Mid-Michigan Environmental Action Council

Red Cedar Watershed
2015 Stream Monitoring Report

Introduction

The Mid-Michigan Environmental Action Council (Mid-MEAC) is a non-profit organization dedicated to raising awareness of various environmental concerns in the Tri-County Region- Ingham, Eaton, and Clinton. Mid-MEAC's Volunteer Stream Monitoring Program was created to allow the community to participate in sampling the Red Cedar Watershed and monitoring its health. Twice per year volunteers are able to put on waders and sample the Red Cedar Watershed by collecting macroinvertebrates (bugs).

Macroinvertebrates are tiny living organisms that make up a huge part of stream communities. They have become a very popular means of determining the health of streams because some macroinvertebrates are more sensitive than others to pollution. Some can tolerate only the cleanest, most natural waters, while some can live in just about anything. There are also those who fall in-between. If a stream becomes polluted, bugs sensitive to pollution may disappear. Depending on the amount and which types of bugs are collected, the streams health can be easily determined.

Mid-MEAC stated monitoring six sites a decade ago and we now have ten sites in the Red Cedar watershed.

2015 Stream Monitoring Events

Spring 2015 Monitoring

On June 13th, volunteers collected macroinvertebrates from six sites. The volunteers proved dedicated to sampling, they collected many macroinvertebrates from all areas of the streams. On June 24th, with the help of Mid-MEAC employees, the last four sites were sampled. Numerous species of macroinvertebrates were collected and stored until the Spring Bug ID Day.

4-H Youth Development Sampling

On June 23rd, Mid-MEAC had the opportunity to teach kids from the 4-H Youth Development program about stream monitoring. Over 40 kids showed up to learn about they can protect Michigan waters! Volunteers were taught about the Volunteer Stream Monitoring Program, the collection and identification of macroinvertebrates, and how these bugs can tell us about the health of a stream. The kids were then split into groups and assigned different areas along the Red Cedar River to sample on Michigan State University's campus.

Spring 2015 Bug ID Day

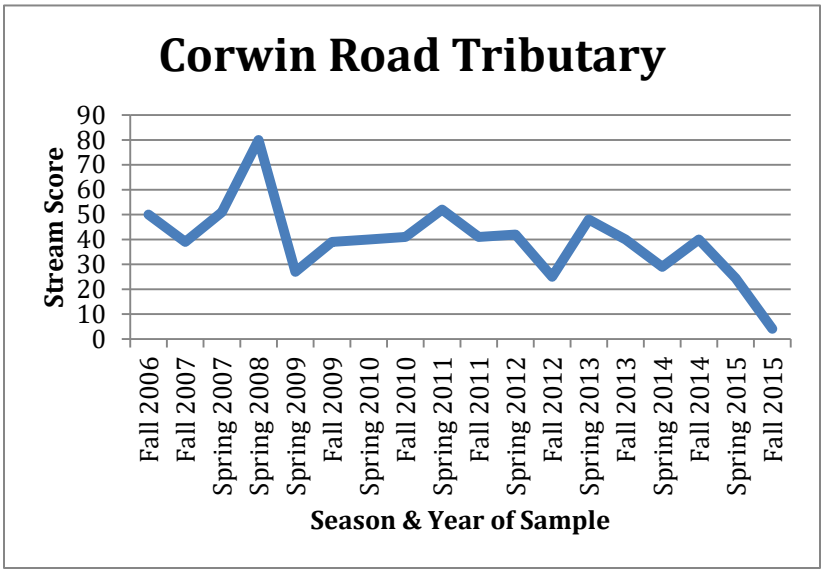
On June 30th, volunteers from the spring monitoring day examined the macroinvertebrates they collected. The bugs were successfully identified with help from the Department of Entomology at Michigan State University. Stream scores of overall health were calculated and recorded as well.

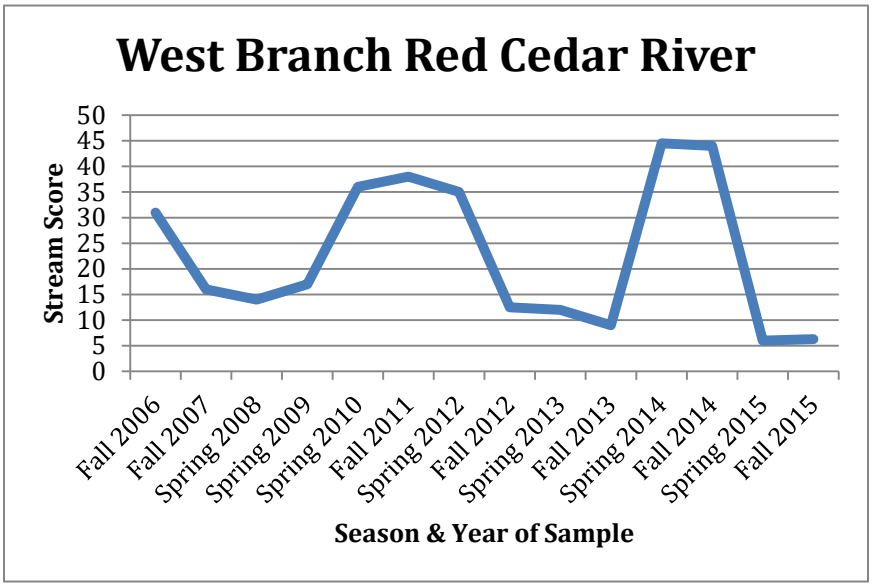
Fall 2015 Monitoring
On October 15th, volunteers collected macroinvertebrates from five sites. The volunteers proved how hard working and focused they are through braving the cold and collecting many types of bugs. On October 25th, the remaining five sites were sampled with the of Mid-MEAC employees. A diverse amount of bugs were collected and stored until the Fall Bug ID Day.

Fall Bug ID Day
On October 22nd, volunteers from the fall monitoring event identified the macroinvertebrates they previously collected. Scoot Nowak, an entomology expert, went above and beyond by identifying the remaining five samples not identified on Bug ID Day at his lab.

<u>Scoring</u>
Since macroinvertebrates are important indicators of water pollution, it is important to sample all different types of habitats in the stream. Once the macroinvertebrates have been identified, a stream score is calculated based on the number of pollution sensitive or insensitive bugs were found in the area. A score of 49 or higher shows excellent water quality, 34-48 represents good quality, 19-33 is fair quality, and 0-18 is poor stream quality.

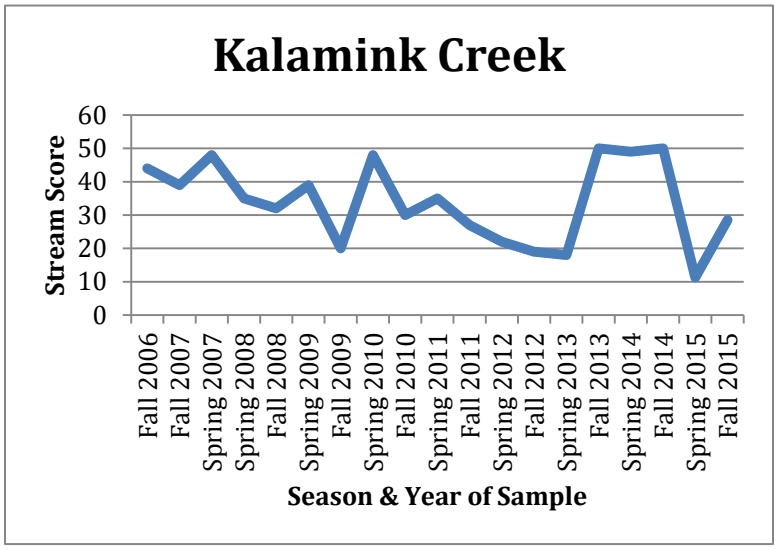
Site #1
Corwin Road Tributary
The Corwin Road Tributary flows into the Red Cedar River west of Williamston. During the sampling of 2015 some of the lowest stream scores were recorded, while in the past the scores have been consistently good. Although diverse groups of macroinvertebrates were collected from the many habitats in the area, the stream scores went from fair to poor by the fall season.

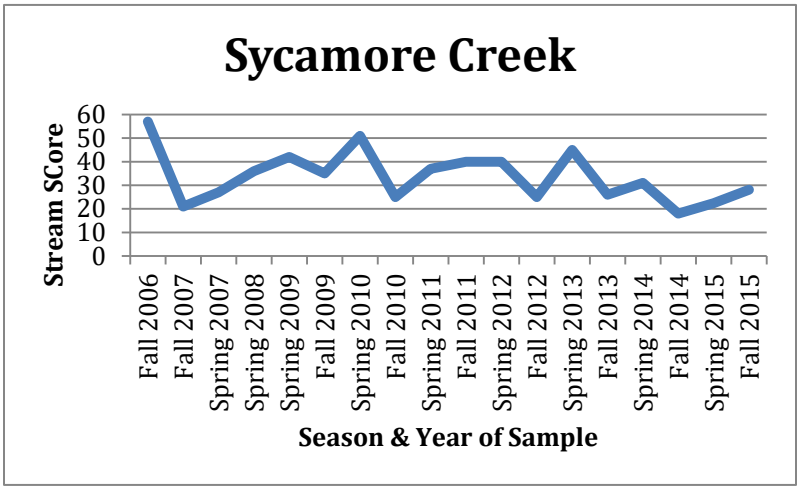




Site #2
West Branch of Red Cedar at Kane Road
This site is located near Kane Road and M-36 on the West Branch of the Red Cedar River. This site is in the middle of an agricultural area and the water level of the river fluctuates with the seasons. Along with the changing water level, the stream scores have varied greatly over the years. However, the lowest stream scores for this site were both recorded during the 2015 sampling year.

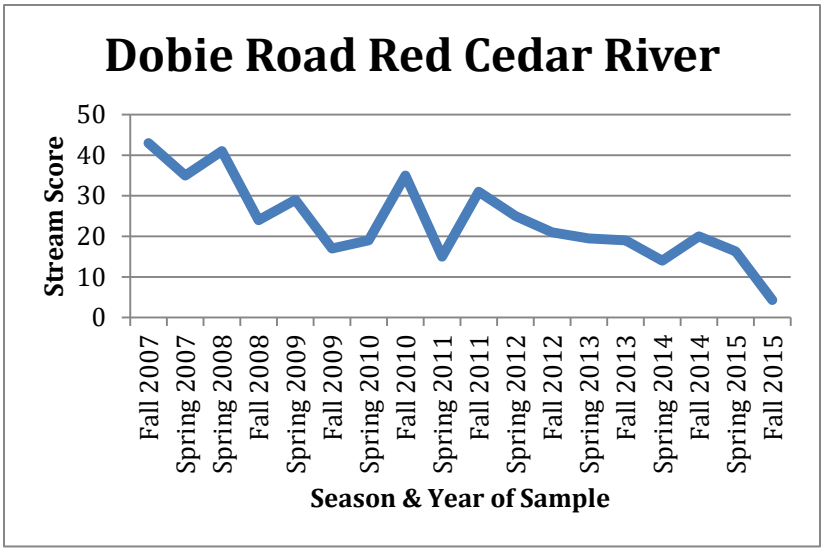
Site #3
Kalamink Creek at Van Orden Road
Kalamink Creek is located south of Webberville near Van Orden Road. Over the years the stream scores have fluctuated and during 2015 there was no exception. In the spring the lowest stream score for this site was recorded due to the miniscule amounts of macroinvertebrates found. However, during the fall the site went back to being in fair health.

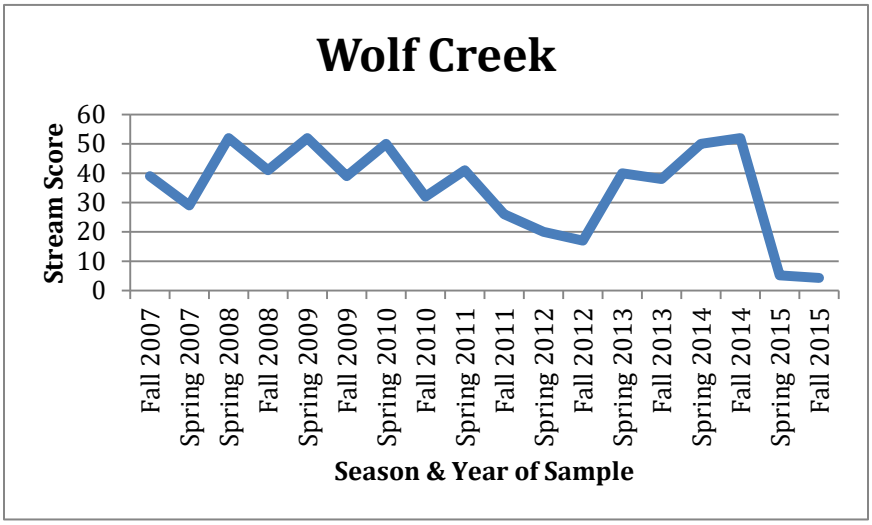




Site #4
Sycamore Creek at Biggie Munn Park
Sycamore Creek is located near Jolly Road in Lansing, within Biggie Munn Park. Among the many good habitats for macroinvertebrates, there is a grass field that leads up to the creek and trees line the banks. The stream scores recorded during 2015 are consistent with past scores, and the creek is of fair health.

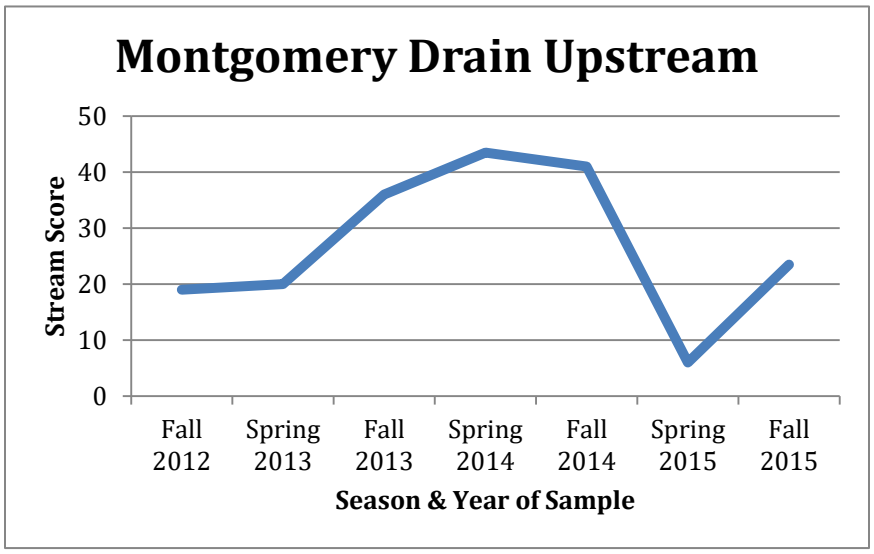
Site #5
Red Cedar by Dobie Road
This site is a tributary of the Red Cedar River near Dobie Road in Okemos. Woods shelter the tributary and diverse wildlife is often spotted while sampling. Over the past few years the health of this site has been declining, and the results from sampling during 2015 has produced the lowest stream score to date.

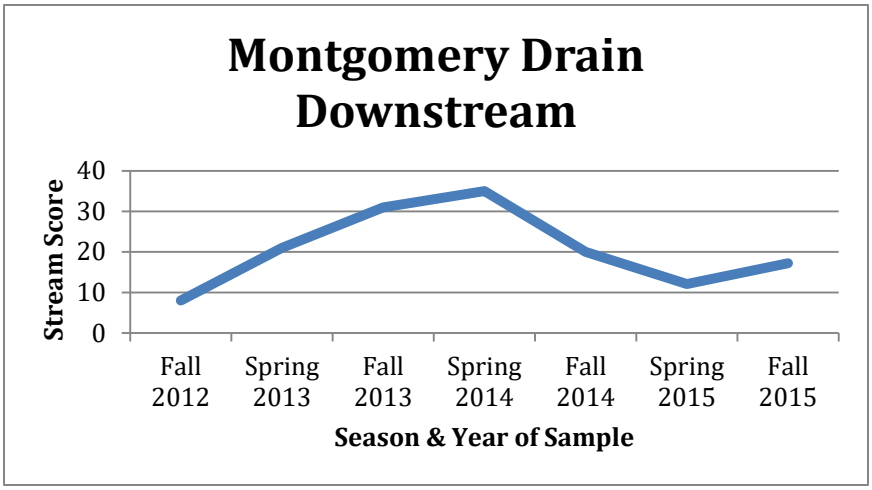




Site #6
Wolf Creek at Bell Oak Road
Wolf Creek is located north of Webberville on Oak Road. During the spring, the creek contained a large volume of water and had a high velocity. However, during the fall, the creeks volume dropped dramatically and no flow was apparent. The lowest stream scores were recorded during sampling of 2015 compared to previous years, and the creek is now in poor health.

Site #7
Montgomery Drain: Upstream
Upstream of Montgomery Drain is located west of Michigan State University's campus near the former Red Cedar Golf Course on the Red Cedar River. This section of the river varies greatly in depth and has a wide channel. The lowest stream score recorded at this site was from spring 2015. The score did rise in the fall compared to the spring, however the site is still in poor health.

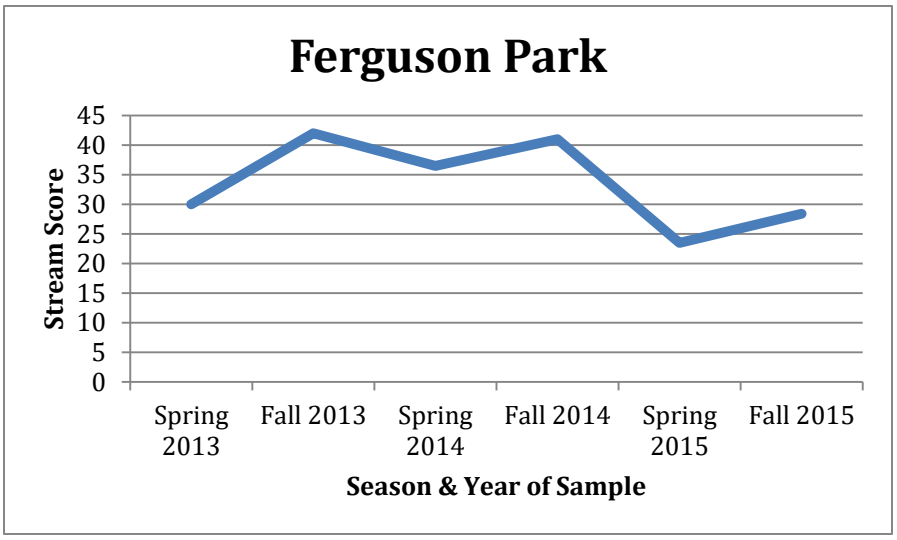




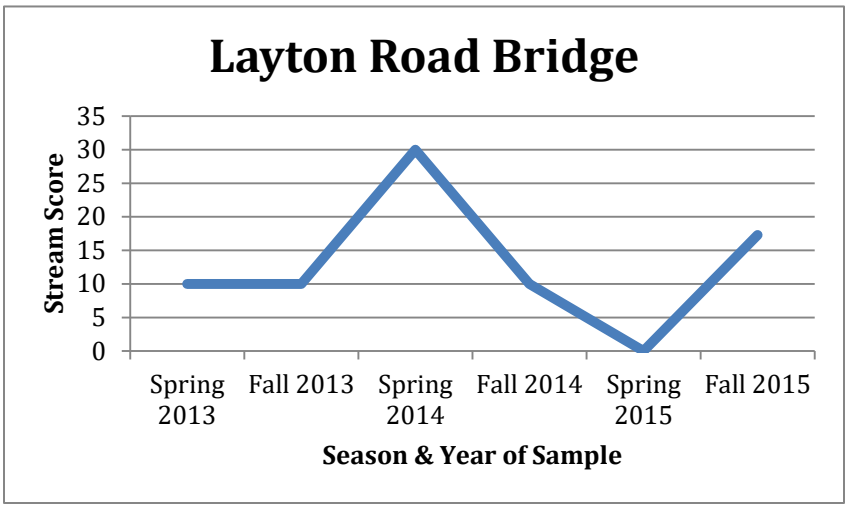
Site #8 Montgomery Drain: Downstream

Downstream of Montgomery Drain is located next to site #7. The two sites have completely different characteristics despite being so close in proximity. For example, the depth at this site is very shallow in most areas and the channel is not wide. There is a sandbar that cuts through the channel where volunteers can stand and sample for macroinvertebrates. During the sampling of 2015, the health of the site was determined to be poor but the scores were not as low as previous years.

Site #9 Ferguson Park



Ferguson Park is located at the cross section of Mt. Hope and Okemos Road on the Red Cedar River. Being in a park, this site is located on a muddy embankment next to a grass field. The lowest stream scores for this site were recorded during sampling of 2015, dropping the level of health for this site from good to fair.



Site #10
Layton Road Bridge
Layton Road Bridge is located across the highway from Tanger Outlet in a rural area. The stream margins are composed of thick mud and the stream is deep in the area, making it unable to sample from the middle of the river. Except for the spring of 2014, low stream scores have always been recorded for this site making it of poor health.

<u>The MiCorps Database: How to Access Data Online</u>
The data Mid-MEAC collects each season is uploaded into a statewide lake and stream-monitoring database called the Michigan Clean Water Corps (MiCorps) database. Using the MiCorps database, any person, group, or governmental agency can access data from Volunteer Stream Monitoring programs around the state. The Department of Environmental Quality, along with the concerned public, to detect problems with water quality, watches the database. Specific data, such as stream scores and macroinvertebrate types collected, can be found for all of Mid-MEAC's sites. To access the MiCorps database, follow these steps:
1. Go to www.micorps.net.
2. Move the mouse over the Data Exchange tab in the upper right hand corner and select View Data.
3. On the MiCorps Data Exchange Network page, click Streams.
4. Select the search criteria. To view all of Mid-MEAC's sites, select Upper Grand in the Watershed/Hydrologic Unit Code tab.
5. Hit Search and find the Mid-Michigan Environmental Action Council sites.
6. Hit the 'more' button for more detailed data.

Acknowledgements

Mid-MEAC would like to thank all the volunteers who devoted time to protecting the Red Cedar watershed. Your work ensures that we will have healthy water resources for generations to come.

Spring 2015 Monitoring & Bug ID Volunteers: Thomas Bretz, Alex Hondzinski, Lihong Li, Theresa Moore, Jeremy Orr, Cheryl Overley and kids, Caitlin Peffers, Kendra Peffers, Maddy Salo, Nicole Smith, Jennifer Transue, Roger Trayer, Kasey Wilson, Courtney Weatherbee.

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Fall 2015 Monitoring & Bug ID Volunteers: Quinn Fillinger, Tim Mijnsbergen, Scoot Nowak, Jeremy Orr, Cheryl and Matthias Overley, Zac Richmond, Maddy Salo, Nicole Smith, Courtney Weatherbee.

Report Drafted By: Maddy Salo, VSM Coordinator & Jeremy Orr, Executive Director