

TLA Internship 2013



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2013 Intern's interns studied the aquatic environment by:

- Expanding upon the current data regarding the Clam River Plume.
- Inventorying over 20 road ends to monitor water way and runoff erosion.
- Studying macro invertebrates to determine the health of Maury Creek.
- Furthering public education by staffing a booth at the Antrim County Fair.

Clam River Plume



Clam River Plume

- We took water samples to determine the source of the discoloration of the plume.
- We took water samples at Clam River and discovered that the water quality assessment measures fall within the ranges expected for an Mesotrophic lake.
- After looking at our data we believe the origin of the plume is due to abundance of algae (phytoplankton).
- We determined that there were no point sources for the nutrients that produce the plume.



Clam River Plume (Table)

Greenbelt Project

Upon completion of our road end survey we decided to install a greenbelt at Butch's Tackle and Marine. This site was selected due to substantial erosion resulting from high land and water traffic. The property owner made the site available for improvements.



Greenbelt Project

- First the grass was removed in an environmentally friendly way.
- We placed an organic erosion blanket made of coconut to prevent further erosion.



Greenbelt Project

- Then we planted native vegetation and added mulch.



Macro Invertebrates

- We used macro invertebrates levels to measure stream health.
- Results from the Maury Creek evaluation revealed the good condition of the stream.
- In this evaluation we collected insects, cataloged them, and scored them according to the MiCorps system.

MiCorps Form

MiCorps Site ID# _____



Stream Macroinvertebrate Datasheet

Stream Name: _____
Location: _____ (Circle one: Upstream or Downstream of road?)
Date: _____ **Collection Start Time:** _____ (AM/PM)
Major Watershed: _____ **HUC Code (if known):** _____
Latitude: _____ **Longitude:** _____

Monitoring Team:
Name of Person Completing Datasheet: _____
Collector: _____
Other Team Members: _____

Stream Conditions: **Average Water Depth:** _____ feet
Is the substrate covered with excessive silt? No Yes (describe: _____)
Substrate Embeddedness in Rifles: 0-25% 25-50% > 50% Unassess
Did you observe any fish or wildlife? () Yes () No if so, please describe: _____

Macroinvertebrate Collection: Check the habitats that were sampled. Include as many as possible.

<input type="checkbox"/> Rifles	<input type="checkbox"/> Stream Margins	<input type="checkbox"/> Submerged Wood
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Leaf Packs	<input type="checkbox"/> Other (describe: _____)
<input type="checkbox"/> Aquatic Plants	<input type="checkbox"/> Pools	
<input type="checkbox"/> Runs	<input type="checkbox"/> Undercut banks/Overhanging Vegetation	

Did you see, but not collect, any live crayfish? (___ Yes ___ No), **or large clams?** (___ Yes ___ No)
*Remember to include them in the assessment on the other side!

Collection Finish Time: _____ (AM/PM)

Datasheet checked for completeness by: _____ Datasheet version: 10/2008
Data entered into MiCorps database by: _____ Date: _____

Why is public education important?

- TLA's education outreach effort is a fundamental part of TLA's Mission ***“to preserve, protect and improve the environmental quality of the Elk River Chain of Lakes Watershed, especially Torch Lake, Clam Lake, and Lake Bellaire, for all generations.”***

Public Education

- At the Antrim County Fair we demonstrated the effectiveness of fish shelters.
- We exhibited both native and non-native Milfoil species.
- We collected Macro invertebrates samples from a nearby stream and invited children to come and explore the world of bugs!
- Along with all those fun activities, we had a table full of information (printed materials about watershed protection, greenbelts, TLA, invasive species, fish shelters, etc).

Public Education

- TLA's 2nd year with a booth at the 3 day fair
- Other education programs include:
 - High School Intern Program
 - Adult Education Evenings
 - Science Education Outreach Program
 - Quarterly Newsletters
 - Website
 - Facebook

Conclusions

- The plume emanating from Clam River seems to be of natural causes and poses no apparent environmental threat. Therefore frequent monitoring may not be required.
- The greenbelt at Butch's will serve as a demonstration project to inform and inspire the public. This project may serve as a gateway to further efforts.
- Maury Creek, despite being frequently inundated with sand and sediment, showed healthy levels of macro invertebrates. It is recommended that sampling be continued.
- Educational programs should be continued and maybe even expanded because TLA makes it a hands on or one of a kind experience.

Acknowledgements

- Diane Crandall
- Becky Norris
- Trish Narwold
- Jimmy Argo
- Dean Branson
- Heather Hettinger
- Heidi Shaffer
- Christy Roman
- Leslie Meyers
- Lorna Harrel
- Julie Weston
- Art Hoadley
- KC Babb
- The Dockside
- Butch's Tackle & Marine
- Bloomin' Buddies
- Wilhelm & Associates
- Lake Shore Marine Construction

