed and how can we track our improvements over time? For many in the business world, evaluating results can be as straight-forward as reviewing sales, new accounts, or analyzing a survey. However, in the realm of natural resources when your targets include protecting habitat for endangered mussels, engaging the community in conservation, and limiting erosion, evaluation may not come so 'naturally'. But as members of the Shiawassee Stream Team discovered it sure is fun!

Volunteers from all over Shiawassee, Genesee, and Livingston Counties came together to collect macroinvertebrates (or small creatures without a spine yet large enough to see) from the River system to gauge quality of the habitat for fish and mussel. Teams choose from one of five locations within the Shiawassee watershed in Shiawassee County and five in Livingston County. Collections from each site will be identified to determine how 'good' the habitat is just as you could assess the quality of habitat on land by the type of species found. For example, an area home to only raccoons, squirrels and mice is likely more degraded than a property home to bear, moose, and coyote.



Stream Team members take a break at Webb Creek after sampling on a perfect fall day. Photo: T. Cook.

Macroinvertebrate Identification Helps to Monitor River Health

While any Stream Team member will tell you collecting bugs from the river environment is a lot of fun, they're not out there just to have a good time. The bugs our team collects from locations in Shiawassee and Livingston Counties are preserved for identification to help managers from The Nature Conservancy, Friends of the Shiawassee River, Livingston County Office of the Drain Commissioner, and the Michigan Department of Environmental Quality better understand conditions in the River.



Volunteers in Livingston County check out the insect population. Photo: H. Frei.

Bugs are collected twice per year and each collection is assigned a score based on the diversity of species and how sensitive they are to degraded habitat. By keeping track of bug populations we can all gain a better understanding of how good habitat is for recreationally important fish and other aquatic species.

Join the Stream Team

If you missed out on our fall sampling you can still participate in the spring! Collections will be taken from the same sites each spring and fall to observe changes in habitat over time. To join the Shiawassee Stream Team, contact Heidi Frei, shiawassee_mi@tnc.org or 989.723.9062, or Matt Bolang, mbolang@co.livingston.mi.us or 517.552.6870.

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The Results Are In!

The Shiawassee Stream Team evaluates the Shiawassee River through a unique lens

Many thanks to the volunteers that participated in our first Stream Team sampling in the fall of 2008! Our Teams in Shiawassee and Livingston Counties collected macroinvertebrates, or large creatures without a backbone, from the Shiawassee River to

help us better assess water and habitat quality. The Stream Team engages volunteers in collecting scientific data while offering a hands-on experience in conservation.

By collecting and identifying these populations, we can draw some conclusions about the quality of habitat for other species, such as fish and mussel, using the presence or absence of sensitive species.

Shiawassee County Scores

Location	Score	Rating
Six Mile Creek	25.3	Fair
North State Drain	44.2	Good
Shiawassee River	47.8	Good
Webb Creek	30.8	Fair
Scribner Drain	58.1	Excellent

For more information on the Stream Team, visit www.shiawasseeiver.org/streamteam



Goals of the Friends of the Shiawassee River

Care for the River

Maintain and improve the River's water quality, habitats, and natural banks.

Enjoy the River

Increase recreational access and responsible use of the river for anglers, canoeists, walkway users, park visitors, and others who enjoy the River.

Share the River

Enhance the community's appreciation and knowledge of the River, especially among our youth.

Become a 'Friend' of the River on page 4. For more information about the Friends of the Shiawassee River and membership, contact Heidi Frei at 989.723.9062 or shiawassee_mi@tnc.org.

Thank you to our 2009 Friends of the River!

Friend

Doris Austin
June Caponi
Norman DeWeese
Florence Dignan
William D. Earl
Beverly & Russell Hand
Ken & Judy Kirkman
Linda Milio
Anthony & Debra Newman
Inez Ross
Pat Selleck
Anne Wiseman
James Zimmerman

Supporter

Michael & Linda Bazelides
Herb & Sharon Brehmer
Craig Brehmer
Dick & Kirby Campbell
David & Piper Chrenka
Frank & Karen Corrin
Jed Diggins
Matt Herbert & Tracy Galarowicz
Meredith Keating
Evelyn Lower
David & Pat Vaughn

Benefactor

Richard & Joyce Bauchlor
Ralph & Cheryl Cosanzo
Bill & Jean Graham
James & Barbara Greve
Hugh & Mary Parker
David & Lori Rowleson
Alan & Joy Welby

Blue Heron

Rep. Dick & Connie Ball
Bruce & Colleen Brown
Diane Collier
Tom & Kathy Gross
Peter and Kristina Karsten
Tom & Becky McClear
Michael Selleck

The Friends of the Shiawassee River regret any errors reported or missing from our membership list. Please promptly notify us of any omissions or corrections! This list represents members as of 12/30/08-4/1/09.

Stream Team Science finds Shiawassee in Swell Shape!

After nearly two years of collecting information from across the watershed, preliminary results collected by the Shiawassee Stream Team show the Shiawassee River to be in 'good' health. Stream Team science is based on identifying populations of insects found living in the stream. If insects (or macroinvertebrates) that are sensitive to pollution are found in the stream it is a sign of good stream health. Conversely, if high levels of insects that are very tolerant of sedimentation and degraded conditions are found, that could indicate poor water quality. Based on the presence and abundance of indicators, a score is tallied for each site. Overall, almost all sites in Shiawassee County indicated 'good' water quality and habitat.

Some examples of sensitive macroinvertebrates found living in the Shiawassee River watershed include: water pennies, stoneflies, hellgrammites and caddisflies.



Mayflies are cute and sensitive and looking for a healthy river to call home! These indicators of good stream quality were found in Webb Creek, 2009. FOSR Archives.

Shiawassee County	Location	Score	Rating
North State Drain	Rush Twp.	41.4	Good
Six Mile Creek	New Haven Twp.	27.4	Fair
DeVries Nature Conservancy	Owosso Twp.	48.7	Excellent
Webb Creek	Venice Twp.	24.9	Fair
Scribner Drain	Burns Twp.	44.1	Good
Livingston County	Location	Score	Rating
S. Branch Shiawassee Upstream	Marion Twp.	30.3	Fair
Marion-Genoa Drain	Marion Twp.	26.0	Fair
S. Branch Shiawassee Downstream	Marion Twp.	25.7	Fair
Bogue Creek	Cohasset Twp.	33.7	Fair
N. Ore Creek	Tyrone Twp.	37.3	Good
N. Ore Creek	Hartland Twp.	37.3	Good
S. Branch @ Marr Rd.	Howell Twp.	29.0	Fair

What does it mean when a site receives a lower score? Because this method rates habitat, a low score could indicate higher levels of sedimentation, the leading cause of degraded water quality nationwide. Sedimentation can result from construction, incompatible agriculture and residential practices.

How can you improve the quality of habitat in the Shiawassee River? Join the Stream Team or see page 2 for ways to protect your property and river!

Friends of the Shiawassee River Move Downtown!

What better place to call home than along the Shiawassee River and downtown in one of the many communities that the River historically helped to establish and grow. The Shiawassee River is a vital piece of Holly, Fenton, Linden, Byron, Vernon, Corunna, Owosso, and Cheaning. We look forward to helping improve economic development and tourist options in these and the many other great places and communities along the River!

Visit us at our NEW location on the Shiawassee River in downtown Owosso at 308 W. Main Street, Suite 7 (across from City Hall) in Owosso. Volunteer options also exist in the office, please check our website for a volunteer application form.

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Share the River

Enhance the community's appreciation and knowledge of the River, especially among our youth.

Become a 'Friend' of the River on page 6. For more information about the Friends of the Shiawassee River and membership, contact 989.723.9062 or visit us on-line at ShiawasseeRiver.org or on find us on Facebook.

Join the Shiawassee Stream Team!



Get involved and help collect information on habitat for stream life!

- **Learn** about the life that calls the river home.
- **Be trained** to collect samples and how to use equipment.
- **Work side-by-side** with stream ecology experts.
- **Learn** about the importance of the Shiawassee River.
- **Join your community** to make a difference!
- **Have fun & enjoy** the outdoors!
- Contribute data to the Michigan DNRE.

Join the Friends of the Shiawassee River and Livingston County Office of the Drain Commissioner to help discover more about aquatic life in the Shiawassee River.

No experience is necessary, training & equipment are provided. Locations are available in Shiawassee & Livingston Counties- Sign up early to reserve your site!

Sample collections are scheduled every year in the spring and fall.

For more information or to volunteer, please contact
Matt Bolang in Livingston County at 517.552.6870
mbolang@co.livingston.mi.us

3. Summary of Results

Shiawassee County	Location	Score	Rating
North State Drain	Rush Twp.	41.4	Good
Six Mile Creek	New Haven Twp.	27.4	Fair
DeVries Nature Conservancy	Owosso Twp.	48.7	Excellent
Webb Creek	Venice Twp.	24.9	Fair
Scribner Drain	Burns Twp.	44.1	Good

Livingston County	Location	Score	Rating
S. Branch Shiawassee Upstream	Marion Twp.	30.3	Fair
Marion-Genoa Drain	Marion Twp.	26.0	Fair
S. Branch Shiawassee Downstream	Marion Twp.	25.7	Fair
Bogue Creek	Cohactah Twp.	33.7	Fair
N. Ore Creek,	Tyrone Twp	37.3	Good
N. Ore Creek,	Hartland Twp	37.3	Good
S. Branch @ Marr Rd.	Howell Twp.	29.0	Fair

4. a. Fall 2008 Report Cards



Shiawassee Stream Team Site Report Card

Site: **N. State Drain**
County: Shiawassee
Sampling Date: 11/01/2008
Site ID: SH01

Location: T8N, R2E, Sec. 4
Township: Rush

Overall Score: 44.2

Overall Rank: Good

Water Color: Clear

Stream Type: Drain

Erosion present: Moderate bank
and shoreline erosion



Photo by: A. Berry, Shiawassee Conservation Dist.

Sensitive species present: Caddisfly larvae, mayfly nymphs





Shiawassee Stream Team Site Report Card

Site: **Six Mile Creek**
County: Shiawassee
Sampling Date: 11/01/2008
Site ID: SH02

Location: T8N, R3E, Sec. 18
Township: New Haven

Overall Score: 25.3

Overall Rank: Fair

Water Color: Clear

Stream Type: Natural /
recovering

Erosion present: Moderate bank
and shoreline erosion



Photo by: T. Guysky.

Sensitive species present: Caddisfly larvae, mayfly nymphs



Shiawassee Stream Team Site Report Card

Site: **Shiawassee mainstem**
County: Shiawassee
Sampling Date: 11/01/2008
Site ID: SH03

Location: T7N, R2E, Sec. 2
Township: Owosso

Overall Score: 47.8

Overall Rank: Good

Water Color: Clear

Stream Type: Natural

Erosion present: Undercut banks



Photo by: H. Freil

Sensitive species present: Caddisfly larvae, mayfly nymphs, gilled (right-handed) snails,
stonefly nymphs



Shiawassee Stream Team Site Report Card

Site: **Webb Creek**
County: Shiawassee
Sampling Date: 11/01/2008
Site ID: SH04

Location: T7N, R4E, Sec. 31
Township: Venice

Overall Score: 30.6

Overall Rank: Fair

Water Color: Brown

Stream Type: Drain

Erosion present: Moderate shore-
line erosion



Photo by: T. Cook

Sensitive species present: Caddisfly larvae, mayfly nymphs, gilled (right-handed) snails



Shiawassee Stream Team Site Report Card

Site: **Scribner Drain**
County: Shiawassee
Sampling Date: 11/01/2008
Site ID: SH05

Location: T5N, R4E, Sec. 6
Township: Burns

Overall Score: 58.1

Overall Rank: Excellent

Water Color: Clear

Stream Type: Drain

Erosion present:



Photo by: S. Baxter.

Sensitive species present: Caddisfly larvae, mayfly nymphs, gilled (right-handed) snails,
stonefly nymphs



4.b. Fall 2009 Report Cards



Shiawassee Stream Team Site Report Card

Site: **N. State Drain**
County: Shiawassee
Sampling Date: 10/10/2009
Site ID: SH01

Location: T8N, R2E, Sec. 4
Township: Rush

Overall Score: 39

Overall Rank: Good

Water Color: Clear

Stream Type: Drain

Erosion present: Moderate erosion, undercut banks, erosion from recent auto accident.



Photo by: H. Frei, TNC.

Sensitive species present: Common: Caddisfly larvae, mayfly nymphs





Shiawassee Stream Team Site Report Card

Site: **Six Mile Creek**
County: Shiawassee
Sampling Date: 10/10/2009
Site ID: SH02

Location: T8N, R3E, Sec. 18
Township: New Haven

Overall Score: 19.1

Overall Rank: Fair

Water Color: Clear

Stream Type: Natural /
recovering

Erosion present: High bank erosion,
undercut banks, approx. 50% of
substate sand.



Photo by: H. Frei, TNC.

Sensitive species present: Rare: mayfly nymphs



Shiawassee Stream Team Site Report Card

Site: **Shiawassee mainstem**
County: Shiawassee
Sampling Date: 10/10/2009
Site ID: SH03

Location: T7N, R2E, Sec. 2
Township: Owosso

Overall Score: 49.9

Overall Rank: Excellent

Water Color: Brown

Stream Type: Natural

Erosion present: Slight undercut
banks



Photo by: H. Freil, TNC.

Sensitive species present: Common: mayfly nymphs, Rare: gilled (right-handed) snails,
stonefly nymphs, caddisfly larvae, water pennies





Shiawassee Stream Team Site Report Card

Site: **Webb Creek**
County: Shiawassee
Sampling Date: 10/10/2009
Site ID: SH04

Location: T7N, R4E, Sec. 31
Township: Venice

Overall Score: 32.9

Overall Rank: Fair

Water Color: Brown

Stream Type: Drain

Erosion present: Moderate to high
shoreline and bank erosion, over 95%
silted substrate



Photo by: H. Frei, TNC.

Sensitive species present: Rare: Caddisfly larvae, mayfly nymphs





Shiawassee Stream Team Site Report Card

Site: **Scribner Drain**
County: Shiawassee
Sampling Date: 10/18/2009
Site ID: SH05

Location: T5N, R4E, Sec. 6
Township: Burns

Overall Score: 29.3

Overall Rank: Fair

Water Color: Brown

Stream Type: Drain

Erosion present: Moderate bank
and shoreline erosion, substrate 60% silt
and sand.



Photo by: B. Brownlee.

Sensitive species present: Common: Caddisfly larvae, mayfly nymphs,





news release

Shiawassee River Program Office: 1900 S. Morrice Rd., Owosso, MI 48867
Website: nature.org/michigan • Email: shiawassee_mi@tnc.org

FOR IMMEDIATE RELEASE
June 25, 2008

Contact: Heidi M. Frei, Program Coordinator
(989) 723-9062 or hfrei@tnc.org

Training for Statewide Monitoring Program Held on the Shiawassee River Friends of the Shiawassee River looking for volunteers to participate in program

OWOSSO, Mich. — With financial support provided through the Michigan Department of Environmental Quality's **Michigan Clean Water Corps** (MiCorps), the Friends of the Shiawassee River will begin monitoring the quality of the Shiawassee River. On Saturday, June 21, several teams of grant recipients from around the state joined the Friends on the Shiawassee River for training, hosted by the DeVries Nature Conservancy in Owosso and led by the Huron River Watershed Council. Groups from the Upper AuSable River, Pine River, St. Clair River, and others spent the day learning to collect and determine stream conditions using the aquatic insects found under rocks and in the sediment on the river bottom.

"This stream is great!" remarked Paul Steen, Aquatic Ecologist for the Huron River Watershed Council and trainer for MiCorps, as he sampled the bug life living on the river's bottom. Steen, along with staff from the Huron River Watershed Council, will be assisting the Friends of the Shiawassee River in training and implementation of the program. Through the MiCorps program, the Friends of the Shiawassee River will be recruiting volunteers to help collect and, with the assistance of trained ecologists, identify bugs. The presence or absence of certain species will provide an indication of the health of habitat in the Shiawassee River.

The information will also be used by the Michigan Department of Environmental Quality to supplement their stream monitoring program.

“By involving volunteers in collecting data, we will be providing useful insight into the conditions and health of our river system while, at the same time, getting people involved with natural resources,” says Heidi Frei, Program Coordinator for The Nature Conservancy’s Shiawassee River Project and Director of the Friends of the Shiawassee River. The Friends of the Shiawassee River will be working with the Livingston County Office of the Drain Commissioner to sample sites along the Shiawassee River outside of Shiawassee County.

Volunteers interested in learning more about how to take part in the MiCorps monitoring program are invited to attend an informational session on Wednesday, September 10, 2008 from 5:30 p.m. until 7:00 p.m. at the Baker College Welcome Center, Conference Room E in Owosso. For more information on the MiCorps program, visit www.micorps.net.

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. The Nature Conservancy is the leading conservation organization working to protect the most ecologically important lands and waters around the world for nature and people. To date, the Conservancy and its 1 million members have been responsible for the protection of more than 102 million acres worldwide, including 360,000 acres in Michigan. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeiver.org> or The Nature Conservancy at <http://nature.org/michigan>.

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news release

Shiawassee River Program Office: 1900 S. Morrice Rd., Owosso, MI 48867
Website: nature.org/michigan • Email: shiawassee_mi@tnc.org

FOR IMMEDIATE RELEASE
October 6, 2008

Contact: Heidi M. Frei, Program Coordinator
(989) 723-9062 or hfrei@tnc.org

Shiawassee Stream Team Searching for Volunteers

OWOSSO, Mich. — With financial support provided through the Michigan Department of Environmental Quality's Michigan Clean Water Corps (MiCorps), the Friends of the Shiawassee River and the Livingston County Office of the Drain Commissioner will begin monitoring the quality of the Shiawassee River. Volunteers are needed to help sample locations in Shiawassee and Livingston Counties. No experience is necessary and **training will be provided on Saturday, October 18, 2008 at 9:00 a.m. at the DeVries Nature Conservancy** in Owosso. Training will include a brief introduction to river habitat and field work in the Shiawassee River. **Sampling will be held on Saturday, November 1, 2008 at 10:00 a.m.**

Volunteers with the Shiawassee Stream Team can expect to spend the morning learning to collect insects found under rocks and in the sediment on the river bottom using the equipment provided. Using the presence or absence of sensitive species, volunteers will help to determine stream conditions and provide information to the Michigan Department of Environmental Quality to supplement existing data on the River's conditions. Refreshments, compliments of the Cook Family Foundation, will be provided and those interested should register to reserve their place by contacting Heidi Frei in Shiawassee County or Matt Bolang in Livingston County.

MORE

“By involving volunteers in collecting data, we will be providing useful insight into the conditions and health of our river system while, at the same time, getting people involved with natural resources,” says Heidi Frei, Program Coordinator for The Nature Conservancy’s Shiawassee River Project and Director of the Friends of the Shiawassee River. To learn more about the program or to volunteer, please contact Heidi Frei, 989.723.9062 or shiawassee_mi@tnc.org, or Matt Bolang, 517.552.6870 or mbolang@co.livingston.mi.us.

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. The Nature Conservancy is the leading conservation organization working to protect the most ecologically important lands and waters around the world for nature and people. To date, the Conservancy and its 1 million members have been responsible for the protection of more than 102 million acres worldwide, including 360,000 acres in Michigan. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeiver.org> or The Nature Conservancy at <http://nature.org/michigan>.

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Shiawassee River Program Office: 1900 S. Morrice Rd., Owosso, MI 48867
Website: nature.org/michigan • Email: shiawassee_mi@tnc.org

FOR IMMEDIATE RELEASE
October 23, 2008

Contact: Heidi M. Frei, Program Coordinator
(989) 723-9062 or hfrei@tnc.org

Volunteers Set to Sample the Shiawassee

OWOSSO, Mich. —Volunteers from Livingston, Shiawassee and Genesee counties gathered on Saturday, October 18, 2008 at the DeVries Nature Conservancy in Owosso to be trained to sample insects living in the Shiawassee River. Participants spent the day learning to collect and determine stream conditions using the aquatic insects found under rocks and in the sediment on the river bottom. Teams of volunteers will begin collecting bugs on Saturday, November 1 at various locations throughout the watershed. The training, put on by The Nature Conservancy in Michigan, the Friends of the Shiawassee River, and Livingston County, is funded through financial support provided through the Michigan Department of Environmental Quality's Michigan Clean Water Corps (MiCorps).

Collections at each site will be identified by trained aquatic ecologists and data collected will be submitted to the Michigan Department of Environmental Quality as a part of the MiCorps Program, overseen by staff from the Huron River Watershed Council.

"You can learn a lot about the quality of a stream by discovering who lives there" remarked Heidi Frei, Director of the Friends of the Shiawassee River. "For example, sensitive species of insects will not be found in habitat that has been degraded. By continually collecting this information, we can get a better picture of the stream's health and any improvements over time."

MORE

Volunteers will be collecting bugs, sketching stream conditions and taking photos and do not need experience to participate. Opportunities are also available that do not require entering the stream. Those interested in participating at the sampling event on Saturday, November 1, 2008 from 10 a.m. to noon should contact the Friends of the Shiawassee River at shiawassee_mi@tnc.org or 989-723-9062. Volunteers interested in collecting at locations in Livingston County should contact Matt Bolang at 517-552-6870.

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. The Nature Conservancy is the leading conservation organization working to protect the most ecologically important lands and waters around the world for nature and people. To date, the Conservancy and its 1 million members have been responsible for the protection of more than 102 million acres worldwide, including 360,000 acres in Michigan. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeiver.org> or The Nature Conservancy at <http://nature.org/michigan>.

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Shiawassee River Program Office: 1900 S. Morrice Rd., Owosso, MI 48867
Website: nature.org/michigan • Email: shiawassee_mi@tnc.org

FOR IMMEDIATE RELEASE
November 5, 2008

Contact: Heidi M. Frei, Program Coordinator
(989) 723-9062 or hfrei@tnc.org

Sampling the Shiawassee River

OWOSSO, Mich. — The Friends of the Shiawassee River wish to thank community members participating in the first Shiawassee Stream Team event on Saturday, November 1, 2008. Teams of volunteers enjoyed a beautiful morning outside collecting insects and data on the Shiawassee River and its tributaries as members of the Shiawassee Stream Team, a joint program of the Friends of the Shiawassee River, The Nature Conservancy in Michigan and the Livingston County Office of the Drain Commissioner. Collections of macroinvertebrates, or bugs living in the river system, were taken from sites along Six Mile Creek, the North State Drain, the Shiawassee River, Webb Creek, and the Scribner Drain to better assess habitat conditions throughout the watershed.

Collections at each site will be identified on a later date and data collected will be submitted to the Michigan Department of Environmental Quality as a part of the MiCorps Program, overseen by staff from the Huron River Watershed Council. Volunteers interested in learning how to identify the collections can participate in the identification workshop to be scheduled later this month. Work will be done with the aid of an aquatic ecologist and no experience is required. To participate, please contact the Friends of the Shiawassee River at 989.723.9062 or shiawassee_mi@tnc.org.

MORE

“You can learn a lot about the quality of a stream by discovering who lives there” remarked Heidi Frei, Director of the Friends of the Shiawassee River. “For example, sensitive species of insects will not be found in habitat that has been degraded. By continually collecting this information, we can get a better picture of the stream’s health and any improvements over time.”

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. The Nature Conservancy is the leading conservation organization working to protect the most ecologically important lands and waters around the world for nature and people. To date, the Conservancy and its 1 million members have been responsible for the protection of more than 102 million acres worldwide, including 360,000 acres in Michigan. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeiver.org> or The Nature Conservancy at <http://nature.org/michigan>.

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Shiawassee River Program Office: 1900 S. Morrice Rd., Owosso, MI 48867
Website: nature.org/michigan • Email: shiawassee_mi@tnc.org

FOR IMMEDIATE RELEASE
December 11, 2008

Contact: Heidi M. Frei, Program Coordinator
(989) 723-9062 or hfrei@tnc.org

Monitoring Program Finds Good Conditions in Shiawassee River Friends of the Shiawassee River 'Stream Team' shares results for Fall Sampling

OWOSSO, Mich. — Members of the Friends of the Shiawassee River (FOSR) Shiawassee Stream Team, funded by the Michigan Clean Water Corps, started their first sampling season this fall at various locations in the Shiawassee River Watershed. Working with the Livingston County Office of the Drain Commissioner, the Stream Team will continue to monitor ten sites to identify trends in water quality. Of the five locations sampled in Shiawassee County the average location was found to be in 'good' condition.

Through the MiCorps program, the Friends of the Shiawassee River volunteers have collected and identified macroinvertebrates, or stream insects, living in the river. The presence or absence of certain species will provide an indication of the health of habitat in the Shiawassee River. Sites in Shiawassee County include: North State Drain (Rush Twp.), Six Mile Creek (New Haven Twp.), DeVries Nature Conservancy (Owosso Twp.), Webb Creek (Venice Twp.), and the Scribner Drain (Burns Twp.).

"The Friends of the Shiawassee are thrilled with the volunteer response and interest in this program!" said Heidi Frei, Director of the FOSR. "Not only did we have a great group of volunteers collecting usable, scientific data, but the majority of river locations were in good or excellent condition." Each site is scored based on the number of species found and sensitivity

to pollution. The information will also be used by the Michigan Department of Environmental Quality to supplement their stream monitoring program. Results will be posted on the FOSR website, www.shiawasseeriver.org.

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. The Nature Conservancy is the leading conservation organization working to protect the most ecologically important lands and waters around the world for nature and people. To date, the Conservancy and its 1 million members have been responsible for the protection of more than 102 million acres worldwide, including 360,000 acres in Michigan. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeriver.org> or The Nature Conservancy at <http://nature.org/michigan>.

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news release

Shiawassee River Program Office: 1900 S. Morrice Rd., Owosso, MI 48867
Website: nature.org/michigan • Email: shiawassee_mi@tnc.org

FOR IMMEDIATE RELEASE **Contact:** Heidi M. Frei, Executive Director, FOSR
June 25, 2009 (989) 723-9062 or hfrei@tnc.org

Stream Team Invites Volunteers to Learn About Aquatic Insects

OWOSSO, Mich. — The Friends of the Shiawassee River Stream Team, a volunteer team that documents river conditions by collecting macroinvertebrates, sketching stream conditions and taking photos, finished sampling the river system this spring. With the aid of several local volunteers logging 68 hours in the river, collections of macroinvertebrates, or bugs living in the river system, were taken from sites along Six Mile Creek, the North State Drain, the Shiawassee River, Webb Creek, and the Scribner Drain. Stream Team data is used to better assess habitat conditions throughout the watershed.

Collections at each site will be identified on Thursday, July 9 at the Baker College Welcome Center, Room E from 6:30 to 8:30 p.m. Volunteers are invited to learn about the aquatic life in the river system by helping to identify samples. Data collected will be submitted along with data from the Livingston County Office of the Drain Commissioner to the Michigan Department of Environmental Quality as a part of the MiCorps Program. Work will be done with the aid of an aquatic ecologist and no experience or equipment is required. To participate, please contact the Friends of the Shiawassee River at 989.723.9062 or shiawassee_mi@tnc.org.

MORE

“You can learn a lot about the quality of a stream by discovering who lives there” remarked Heidi Frei, Director of the Friends of the Shiawassee River. “For example, sensitive species of insects will not be found in habitat that has been degraded. By continually collecting this information, we can get a better picture of the stream’s health and any improvements over time.”

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeiver.org>. To view results from the FOSR fall Stream Team sampling visit <http://www.shiawasseeiver.org/streamteamresults.html>.

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news release

Shiawassee River Program Office: 1900 S. Morrice Rd., Owosso, MI 48867
Website: nature.org/michigan • Email: shiawassee_mi@tnc.org

FOR IMMEDIATE RELEASE
September 22, 2009

Contact: Heidi M. Frei, Executive Director, FOSR
(989) 723-9062 or hfrei@tnc.org

Join the Shiawassee Stream Team to Help Monitor Health of the River!

OWOSSO, Mich. — The Friends of the Shiawassee River Stream Team, a volunteer team that documents river conditions by collecting insects, sketching stream conditions and taking photos, invite you to join them for the Fall 2009 sampling! Stream Team volunteers can expect to spend the morning learning to collect insects found under rocks and in the sediment on the river bottom using the equipment provided. Sampling locations include five sites in Shiawassee County: along Six Mile Creek, the North State Drain, the Shiawassee River, Webb Creek, and the Scribner Drain; and five sites in Livingston County. Sampling will be held on Saturday, October 10 from 9 a.m. until 11:30 a.m.

No experience is necessary to participate and all equipment will be provided but volunteers must contact Heidi Frei, Executive Director of the Friends of the Shiawassee River, to reserve a sampling location. Data collected will be submitted along with data from the Livingston County Office of the Drain Commissioner to the Michigan Department of Environmental Quality as a part of the MiCorps Program. To participate, please contact the Friends of the Shiawassee River at 989.723.9062 or shiawassee_mi@tnc.org.

MORE

“You can learn a lot about the quality of a stream by discovering who lives there” remarked Heidi Frei, Director of the Friends of the Shiawassee River. “For example, sensitive species of insects will not be found in habitat that has been degraded. By continually collecting this information, we can get a better picture of the stream’s health and any improvements over time.”

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeiver.org>. To view results from the FOSR Stream Team sampling visit <http://www.shiawasseeiver.org/streamteamresults.html>.

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news release

Shiawassee River Program Office: 1900 S. Morrice Rd., Owosso, MI 48867
Website: nature.org/michigan • Email: shiawassee_mi@tnc.org

FOR IMMEDIATE RELEASE **Contact:** Heidi M. Frei, Executive Director, FOSR
October 2, 2009 (989) 723-9062 or hfrei@tnc.org

It's not too late to join the Shiawassee Stream Team!

OWOSSO, Mich. — The Friends of the Shiawassee River Stream Team, a volunteer team that documents river conditions by collecting insects, sketching stream conditions and taking photos, will be monitoring several locations in the watershed through their macroinvertebrate (insect) sampling program. You can help collect information that will be used by the Michigan Department of Environmental Quality and other groups to help monitor the health of the stream. Stream Team volunteers can expect to spend the morning learning to collect insects found under rocks and in the sediment on the river bottom using the equipment provided. Sampling locations include five sites in Shiawassee County: along Six Mile Creek, the North State Drain, the Shiawassee River, Webb Creek, and the Scribner Drain; and five sites in Livingston County. Sampling will be held on Saturday, October 10 from 9 a.m. until 11:30 a.m.

No experience is necessary to participate and all equipment will be provided but volunteers must contact Heidi Frei, Executive Director of the Friends of the Shiawassee River, to reserve a sampling location. Data collected will be submitted along with data from the Livingston County Office of the Drain Commissioner as a part of the State of Michigan Clean Water Corps. To participate, please contact the Friends of the Shiawassee River at 989.723.9062 or shiawassee_mi@tnc.org.

MORE

“You can learn a lot about the quality of a stream by discovering who lives there” remarked Heidi Frei, Director of the Friends of the Shiawassee River. “For example, sensitive species of insects will not be found in habitat that has been degraded. By continually collecting this information, we can get a better picture of the stream’s health and any improvements over time. These data can inform property values, many times increasing them, and other conservation activities.”

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeiver.org>. To view results from the FOSR Stream Team sampling visit <http://www.shiawasseeiver.org/streamteamresults.html>.

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news release

Shiawassee River Program Office: 1900 S. Morrice Rd., Owosso, MI 48867
Website: nature.org/michigan • Email: shiawassee_mi@tnc.org

FOR IMMEDIATE RELEASE
March 2, 2010

Contact: Heidi M. Frei, Executive Director, FOSR
(989) 723-9062 or hfrei@tnc.org

Friends of the Shiawassee Share Sampling Results

OWOSSO, Mich. — Through volunteer efforts and funding from the Great Lakes Commission and Michigan Clean Water Corps, the Shiawassee Stream Team (a collaborative effort between the Friends of the Shiawassee River and the Livingston County Office of the Drain Commissioner) has documented river conditions throughout the watershed since 2008. Findings and interpretations will be presented on Thursday, March 18 at the Durand Union Station Ballroom from 6:00 to 8:30 p.m. The evening will include a reception with results presentations at 6:30 and guest speaker, Dr. Lois Wolfson, MSU Department of Fisheries and Wildlife, at 7:00 p.m. Dinner is included and the event is free to Stream Team volunteers. All others a suggested donation of five dollars.

By rating stream health, the collected information can be used by the community to inform real estate values and help planning commissions and government make more informed decisions. For example, evidence of good stream quality has been used to support increases in the selling prices of adjacent properties.

“Sampling data leads to an understanding of water quality, which in turn is driven by area land use,” said Matt Bolang of the Livingston County Health Department. “Higher quality water generally indicates intact natural areas in the watershed. This assessment of stream health can be an important tool for local decision makers to prioritize their targeted investment in the protection or rehabilitation of these natural areas.” Locally, the Friends of the Shiawassee River and the Office of the Drain Commissioner will be using this information to make more strategic decisions.

“You can learn a lot about the quality of a stream by discovering who lives there” remarked Heidi Frei, Director of the Friends of the Shiawassee River. “For example, sensitive species of

insects will not be found in habitat that has been degraded. By continually collecting this information, we can get a better picture of the stream's health and any improvements over time.”

The Results Party will also recognize and appreciate the volunteer teams that collect macroinvertebrates and identify to rate the quality of the stream. Collections occur twice annually, in the spring and fall. This year, spring sampling will be held on Saturday, May 1st in both counties and no experience is necessary to participate.

To RSVP, please contact the Friends of the Shiawassee River at 989.723.9062 or shiawassee_mi@tnc.org by Monday, March 15.

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. For more information , visit the Friends of the Shiawassee River at <http://shiawasseeiver.org>. The mission of the Livingston County Office of the Drain Commissioner is to provide for the public health, safety, and welfare of the citizens of Livingston County through careful management of the waters and drainage infrastructure of Livingston County, and in a manner that; embraces environmental stewardship; provides cost effective exemplary service for its users; and seeks long term economic sustainability through proactive planning and leadership. To view results from the FOSR Stream Team sampling visit <http://www.shiawasseeiver.org/streamteamresults.html>.

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news release

308 W. Main St., Suite 7., Owosso, MI 48867
ShiawasseeRiver.org

FOR IMMEDIATE RELEASE
June 29, 2010

Contact: Heidi M. Frei, Executive Director, FOSR
(989) 723-9062 or hfrei@tnc.org

Shiawassee Stream Team Goes ‘On-the-Case’ to Uncover Stream Health

OWOSSO, Mich. — For the last two years, volunteers coordinated by the Friends of the Shiawassee River and the Livingston County Office of the Drain Commissioner have uncovered and identified insects, or macroinvertebrates, living in the river to determine just how healthy the Shiawassee is. Turns out, it is in fine shape and even is home to rare insects like caddisflies and water pennies. Using ‘forensic-like’ techniques and funding from the Michigan Clean Water Corps, these groups have been able to assess the quality of the Shiawassee River and its tributaries in select areas based on what type of insects are found.

‘The premise is simple’ says Heidi Frei, Director of the Friends of the Shiawassee River and coordinator of activities in Shiawassee County. ‘Based on what type of insect is found, we can determine the stream’s health. Some invertebrates, like hellgrammites, mayflies and waterpennies won’t live just anywhere. They need good quality water and a good stream system.’

On average, most sites in Shiawassee County scored well with the best habitat found in the main stretch of the river at DeVries Nature Conservancy and in the Scribner Drain near Bancroft. Locations in Livingston County scored average or better.

Volunteers both collect and identify insects with the aid of trained ecologists and other volunteers. The next identification session will be held on Wednesday, July 7 from 6 to 7 p.m. at the DeVries Nature Conservancy, just north of Owosso or Monday, July 19 at 10 a.m. in Howell. Samples collected during the spring 2010 round will be identified and no experience is required to join and learn! To participate, please contact the Friends of the Shiawassee River at 989.723.9062 or shiawassee_mi@tnc.org.

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeeriver.org>. To view results from the FOSR Stream Team sampling visit <http://www.shiawasseeeriver.org/streamteamresults.html>.

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news release

308 W. Main St., Suite 7., Owosso, MI 48867
ShiawasseeRiver.org

FOR IMMEDIATE RELEASE
September 22, 2010

Contact: Heidi M. Frei, Executive Director
(989) 723-9062 or hfrei@shiawasseeiver.org

River Sampling Efforts Continue

OWOSSO, Mich. — Members of the Friends of the Shiawassee River ‘Stream Team’, will collect information on the health of the Shiawassee River in several locations throughout Livingston and Shiawassee Counties on Saturday, October 2. The sampling effort, a collaborative with the Livingston County Office of the Drain Commissioner, collects information that is provided to the Michigan Department of Natural Resources and Environment and is one of several programs accredited by the Michigan Clean Water Corps across the state.

“Our volunteer crews continue to find sensitive species living in the river, which is a very good sign” said Heidi Frei, director of the Friends. “What we’re doing is very important to determine baseline conditions in the River so that we can identify any areas of concern. It’s also a great way to experience the River and the outdoors!”

Ten sites are monitored in the spring and fall of each year by volunteers. Scores so far have indicated most sites in Shiawassee County have ‘good’ or ‘excellent’ quality with the highest rating found in the main stretch of the river at DeVries Nature Conservancy and in the Scribner Drain near Bancroft. Locations in Livingston County scored average or better with the highest ratings in Hartland and Tyrone Townships.

To participate, volunteers should preregister with the Friends of the Shiawassee River by calling 989-723-9062 or emailing info@ShiawasseeRiver.org. To be involved in the Howell area call 517-552-6870. More information is also available on Facebook and the Friends website, ShiawasseeRiver.org. No expereince is necessary and all materials and equipment will be provided.

MORE

The Friends of the Shiawassee River are an all volunteer organization committed to improving the environment, promoting the responsible use of, and enhancing the appreciation of the Shiawassee River throughout its watershed. To date, the Friends have engaged thousands of volunteers, removed over three tons of invasive species, removed approximately 300 yards of debris from the river and planted hundreds of trees to create habitat and improve water quality. For more information, visit the Friends of the Shiawassee River at <http://shiawasseeiver.org>. To view results from the FOSR Stream Team sampling visit <http://www.shiawasseeiver.org/streamteamresults.html>.

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news release

308 W. Main St., Suite 7., Owosso, MI 48867
ShiawasseeRiver.org

FOR IMMEDIATE RELEASE
October 4, 2010

Contact: Heidi M. Frei, Executive Director
(989) 723-9062 or hfrei@shiawasseeiver.org

Stream samplers find great diversity

OWOSSO, Mich. — Despite dreary conditions, the Friends of the Shiawassee River ‘Stream Team’, a trained volunteer corps that provides data to the Michigan Department of Natural Resources and Environment, sampled macroinvertebrates in Henderson, Bancroft and Howell on Saturday, October 2 and Sunday, October 3, 2010. Additional crews will work throughout the week and this weekend to sample locations at the DeVries Nature Conservancy in Owosso Twp., Vernon and a site in New Haven Twp. Several sensitive species, including mayflies, dragonflies, caddisflies and crayfish, were found indicating good stream health.

The Stream Team collects data throughout the river watershed to gauge stream health. To participate, volunteers should preregister with the Friends of the Shiawassee River by calling 989-723-9062 or emailing info@ShiawasseeRiver.org. To be involved in the Howell area call 517-552-6870. More information is also available on Facebook and the Friends website, ShiawasseeRiver.org. No experience is necessary and all materials and equipment will be provided.

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7. Photos:



Matt Herbert, Aquatic Ecologist for The Nature Conservancy, trains volunteers from Livingston and Shiawassee County at the DeVries Nature Conservancy in Fall of 2008. Photo: H. Frei.



Volunteers from New Lothrop High School and the Friends of the Shiawassee River monitor Six Mile Creek during the Spring 2009 sampling event. Photo: H. Frei



Volunteers in Marion Twp. search the stream, Fall 2008. Photo: M. Bolang.



The North State Drain crew prepares for the morning's work. Fall 2009. Photo: H. Frei.



Assessing substrate
embeddedness on the
mainstem. Spring, 2010.
Photo: H. Frei.



The Scribner Drain crew
helps during
macroinvertebrate
identification, Fall 2009.
Photo: H. Frei.



Hartland High School students search through samples during the Spring 10 sampling event. Photo: M. Bolang.