

Ingham Conservation District

MiCorps Final Project Report

Project Name: Ingham Conservation District Volunteer Stream Monitoring Program

Grantee: Ingham Conservation District, Michelle Beloskur

1031 W. Dexter Trail, Mason, MI 48854

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Project Goals:

The primary goals for this monitoring project were to provide data for previously un-sampled tributaries in the Red Cedar River Watershed and provide on-going monitoring of invertebrate populations in waterways of the Red Cedar River, Middle Grand River and Upper Grand River Watershed that are targeted for non-point source (NPS) pollution reduction and riparian restoration.

While previously sampling efforts by the Ingham Conservation District, neighboring Eaton Conservation District and the Mid-Michigan Environmental Council have certainly provided valuable information about the quality of rivers and streams in and around Ingham County, there were still significant gaps where the need for sampling exceeded the available programs. The MiCorps project helped close these gaps by providing regional continuity in data collection and reporting.

The Red Cedar River Watershed, the Upper Grand River Watershed and the Middle Grand River Watershed are the three watersheds that cover most of Ingham County. An organization in each of these watersheds has held a grant from the Michigan Department of Environmental Quality's (MDEQ) Non-Point Source Program to develop watershed plans and/or implement solutions to NPS pollution issues, including *E.coli* pollution, non-sustainable land use and sedimentation. The ICD was able to share monitoring results with each of these organizations to provide both current data on invertebrate populations and stream health, as well as long-term monitoring to help evaluate the success of their outreach efforts and implementation projects.

Project Objectives:

1. Project Preparations:

- Evaluation of sampling sites.
- Order/acquire equipment and supplies
- Develop and submit QAPP to MiCorps for approval
- Attend MiCorps Training Session
- Hold a Volunteer Training Day prior to first Collection Event

2. Sampling and Identification Activities

- Arrange and complete a side-by-side sampling session with MiCorps staff prior to first Collection Event
- Hold 4 Monitoring Events (Fall 2015, Spring and Fall 2016 and Spring 2017)
- Hold 4 Identification Events following each Collection Event

3. Data Management

- Analyze collected data during off-season sampling months using MiCorps preferred methods and Functional Feeding Group Assessment
- Enter all habitat and macroinvertebrate data into the MiCorps online database
- Ascertain quality of sampling and identification

4. Education and Outreach

- Participate in annual MiCorps conferences and present at the 2016 conference
- Promote program and recruit volunteers via newsletters, social media, website, press releases and coordination with partners
- Share results of the VSMP with grant partners and other local agencies, relevant townships and Ingham County at their respective board meetings
- Share results of VSMP with the public via the ICD website, newsletters, social media and annual meeting
- Survey volunteers after training and events

5. Project Management

- Submit quarterly progress and financial reports
- Upon completion of the grant submit a final report, release of claims letter, fact sheet, final financial status report and electronic version of all deliverable products

Goals and Objectives Analysis:

The Ingham Conservation District Volunteer Stream Monitoring program has been very successful in providing on-going monitoring of key sites in the Upper Grand River Watershed and in adding new sites in the Red Cedar and Middle Grand River Watersheds. This program has expanded the number of sites being regularly monitored providing important data not only to the public and local municipalities, but also to watershed improvement projects in Eaton and Ingham County, and has provided pre-condition data for sites in the Red Cedar River Watershed where restoration activities are planned.

Sites were evaluated prior to collection to ensure safety and accessibility. All necessary equipment was procured prior to the first sampling event. The project supervisor and coordinator received MiCorps training and subsequently offered multiple training events for volunteers prior to collection activities. We also instituted wader decontamination procedures using a dilute bleach solution and brush scrubbers to help eliminate the possibility of spreading invasive species or pathogens from stream to stream during collection events.

The success of the Ingham Conservation District Volunteer Stream Monitoring Program has been dependent on a volunteer Stream Team. This group of citizen volunteers was instrumental to the ability of the Program to conduct macroinvertebrate collection and identification events. Data was collected,

analyzed and reported for each of the 12 project sites listed in the project plan. Results were shared with volunteers, the Ingham County Board of Commissioners, partnering agencies and the public. Results were shared via the ICD website, Facebook page (557 followers), ICD e-Newsletter (1,626 subscribers), at County Board Meetings and via direct emails to volunteers and relevant township and city managers. All data has been submitted to the MiCorps database as well.

The greatest barriers to success were timing, weather and availability of volunteers. In our experience, a minimum of 3 volunteers per team is necessary for successful event. Each team then visits 2 sites per collection event. Each team must have a trained leader, along with at least 2 other volunteers to collect and sort invertebrates and record site conditions. In the Fall of 2016, collections were only completed at 8 of 12 sites due to a lower number of volunteers. The collection event was publicized through the ICD website, Eventbrite website, newsletters, social media and email, however it had to be re-scheduled as a result of rain and high waters and many previously registered volunteers were unable to attend the rescheduled event. In contrast, a record number of volunteers signed up and participated in the spring 2017 collection event. After each event volunteers were contacted to thank them for their time, share results and invite feedback on the program and events.

Another challenge in the project was lower than desired macroinvertebrate numbers. In an effort to rule out collection error, trained leaders were assigned to different sites for different events. To aid in data analysis, spring results were compared to prior spring results, and likewise with fall results.

Monitoring Activities:

The project included four collection and identification events. Each collection event included a brief training for team leaders. The events were held as follows:

9/22/2015: volunteer training (13 participants)
9/26/2016: collection event (20 participants)
9/28/2015: identification event (9 participants)

4/30/2016: volunteer training (8 participants)
4/30/2016: collection event (22 participants)
5/3/2016: identification event (11 participants)

10/15/2016: volunteer training (6 participants)
10/15/2016: collection event (12 participants)
10/18/2016: identification event (6 participants)

4/29/2017: volunteer team leader training (group re-training)
4/29/2017: collection event (31 participants)
5/3/2017: identification event (7 participants)

Project Benefits and Sustainability:

The ICD will continue this monitoring program with existing support from Ingham County and ICD Operations and will solicit cities and townships that have sampling sites within their boundaries for additional support as needed. The Michigan State University Department of Entomology was a key partner in this project, providing laboratory space and expertise for sample identification. We will continue to work with MSU as this program continues. This project also had the support of the Mid-

Michigan Environmental Action Council, Middle Grand River Organization of Watersheds and Eaton Conservation District who helped promote the event and recruit volunteers. Our partners are aware that we plan to continue bi-annual monitoring and have expressed their continued support.

In addition to the specific project objectives, there were other benefits and outreach efforts related to this project. Volunteers helping with invertebrate collections received information on aquatic invasive species (AIS) and learned protocols to reduce the spread of AIS. Project staff also used this program as an opportunity to teach local residents and youth about the link between land use and water quality and responsible recreation to protect our waters. Over the last 2 years ICD staff have promoted the MiCorps program at the Quiet Water Symposium, Rural Education Day, Youth Sports Day (fishing tournament), the ICD Annual Meeting, Lansing Home Show and Aquatic Invasive Species Awareness events during the state of Michigan's AIS week. The ICD has a collection of preserved invertebrates (collected independently of MiCorps activities) that it takes to these events along with information about the MiCorps program. When possible live samples are also taken and provide a great opportunity for observation and conversations about stream health.





Join the Ingham Conservation District STREAM TEAM!



Learn more about the health of your local waterways and help guide conservation efforts in the region.

Join the ICD for this FUN and EDUCATIONAL event that helps monitor the health of the Grand River, Red Cedar and their tributaries.

Volunteers do NOT need to be experts in water quality or bug identification. All training and equipment is provided. Kids 12 and older are welcome if they are accompanied by a parent or guardian.

SIGN UP TODAY: www.inghamconservation.com

COLLECTION DAY SCHEDULE

Saturday, April 30th

9:00 am—1:00pm

Ingham Conservation District

1031 W. Dexter Trail, Mason



BUG ID NIGHT

Monday, May 2nd

6:00 pm – 8:00 pm

MSU Department of Entomology

Room TBD



This project is funded in part by the Michigan Department of Environmental Quality through the MiCorps Program, in partnership with the Michigan State University Department of Entomology.

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SIGN UP TODAY: www.inghamconservation.com

COLLECTION DAY SCHEDULE

Saturday, October 1st

9:00 am—1:00pm

Ingham Conservation District

1031 W. Dexter Trail, Mason



BUG ID NIGHT

Thursday, October 6th

6:15 pm – 8:45 pm

MSU Department of Entomology

Natural Science Building, Room 352



Michigan Clean
Water Corps

This project is funded in part by the Michigan Department of Environmental Quality through the MiCorps Program, in partnership with the Michigan State University Department of Entomology.

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SIGN UP TODAY: www.inghamconservation.com

COLLECTION DAY SCHEDULE

Saturday, April 29th

9:00 am—1:00pm

Ingham Conservation District
1031 W. Dexter Trail, Mason



BUG ID NIGHT

Wednesday, May 3rd

6:15 pm – 8:45 pm

MSU Natural Science Building
Room 352



Michigan Clean
Water Corps

This project is funded in part by the Michigan Department of Environmental Quality through the MiCorps Program, in partnership with the Michigan State University Department of Entomology.



INGHAM CONSERVATION DISTRICT



2016 FALL STREAM EVENT

JOIN US FOR THE FALL MACROINVERTEBRATE COLLECTION EVENT! GET IN STREAMS WITH WADERS AND NETS, OR HELP ON THE BANKS! WE CAN MEASURE THE HEALTH OF OUR LOCAL WATERSHEDS BY SEEING WHAT LIVES IN THE STREAMS. YOU CAN HELP!

SATURDAY, OCTOBER 1, 9AM-1PM, 1031 WEST DEXTER TRAIL, MASON MI

MORE INFORMATION IS AVAILABLE AT WWW.INGHAMCONSERVATION.COM

OR CONTACT THE INGHAM CONSERVATION DISTRICT OFFICE AT 517-676-2290

Fall 2015



INGHAM CONSERVATION DISTRICT VOLUNTEER STREAM MONITORING PROGRAM

Stream Health News

Thank you, Stream Team volunteers!

The Ingham Conservation District would like to thank everyone who participated in the training, collection and sampling events.

Your efforts made the fall events a success, and we hope to see everyone in the spring!

- 20 Fall Stream Team volunteers
- 12 sampling sites
- >1,000 macroinvertebrates

Sampling Locations Report Card

Site 1) Huntoon Creek at Bellevue Rd. : POOR

Site 2) Grand River at Baldwin Park : TBD

Site 3) Columbia Creek at Waverly Rd. : FAIR

Site 4) County Line Drain at Bunker Rd. : POOR

Site 5) Benton Drain at Smith Rd. : POOR

Site 6) Spicer Creek at M-99. : POOR

Site 7) Grand River at Tecumseh Park : FAIR

Site 8) Red Cedar River at Pennsylvania Ave. : FAIR

Site 9) Sloan Creek at Sutton Rd. & Meridian Rd. : POOR

Site 10) Doan Creek at Howell Rd. : POOR

Site 11) Dietz Creek at Dietz Rd. : POOR

Site 12) Sycamore Creek at Mason cemetery : FAIR

*preliminary results (1 season of sampling)



ICD Stream Team volunteers sorting specimens at fall event.

This project has been funded in part by the Michigan Department of Environmental Quality through the MCORPS Program, with additional support from the Michigan State University Department of Entomology.

Spring 2016



INGHAM CONSERVATION DISTRICT VOLUNTEER STREAM MONITORING PROGRAM

Stream Health News

Successful spring collection, thanks to our volunteers!

The Ingham Conservation District would like to thank everyone who participated in the training, collection and sampling events.

Your efforts made the spring events successful. We hope to see everyone in the fall! SATURDAY, OCTOBER 1, 2016, 9-1:00

- 22 collection event participants
- 12 identification event participants
- 12 sampling sites
- 671 macroinvertebrates

Sampling Locations Report Card

The following stream quality scores are calculated with a formula developed by the Michigan Clean Water Corps, based on an assessment of macroinvertebrate organism types and numbers.

COLLECTION SITES

Site 1) Huntoon Creek at Bellevue Rd.

Site 2) Grand River at Baldwin Park

Site 3) Columbia Creek at Waverly Rd.

Site 4) County Line Drain at Bunker Rd.

Site 5) Benton Drain at Smith Rd.

Site 6) Spicer Creek at M-99

Site 7) Grand River at Tecumseh Park

Site 8) Red Cedar River at Pennsylvania Ave.

Site 9) Sloan Creek at Sutton Rd. & Meridian Rd.

Site 10) Doan Creek at Howell Rd.

Site 11) Dietz Creek at Dietz Rd.

Site 12) Sycamore Creek at Mason cemetery

SPRING 2016

FAIR

FAIR

FAIR

POOR

FAIR

POOR

POOR

POOR

POOR

FAIR

POOR

POOR



ICD Stream Team volunteers collecting specimen and washing waders at spring event.

Fall 2016



INGHAM CONSERVATION DISTRICT VOLUNTEER STREAM MONITORING PROGRAM

Stream Health News

Great collection and ID events!

The Ingham Conservation District would like to thank everyone who participated in the collection and identification events.

We couldn't do this without your help. Thank you, volunteers!

Sampling Locations Report Card

- 12 collection event participants
- 6 identification event participants
- 8 sampling sites
- 300+ macroinvertebrates

The following stream quality scores are calculated with a formula developed by the Michigan Clean Water Corps, based on an assessment of macroinvertebrate organism types and numbers. Thanks to your help, there is now data to compare with fall 2015 data. We hope you can join us in the spring, when we will collect again and compare results to last spring.

COLLECTION SITES	FALL 2015	FALL 2016
Site 1) Huntoon Creek at Bellevue Rd.	POOR	N/A
Site 2) Grand River at Baldwin Park	FAIR	N/A
Site 3) Columbia Creek at Waverly Rd.	FAIR	POOR
Site 4) County Line Drain at Bunker Rd.	POOR	N/A
Site 5) Benton Drain at Smith Rd.	POOR	N/A
Site 6) Spioer Creek at M-88	POOR	POOR
Site 7) Grand River at Teoumseh Park	FAIR	GOOD
Site 8) Red Cedar River at Pennsylvania Ave.	FAIR	FAIR
Site 9) Sloan Creek at Button Rd. & Meridian Rd.	POOR	FAIR
Site 10) Doan Creek at Howell Rd.	POOR	FAIR
Site 11) Dietz Creek at Dietz Rd.	POOR	POOR
Site 12) Syamore Creek at Mason cemetery	FAIR	FAIR



ICD Stream Team volunteers collecting and identifying specimen at events.

Spring 2017



INGHAM CONSERVATION DISTRICT VOLUNTEER STREAM MONITORING PROGRAM

Stream Health News

Successful collection and ID events!

The Ingham Conservation District would like to thank everyone who participated in the spring collection and identification events.

Thank you, volunteers, for making the events a success!

Sampling Locations Report Card

- 31 collection event participants
- 7 identification event participants
- 12 sampling sites
- 504 macroinvertebrates

The following stream quality scores are calculated with a formula developed by the Michigan Clean Water Corps, based on an assessment of macroinvertebrate organism types and numbers. Thanks to your help, there is now data to compare with last spring's results. We hope you can join us again in the fall on October 14th!

COLLECTION SITES	SPRING '16	SPRING '17
Site 1) Huntoon Creek at Bellevue Rd.	FAIR	FAIR
Site 2) Grand River at Baldwin Park	FAIR	GOOD
Site 3) Columbia Creek at Waverly Rd.	FAIR	POOR
Site 4) County Line Drain at Bunker Rd.	POOR	POOR
Site 5) Benton Drain at Smith Rd.	FAIR	POOR
Site 6) Spioer Creek at M-88	POOR	POOR
Site 7) Grand River at Teoumseh Park	POOR	POOR
Site 8) Red Cedar River at Pennsylvania Ave.	POOR	POOR
Site 9) Sloan Creek at Button Rd. & Meridian Rd.	POOR	FAIR
Site 10) Doan Creek at Howell Rd.	FAIR	FAIR
Site 11) Dietz Creek at Dietz Rd.	POOR	FAIR
Site 12) Syamore Creek at Mason cemetery	POOR	FAIR



ICD Stream Team volunteers collecting and identifying specimen at events.