

Volunteer Monitoring

Ingham Conservation District

Andy Raymond, Program Coordinator



Stream Monitoring History

2005-2013 Adopt-A-Stream
(2 sites)

2014 MiCorps startup grant
(2 sites)

2015 MiCorps full grant
(12 sites)



Key Points

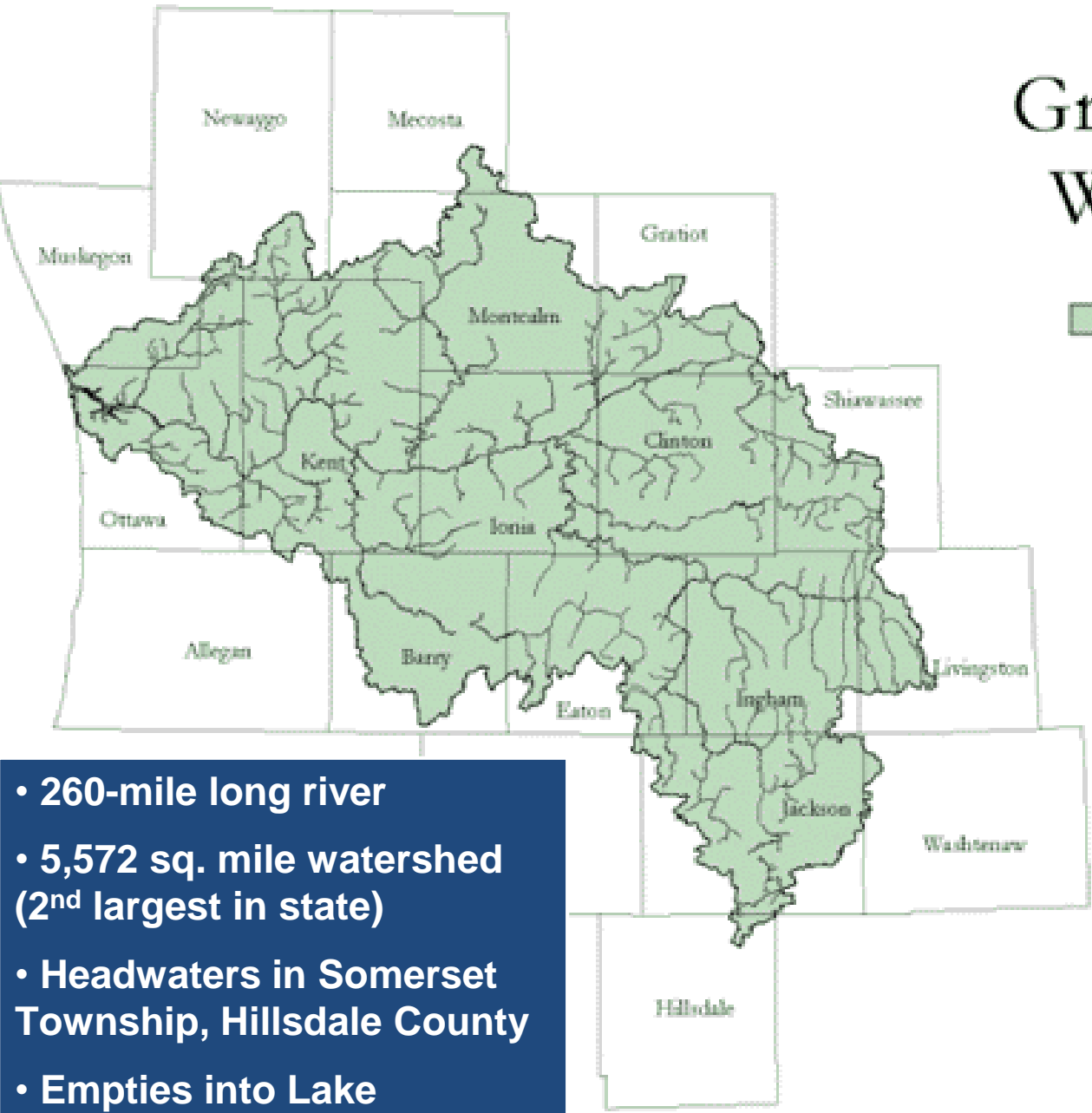
- Where do we monitor?
- How does our program run?
- Successes and lessons experience



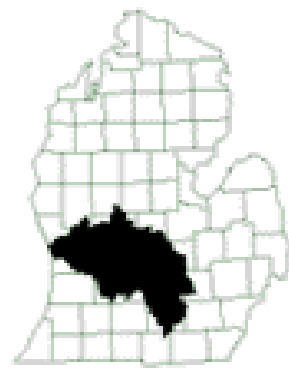
Stream Sampling Sites:

- 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 Button Rd. & Meridian Rd.
- Site 10) Doan Creek at Howell Rd.
- Site 11) Dietz Creek at Dietz Rd.
- Site 12) Sycamore Creek near the City Cemetery in Mason

Grand River Watershed



Watershed Boundary

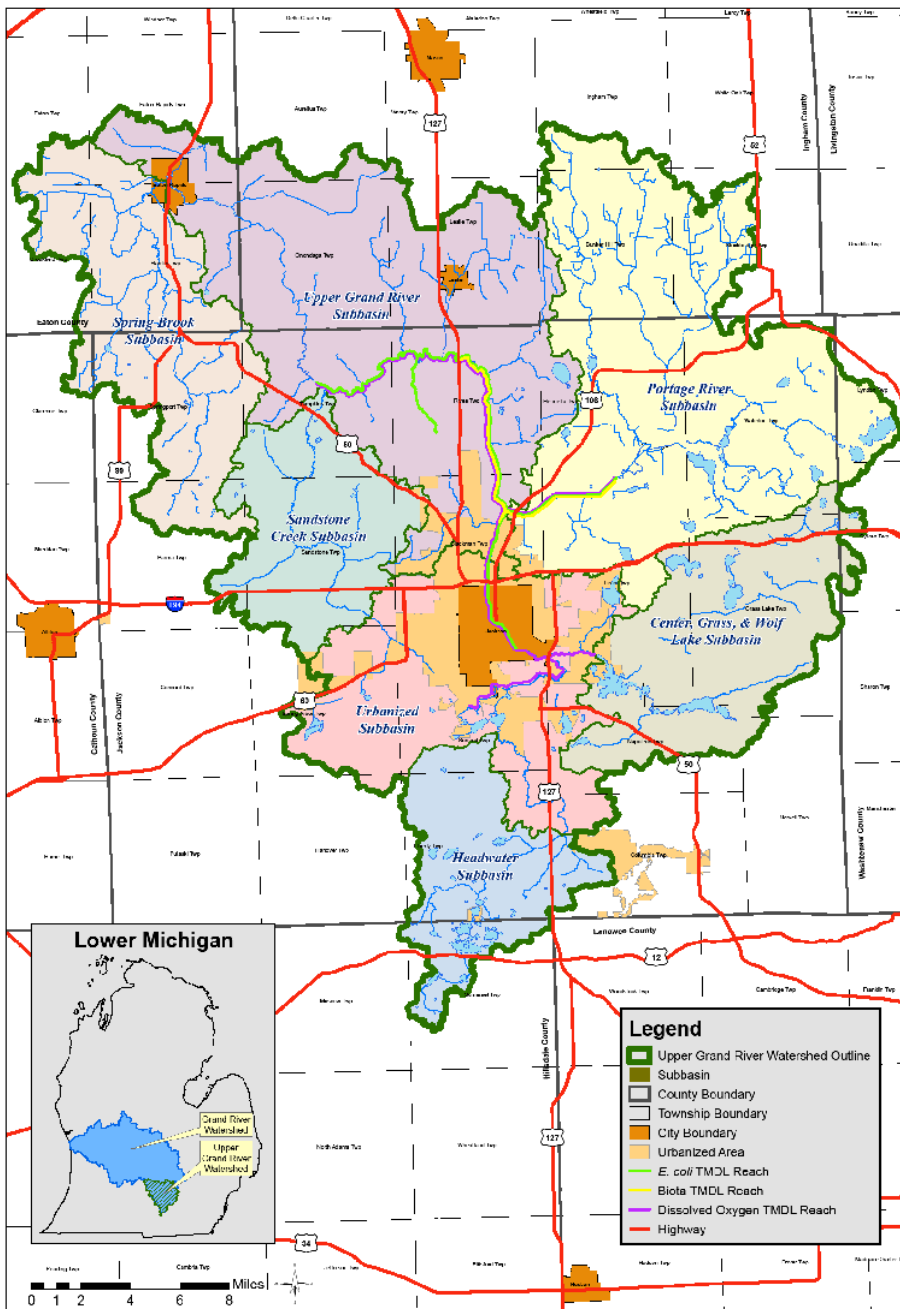


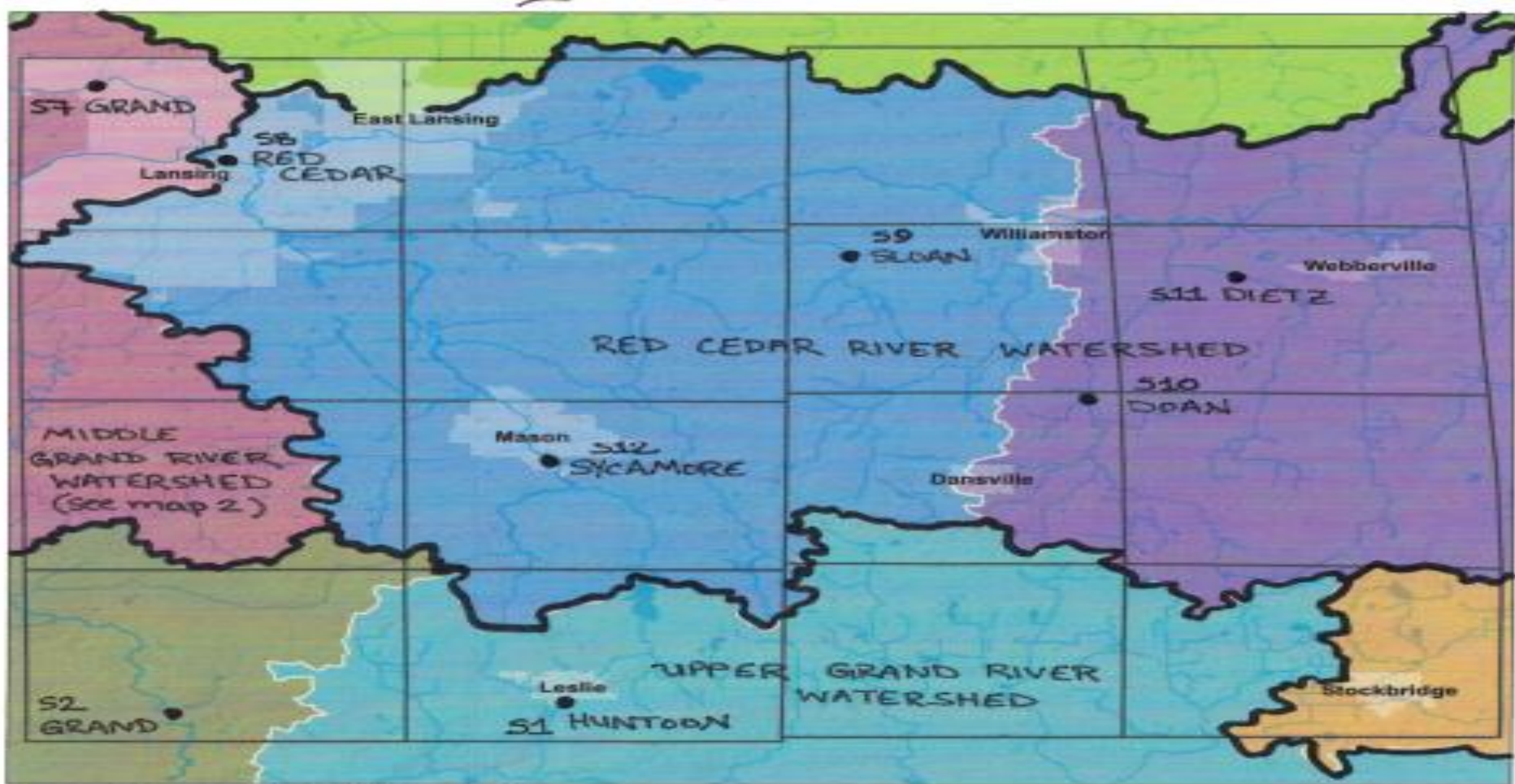
- 260-mile long river
- 5,572 sq. mile watershed (2nd largest in state)
- Headwaters in Somerset Township, Hillsdale County
- Empties into Lake Michigan at Grand Haven

Upper Grand River Watershed

- 700 square miles
- 7 main sub-basins
- Of 390 miles of waterways assessed by formerly MDEQ, 56 miles fail to meet water quality standards

❖ *TMDLs for bacteria, dissolved oxygen, biota*





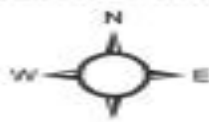
Ingham County HUC10 Watersheds

- City/Town/Village limits
- County/Township Boundaries
- Water Features
- HUC10 Watersheds**
- Looking Glass River
- Portage River-Grand River
- Portage River-Huron River
- Red Cedar River Headwaters
- Red Cedar River
- Sebawa Creek-Grand River
- Spring Brook-Grand River



Ingham County Health Department assumes no legal responsibility for the information presented in this map.

Data source: USDA/ NRCS National Geospatial Management Center, <http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home>



0 2 4 8 Miles



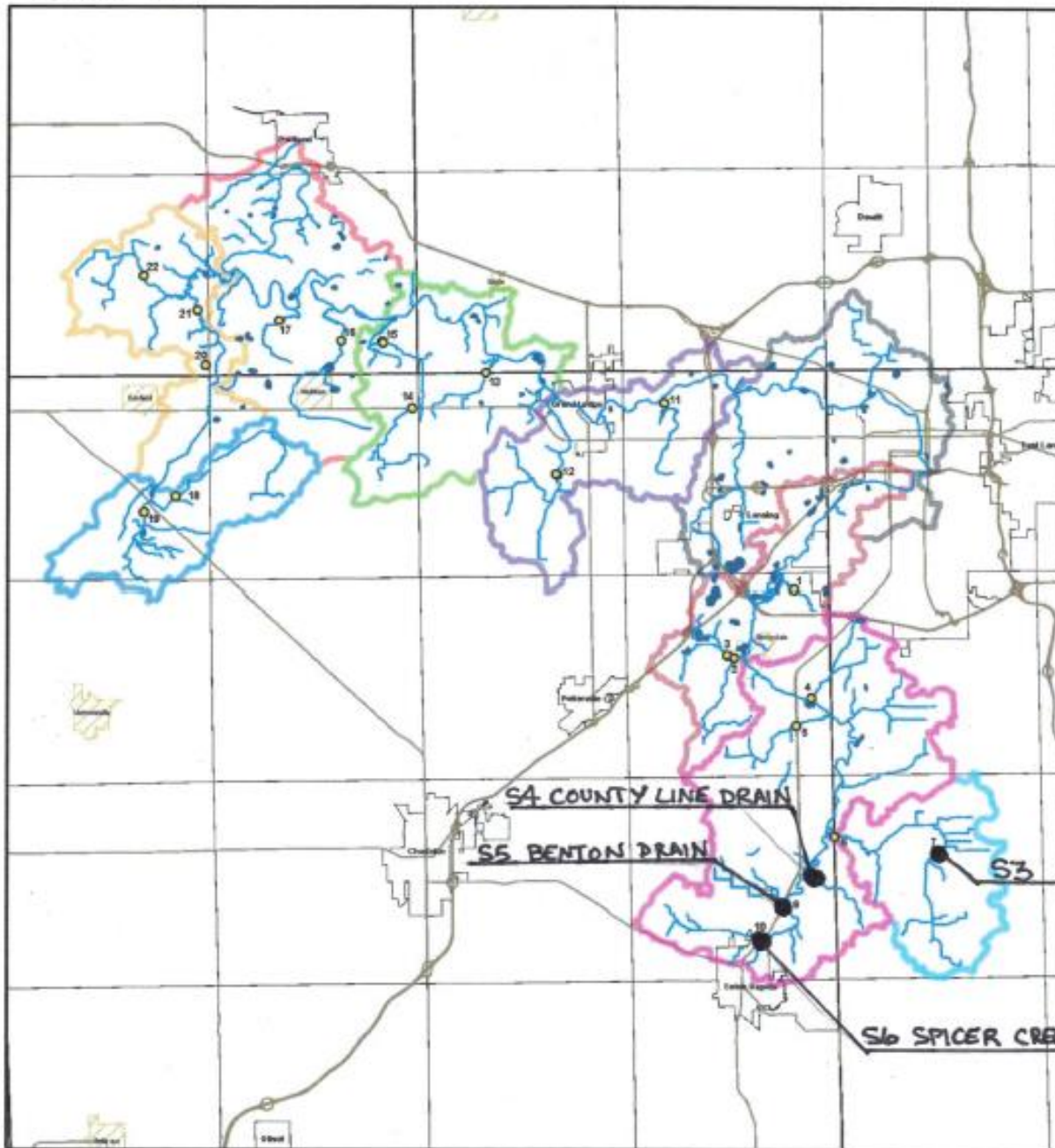
Middle Grand River Watershed

- Proposed Monitoring Sites for Ingham Conservation District's VSMP

○ Macroinvertebrate Monitoring Stations

Middle Grand River Subwatersheds

-  Carrier Creek
-  Columbia Creek
-  Cryderman Lake Drain
-  Frayer Creek
-  Sandstone Creek
-  Sebewa Creek
-  Silver Creek
-  Skinner Extension Drain
-  Winchell and Union Drain

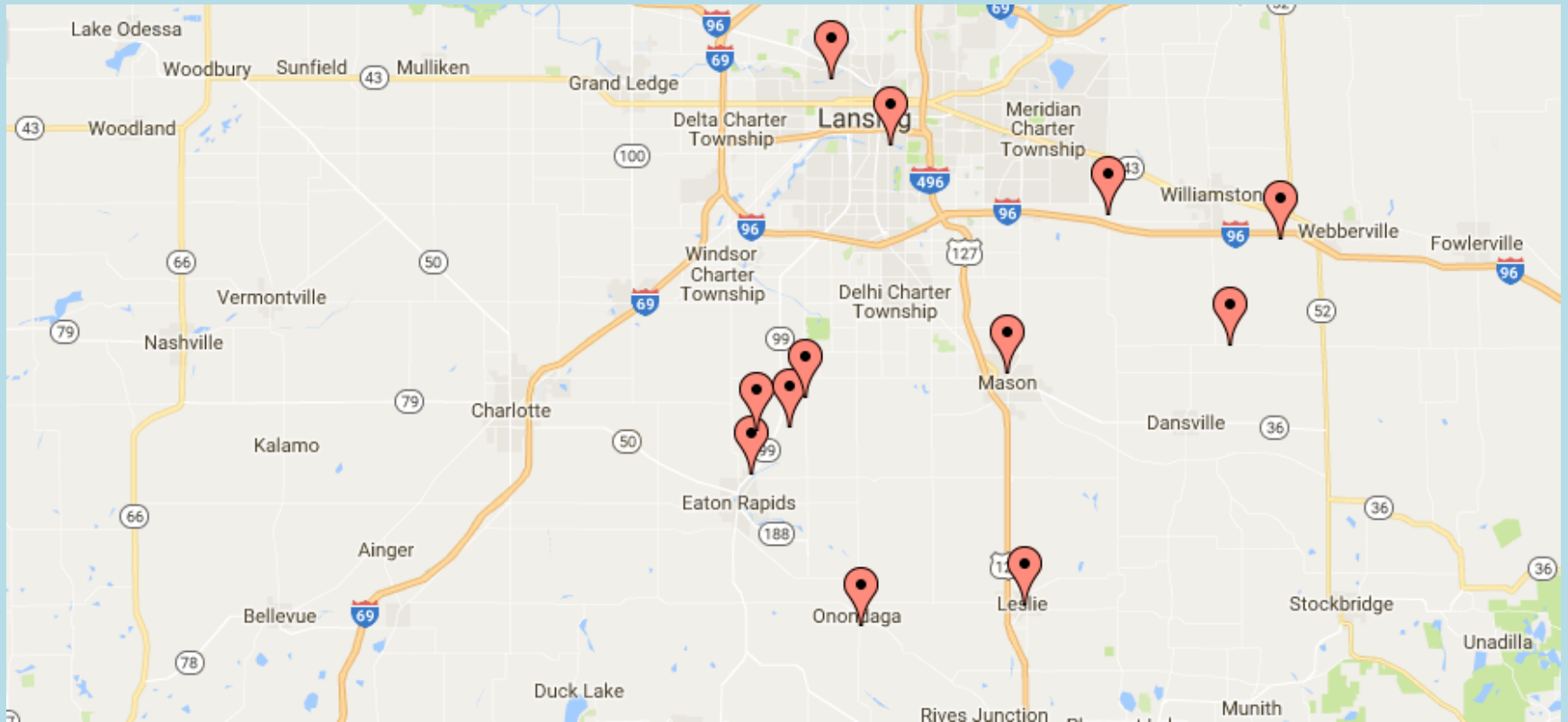


0 1 2 4 Miles

Created by: Andrea Stay
 Date: January 27, 2014
 Data Sources: USDA-NRCS
 MI Dept. of Environmental Quality
 Eaton Conservation District



Sampling Sites



Planning Events

Get Organized...

- ✓ Schedule event
- ✓ Publicize (press releases, newspaper, email, Facebook, website, newsletter, flyers, clubs, schools)
- ✓ Recruit and train leaders
- ✓ Confirm lab use or ID resources



Preparing for Collection Day

- ✓ Review site accessibility
- ✓ Prepare totes (re-stock supplies and datasheets)
- ✓ Prepare maps and directions for teams
- ✓ Follow-up with volunteers
- ✓ Prepare sign-in sheet and release forms

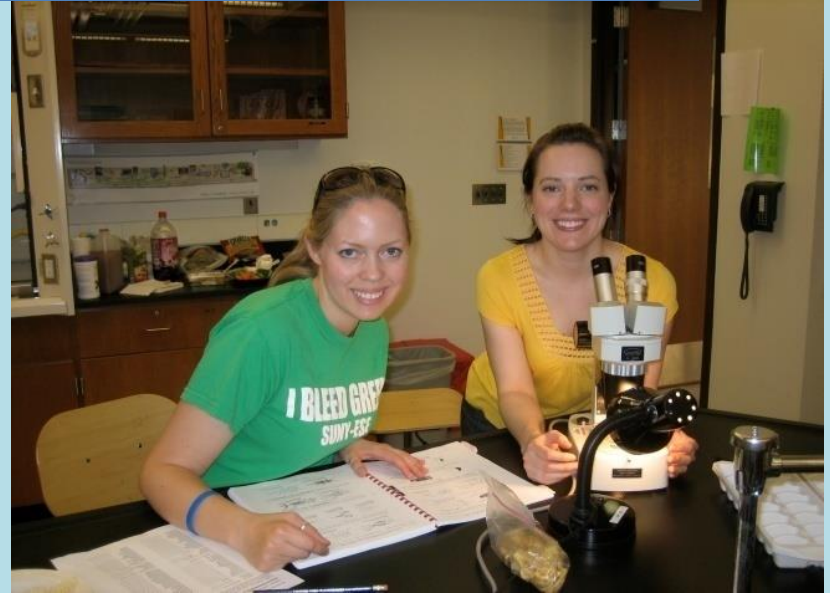


After Events

- ✓ Thank volunteers
- ✓ Hold ID event
- ✓ Score data and log with MiCorps
- ✓ Update newsletters, website, etc.



ID Events





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) Spioer Creek at M-99. : POOR*
- Site 7) Grand River at Teoumseh Park. : FAIR*
- Site 8) Red Cedar River at Pennsylvania Ave. : FAIR*
- Site 9) Sloan Creek at Button Rd. & Meridian Rd. : POOR*
- Site 10) Doan Creek at Howell Rd. : POOR*
- Site 11) Ditz Creek at Ditz Rd. : POOR*
- Site 12) Sycamore Creek at Mason cemetery: FAIR*

*preliminary results (1 season of sampling)



Ingham Stream Team volunteers sorting specimens at fall event.

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



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
- + 571 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	SPRING 2016
Site 1) Huntoon Creek at Bellevue Rd.	FAIR
Site 2) Grand River at Baldwin Park	FAIR
Site 3) Columbia Creek at Waverly Rd.	FAIR
Site 4) County Line Drain at Bunker Rd.	POOR
Site 5) Benton Drain at Smith Rd.	FAIR
Site 6) Spioer Creek at M-99	POOR
Site 7) Grand River at Teoumseh Park	POOR
Site 8) Red Cedar River at Pennsylvania Ave.	POOR
Site 9) Sloan Creek at Button Rd. & Meridian Rd.	POOR
Site 10) Doan Creek at Howell Rd.	FAIR
Site 11) Ditz Creek at Ditz Rd.	POOR
Site 12) Sycamore Creek at Mason cemetery	POOR



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

This project has been funded in part by the Michigan Department of Environmental Quality through a grant administered by the Great Lakes Commission, with additional support from the Michigan State University Department of Entomology.



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
- + 5 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-99	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) Ditz Creek at Ditz Rd.	POOR	POOR
Site 12) Sycamore Creek at Mason cemetery	FAIR	FAIR




Ingham Stream Team volunteers collecting and identifying specimens at events.

This project has been funded in part by the Michigan Department of Environmental Quality through a grant administered by the Great Lakes Commission, with additional support from the Michigan State University Department of Entomology.

Successes & Lessons Learned

- ✓ Check and double-check totes, waders and nets before event
- ✓ Use checklists
- ✓ Label totes
- ✓ Assign team leaders before-hand
- ✓ Provide refreshments
- ✓ Stay on schedule
- ✓ Consistent monitoring techniques
- ✓ Implement boot wash
- ✓ ... be prepared!



A photograph of a stream in a forest. The stream flows from the background towards the foreground. On the left bank, there is a dense thicket of ferns and other vegetation. A large fallen log lies across the stream in the middle ground. The water shows different flow patterns: a riffle in the foreground, a run in the middle, and a pool on the right bank. The forest floor is covered with fallen leaves and twigs. The trees are mostly thin and have some autumn-colored leaves.

overhead canopy

woody debris

riparian zone

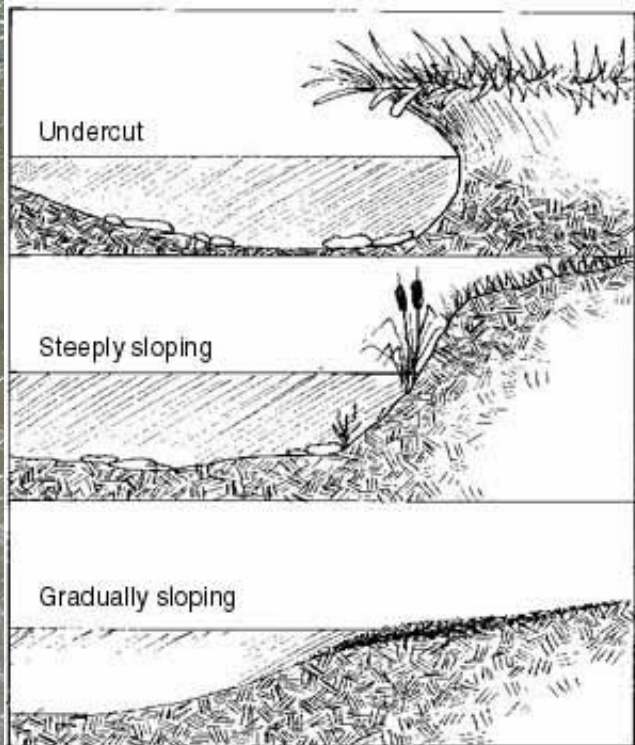
stream bank

run

pool

riffle

stream bed







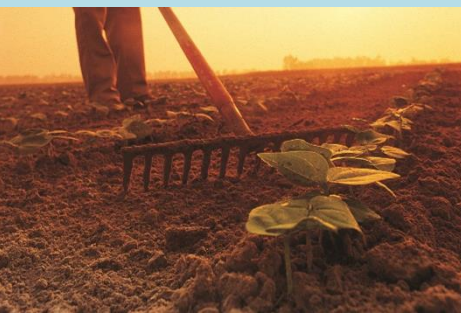




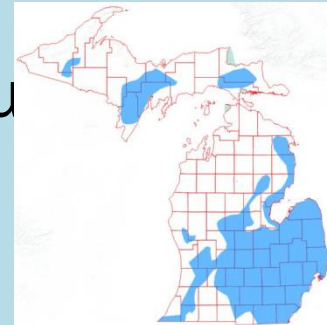


ADOPT-A-STREAM

Michigan's Advantage



- Michigan sits in the middle of 20% of the world's fresh water.
- High quality water, soil & excellent climate
- Second most diverse in production agriculture, diverse ecology and recreational destination
- Innovative thinkers; we've done it before and continue to do it.
- Access to technology and volume



Summary:

- ✓ Be safe
- ✓ Be prepared
- ✓ Be persistent
- ✓ Reach out to partners





Thank you!!