



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

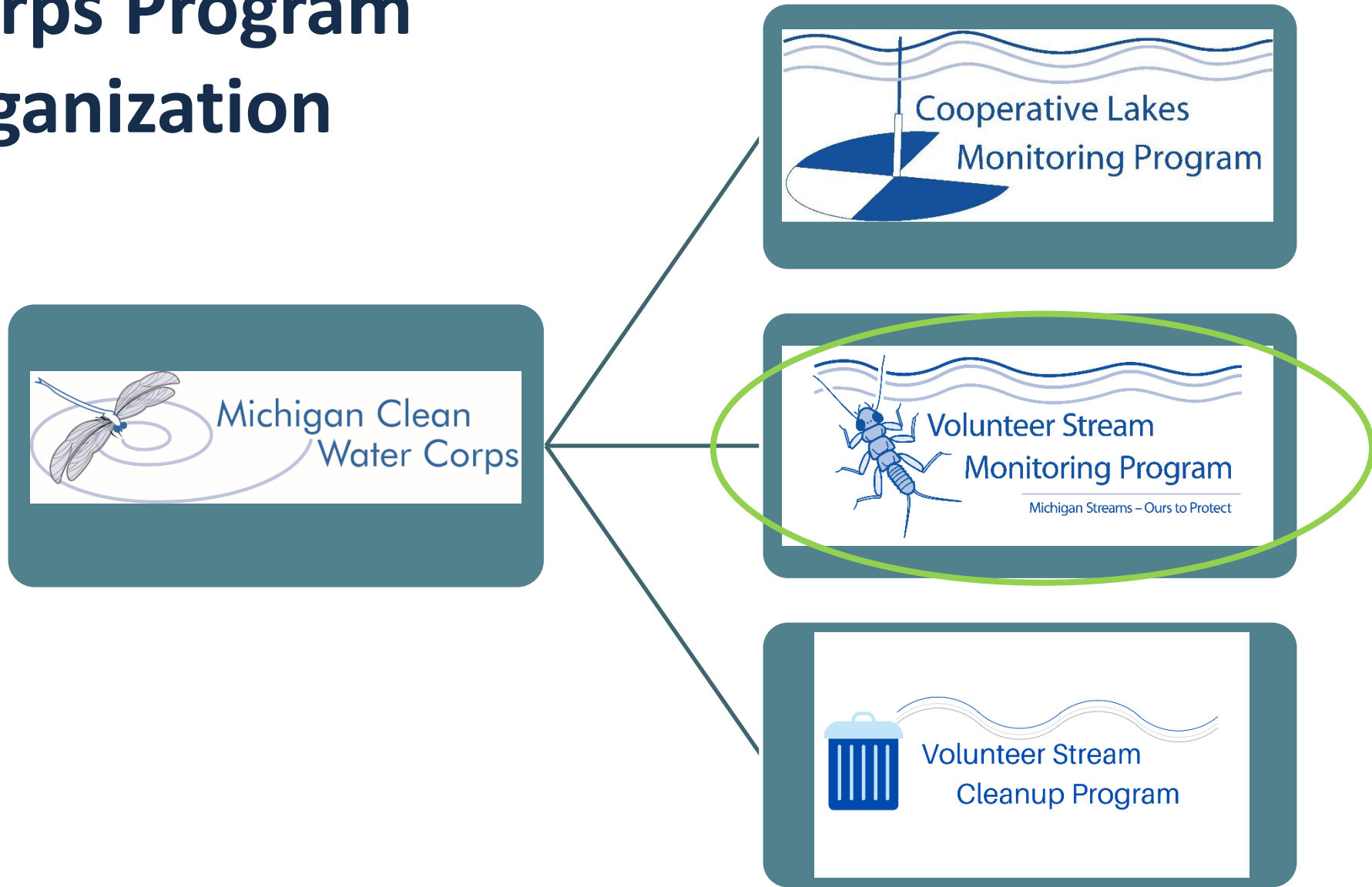
How EGLE uses MiCorps stream data

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Water Resources Division



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MiCorps Program Organization



Outline



What is the MiCorps Volunteer Stream Monitoring Program ?



Use of MiCorps Volunteer Stream Monitoring Program data in Water Quality Reporting.



Use of MiCorps Volunteer Stream Monitoring Program data in Targeted Monitoring Request Process



Leveraging MiCorps Volunteers to collect additional water quality data in partnership with EGLE

MiCorps Volunteer Stream Monitoring Program

- **\$75,000/year in Grants**
 - RENEW Michigan Funding
- **Three types**
 - Start-up
 - Implementation
 - Maintenance Grants
- **Provide Training and Leadership** to get volunteer monitoring groups started and to help them continue operating.
- **Collect Macroinvertebrate and Habitat data** in May and October.



Macroinvertebrates

- Do not have a spine and you can see them with just your eye
- Indicators of water quality





Habitat Monitoring





Use of MiCorps VSMP data in
Water Quality Reporting.

Clean Water Act Goals

Prevent pollution from entering rivers, lakes, and streams.

Protect water quality so it's safe for people, fish, and wildlife.

Support healthy environment by keeping water clean and natural.

Ensure water is safe for swimming, fishing, and drinking (after treatment)



Integrated Report

Requirement of the *Clean Water Act*

Section 303(d) – Polluted water that do not meet water quality standards and need clean up plans.

Section 305(b) – **All** waters that have been assessed, not just polluted ones.

Section 314 – **Lakes**. Identify status and trends of water quality in public lakes

Produced every 2 years, next report out in 2026

What is a Water Quality Standard?



- A **number** or **statement** to protect a water body for a specific **designated use**



Water Quality Standards can be...

- Numeric criteria
 - Concentration (e.g. toxic chemicals, metals)
- Narrative criteria
 - Condition
 - fish or macroinvertebrate community health
- Designed to be protective and support Designated Uses...



Designated Uses assigned in Michigan Rules:

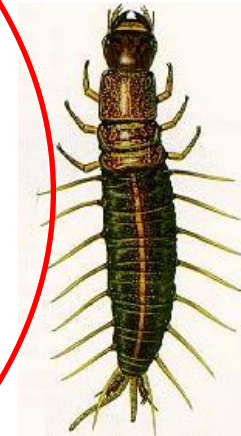
What is protected?

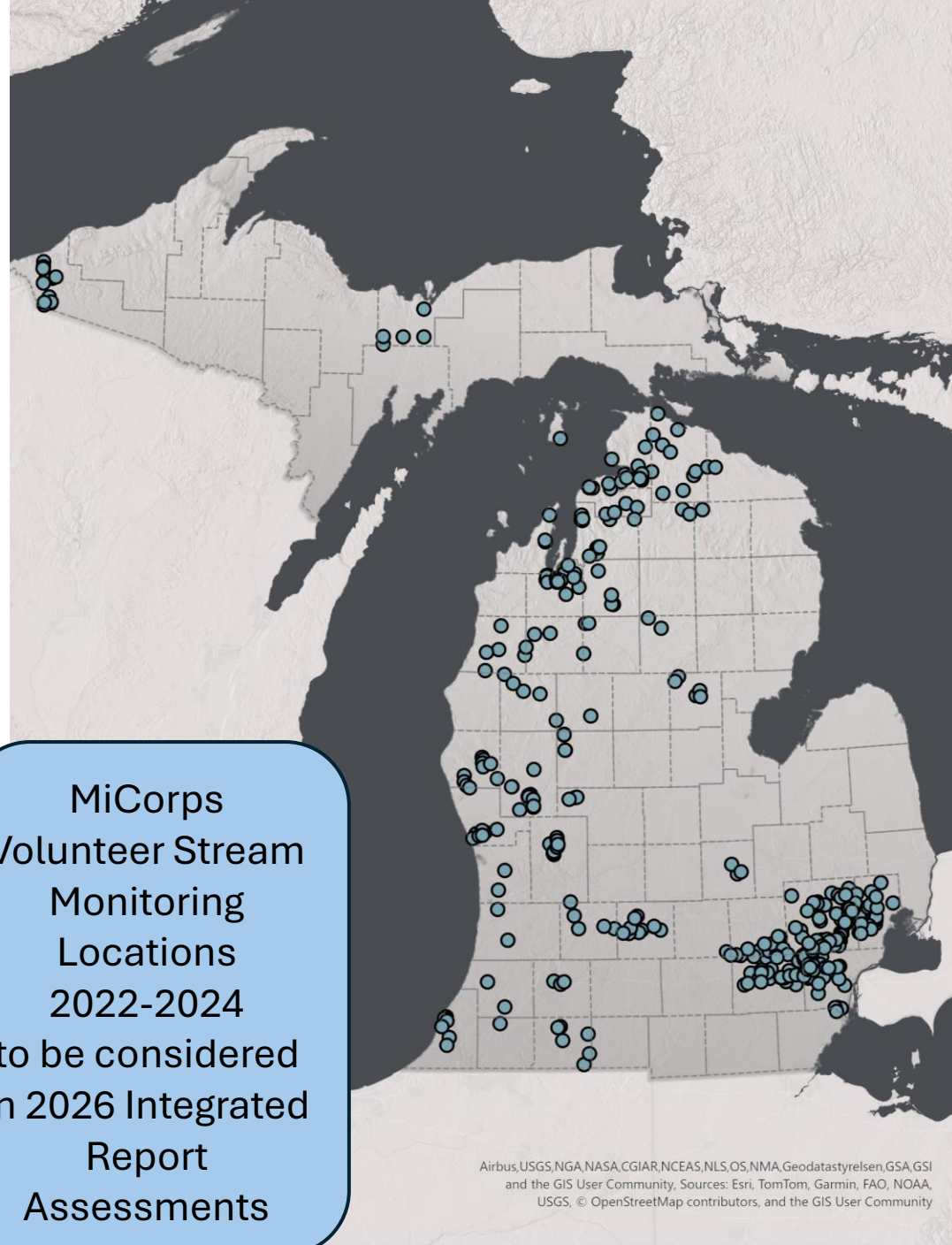
- Warmwater fish health
- Eating Fish
- Other native aquatic life and wildlife
- Wading
- Swimming
- Agriculture
- Navigation of boats
- Industrial Water Supply
- ❖ Other waters, may also be protected for Coldwater fish health and drinking water supply

Clean and Safe Water Resources

Data Sources

- Water Chemistry Monitoring Program
- Volunteer Monitoring
- Fish Contaminant Monitoring Program
- Biological Integrity Monitoring Program
- Sediment Chemistry Monitoring
- Beach Monitoring (BeachGuard)
- Outside Data (DNR, USGS, Tribal, etc...)





MiCorps Volunteer Stream Monitoring Locations 2022-2024 to be considered in 2026 Integrated Report Assessments

Organization	Site Id	Name	County	Description	Latitude	Longitude	Date	Total Abundance	Total Diversity	Water Quality Rating Score	Water Quality Rating Category
White River Watershed partnership	MUCD-NBW1	White River	Oceana	North Branch White River/176th Ave crossing	43.6166055	-86.1188449	2021-05-02	147	7	2.26	Excellent
White River Watershed partnership	MUCD-CC3	White River	Oceana	Pierce Road crossing of Cobmoosa Creek	43.62029489	-86.18860245	2021-05-03	286	12	4.12	Very Good
White River Watershed partnership	MUCD-CC1	White River	Oceana	Fillmore Road crossing of Cobmoosa Creek	43.65669509	-86.18980408	2021-05-06	282	14	4.21	Very Good
Grass River Nat Area	GRNA-SCGR	Shanty Creek	Antrim	Shanty Creek mouth.	44.928251	-85.208901	2021-05-08	197	8	6.73	Fairly Poor
Grass River Nat Area	GRNA-SCPB	Shanty Creek	Antrim	Crossing at Grass River Ln. in Pine Brook off of M-88	44.935158	-85.194491	2021-05-08	152	6	3.25	Excellent
Grass River Nat Area	GRNA-SCRT	Shanty Creek	Antrim	Shanty Creek/rail trail crossing.	44.92992	-85.20301	2021-05-08	56	8	7	Fairly Poor
White River Watershed partnership	MUCD-CTN4	White River	Oceana	Former crossing of Carlton Creek by Skeels Ave	43.47037816	-86.29621267	2021-05-12	275	12	4.56	Good
Little Forks Land Conservancy	LFC-3	Stoney Brook Creek	Gladwin	DNR Gladwin Field Trail Area	44.13873	-84.52996	2021-05-14	134	12	3.72	Very Good
Little Forks Land Conservancy	LFC-1	West Branch of the Cedar River	Clare	Leon P. Martuch Chapter of Trout Unlimited Property	44.020799	-84.383255	2021-05-15	80	9	3.78	Very Good
Little Forks Land Conservancy	LFC-1B	North Branch of the Cedar River	Gladwin	George and Sue Lane Preserve	44.073078	84.57357	2021-05-15	54	9	7	Fairly Poor
Little Forks Land Conservancy	LFC-4	North Branch of the Cedar River	Gladwin	DNR Land-Dutcher and Shaw	44.109	-84.558488	2021-05-15	48	7	7	Fairly Poor
Little Forks Land Conservancy	LFC-5	West Branch of the Cedar River	Gladwin	End of S. Cedar River Road	44.01428	-84.3458	2021-05-15	37	6	7	Fairly Poor
Manistee Cons District	MCD-02	Bear Creek	Manistee	Spirit of the Woods Road	44.312368	-86.050584	2021-05-15	158	7	3.15	Excellent
Manistee Cons District	MCD-BC01	Bear Creek	Manistee	Leffew Road	44.456039	-86.03155	2021-05-15	203	11	3.12	Excellent
Manistee Cons District	MCD-BM01	Adams Creek	Wexford	16 Road	44.40996	-85.61461	2021-05-15	142	7	2.79	Excellent
Manistee Cons District	MCD-BM02	Fletcher Creek	Wexford	Fletcher Park Road	44.404891	-85.747685	2021-05-15	113	9	5.01	Good

Friends of the ROUGE Spring Bug Hunt

Surveying Since 1998

Become a Rouge Community Scientist!

Do you ever wonder about what lives in the river besides fish and turtles? Come to our 2025 Spring Bug Hunt and see for yourself the amazing variety of aquatic insects, crayfish, snails and clams that make up the bottom of the river food chain. Volunteers visit sites throughout the headwaters of the Rouge watershed and search for aquatic invertebrates. The presence or absence of these streambed creatures gives us valuable data on the quality of the river water and overall habitat.



Spring Bug Hunt

Saturday, April 12, 2025
10 a.m. – 4 p.m.

Meet at Schoolcraft College Vistatech
Center 18600 Haggerty Rd, Livonia, MI
48152

Registration Open Until Full

No prior experience needed, but registration is required.

Children eight and older are welcome when
accompanied by a participating adult. Groups of six or
less can sign up together.

Program supported by:



#Working together, restoring the river

This program is also supported by Washtenaw County, the City of
Southfield, the City of Troy, the Village of Beverly Hills,
Northville Township, the City of Plymouth,
Plymouth Township, the City of Novi, the City of Livonia,
the City of Farmington,
the city of Birmingham, donations and memberships.

Register Now



[TheRouge.org/Bug-Hunts](https://therouge.org/Bug-Hunts)

Questions? Email Monitoring Manager,
Lauren at leaton@therouge.org



Eaton County Collaborative STREAM MONITORING PROGRAM *Volunteer to be a Community Scientist!*

Community scientists will work with university
students enrolled in an annual Stream Monitoring
Intensive Learning Term (ILT) course at The
University of Olivet through Community Stream
Collection Days on the first two Fridays in May.

You will learn and practice macroinvertebrate
sampling techniques (the collection of aquatic larval
stage insects and other animals) in the classroom
and in the field. Beyond the collection days, there
will also be an opportunity to join in a
macroinvertebrate identification session at the
University.

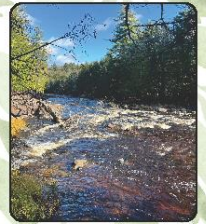
We hope you can join us!

Contact Eaton Conservation
District for more information at
eatoncd@macd.org or call the
office at 517-543-1512 x 5.
Visit the stream monitoring site
eatoncd.org/stream-monitoring
to register to volunteer.

This program is funded through a MiCorps
Stream Monitoring Startup Grant. MiCorps is
administered for EGLE by Michigan State
University, in partnership with the Michigan
Lakes and Streams Association and Huron
River Watershed Council.



Gogebic Conservation District May 2025 Volunteer Stream Sampling May 5th -23rd



Michigan Clean Water Corps (MiCorps) Volunteer Stream Monitoring Program

MiCorps was created to assist the Department of Environment, Great Lakes, and Energy (EGLE) in
collecting and sharing water quality data for use in water resources management and protection
programs. MiCorps mission is to 'network and expand volunteer water quality monitoring
organizations statewide for the purpose of collecting, sharing and using reliable data, educate
and inform the public about water quality issues, and foster water resources stewardship to
facilitate the preservation and protection of Michigan's water resources.

Help us collect aquatic insects! A wonderful opportunity to learn about your local rivers. The
Gogebic Conservation District's Volunteer Stream Monitoring Program aims to ensure that the
waters of Gogebic County are of the highest quality. We use twice yearly sampling of aquatic
insect indicator species to assess overall water quality conditions. Sampling protocols are easy for
volunteers to learn, and sampling is a fun way for volunteers to contribute to citizen science.



Interested in volunteering?

Contact

maxwell.ramsay@macd.org

“Volunteer MiCorps data
from Friends of the Rouge at
Middle Rouge (RR-MR-6)
found macroinvertebrate
communities characterized
as: Fair [10-2024].”

“Volunteer MiCorps data from Eaton
County Cons District at Lacey Creek
(ECCSMP-2) found macroinvertebrate
communities characterized as:
Fairly Poor [05-2022], Fair [10-2022],
Fair [05-2023], Fair [10-2023], Fair [05-
2024], Fair [10-2024].”

“Volunteer MiCorps data
from Gogebic Conservation
District at Wester Creek
(GCD-10) found
macroinvertebrate
communities characterized
as: Very Good [05-2024],
Very Good [09-2024].”

MiCorps

Monitoring Michigan's Water Quality

www.micorps.net



@MiCorps



Instagram
micorpsmi

Tamara Lipsey, MiCorps Program Lead
Water Resources Division, EGLE
517.342.4372 | lipseyt@michigan.gov

Nonpoint Source Program

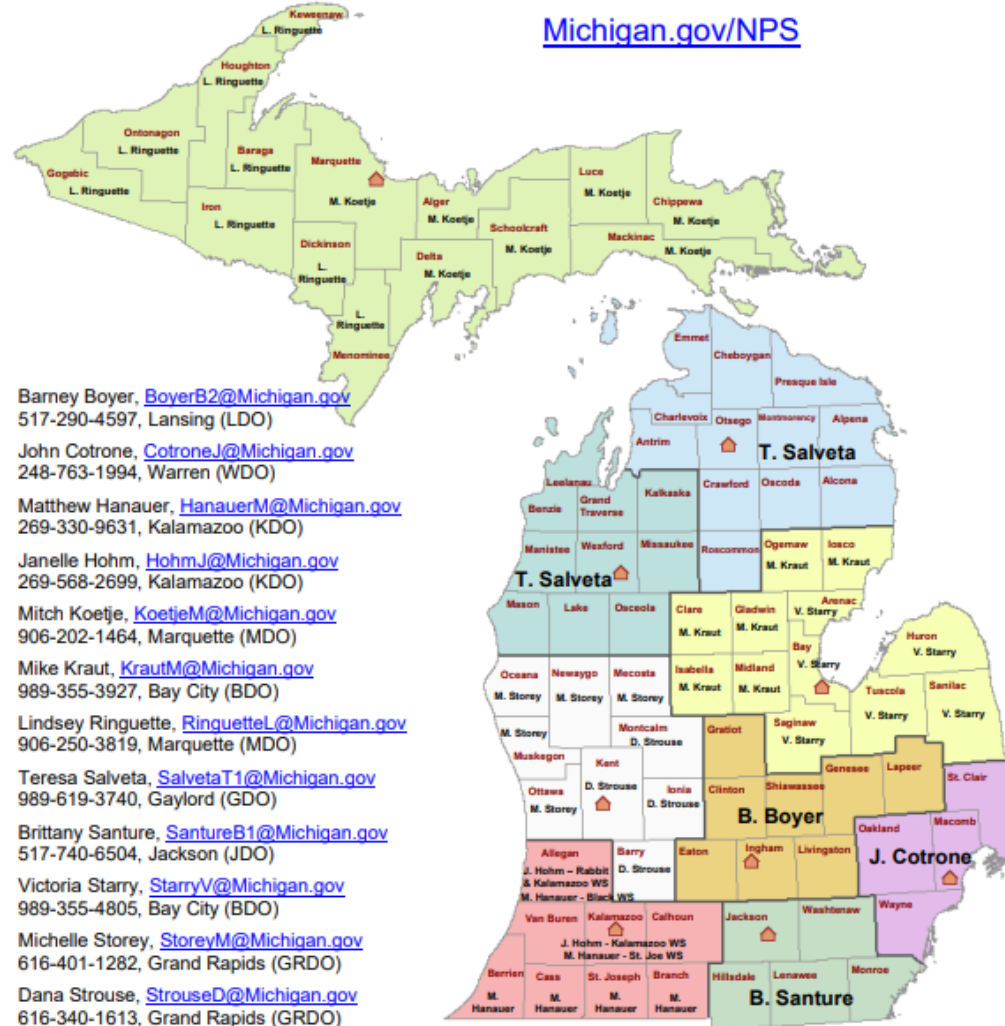
Central Staff - statewide
program coordinators

District Staff - technical assistance at the local level

Michigan.gov/NPS

Nonpoint Source (NPS) Staff

Michigan.gov/NPS

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Water Resources Division

Michigan.gov/WRD ↔ 517-284-5567

10/25/2025



Nonpoint Source Pollution & Watershed Management

- Nonpoint Source (NPS) pollution occurs when pollutants from the land are deposited into rivers, lakes, wetlands, and groundwater by rain, snowmelt, and wind
- NPS pollution addressed by development and implementation of a comprehensive plan that addresses existing and future water quality problems

MiCorps data can . . .

- Be used to assess watershed and identify areas that need additional investigation
- Help determine other parameters that need to be assessed
- Be used as information to support a Targeted Monitoring Request for additional assessment work by EGLE





Targeted Monitoring Request Process

An opportunity for stakeholders to provide input on potential water quality monitoring locations for EGLE-WRD staff in the upcoming field season.



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Leveraging Participatory Science Data to Monitor Chloride Impairments in the Rouge River (MI)

Jack Cotrone

Nonpoint Source Pollution Program

248-763-1994 | Cotronej@michigan.gov

Chloride as an Environmental Pollutant

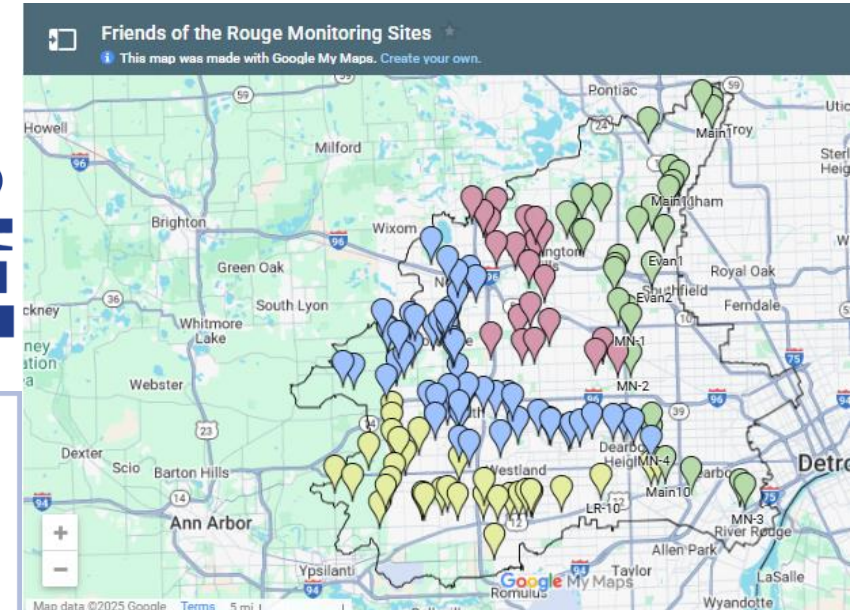
- Many sources
- Difficult to remove once in the environment
- Acute and chronic toxicity
- Role in “urban stream syndrome”
- Seasonal lake dynamics
- Lake trophic disruptions
- Degrades infrastructure



Friends of the Rouge MiCorps Program

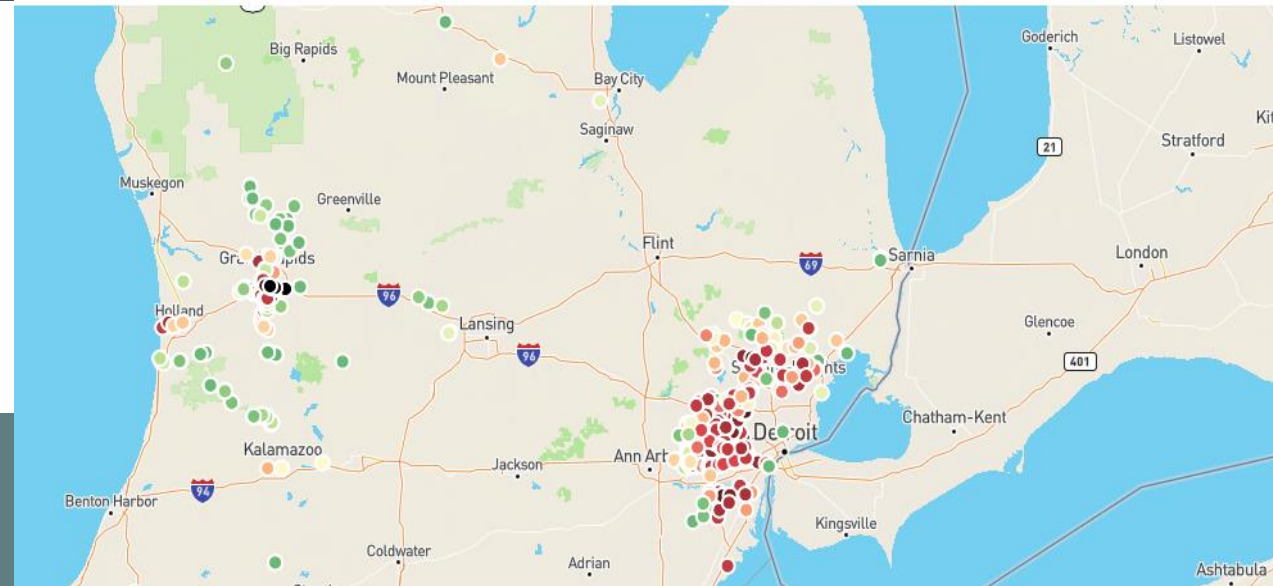
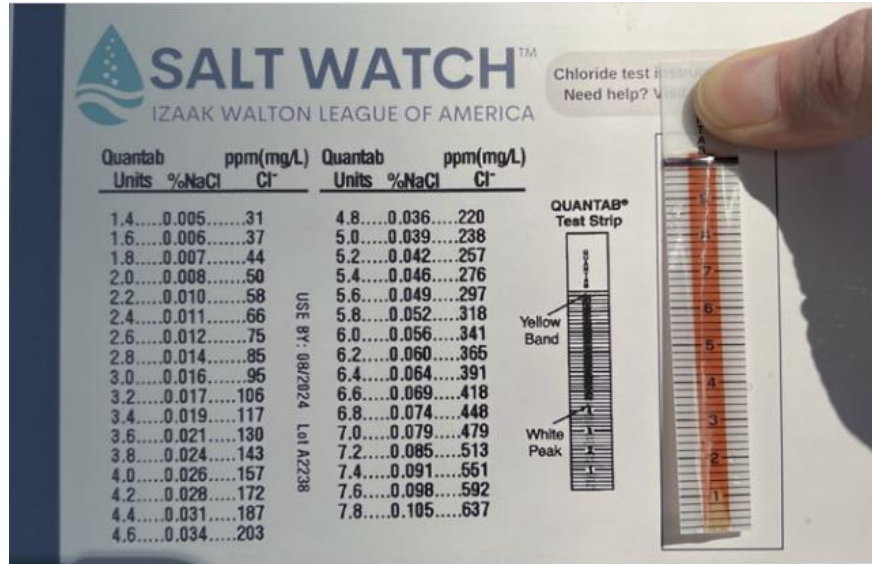
- 501 (c)(3) with a mission of restoring, protecting and enhancing the Rouge River through stewardship, education, and collaboration
- Highly urbanized watershed
- Participating in MiCorps since 2001
- Spring/Fall invertebrates and [stoneflies](#)
- 143 sites, 40+ each year

**Friends
of
the ROUGE**



Izaak Walton League Salt Watch Program

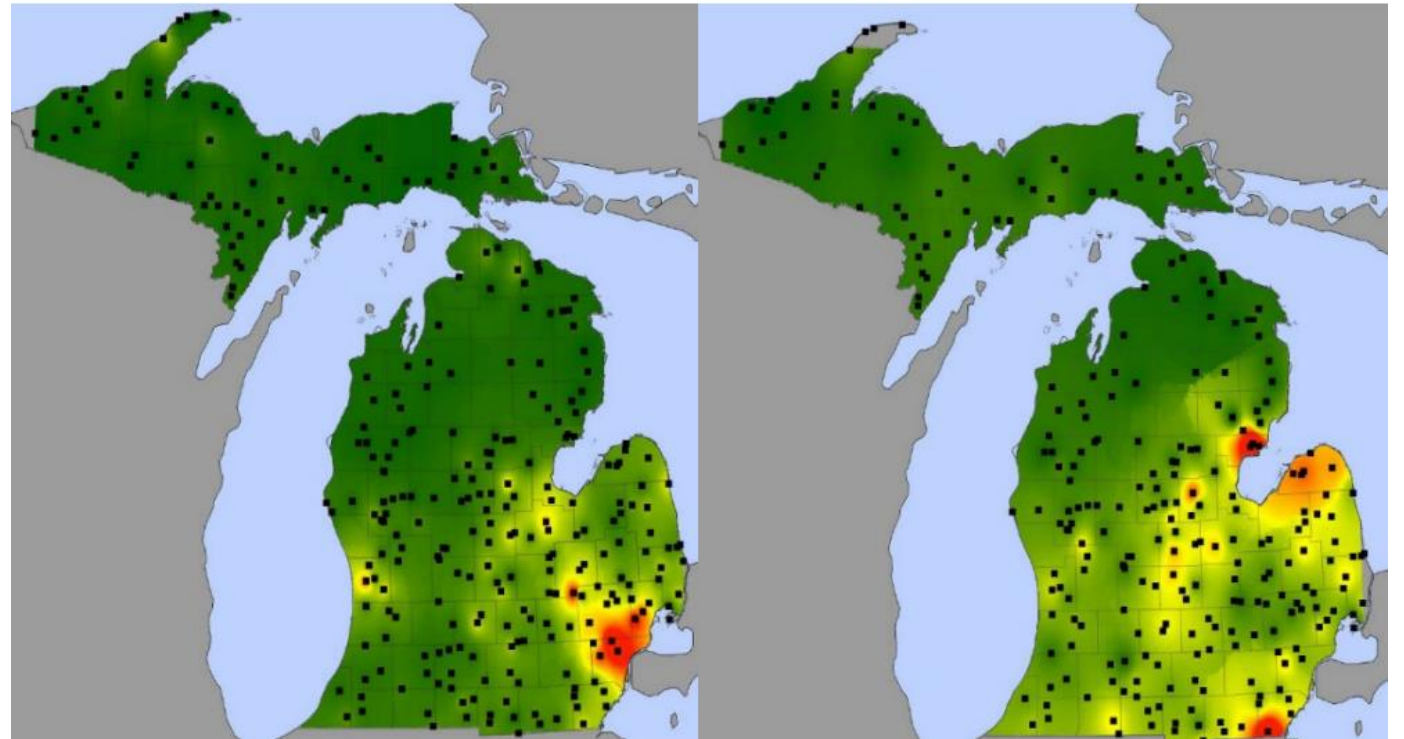
- Free testing kits
- Hach QuanTab Chloride Test Strips
- 80+ participating organizations
- Online data through Clean Water Hub
- FOTR volunteers collect data at all MiCorps sites (3+ times a year) beginning in 2020



EGLE Chloride and Sulfate Water Quality Values - 2019

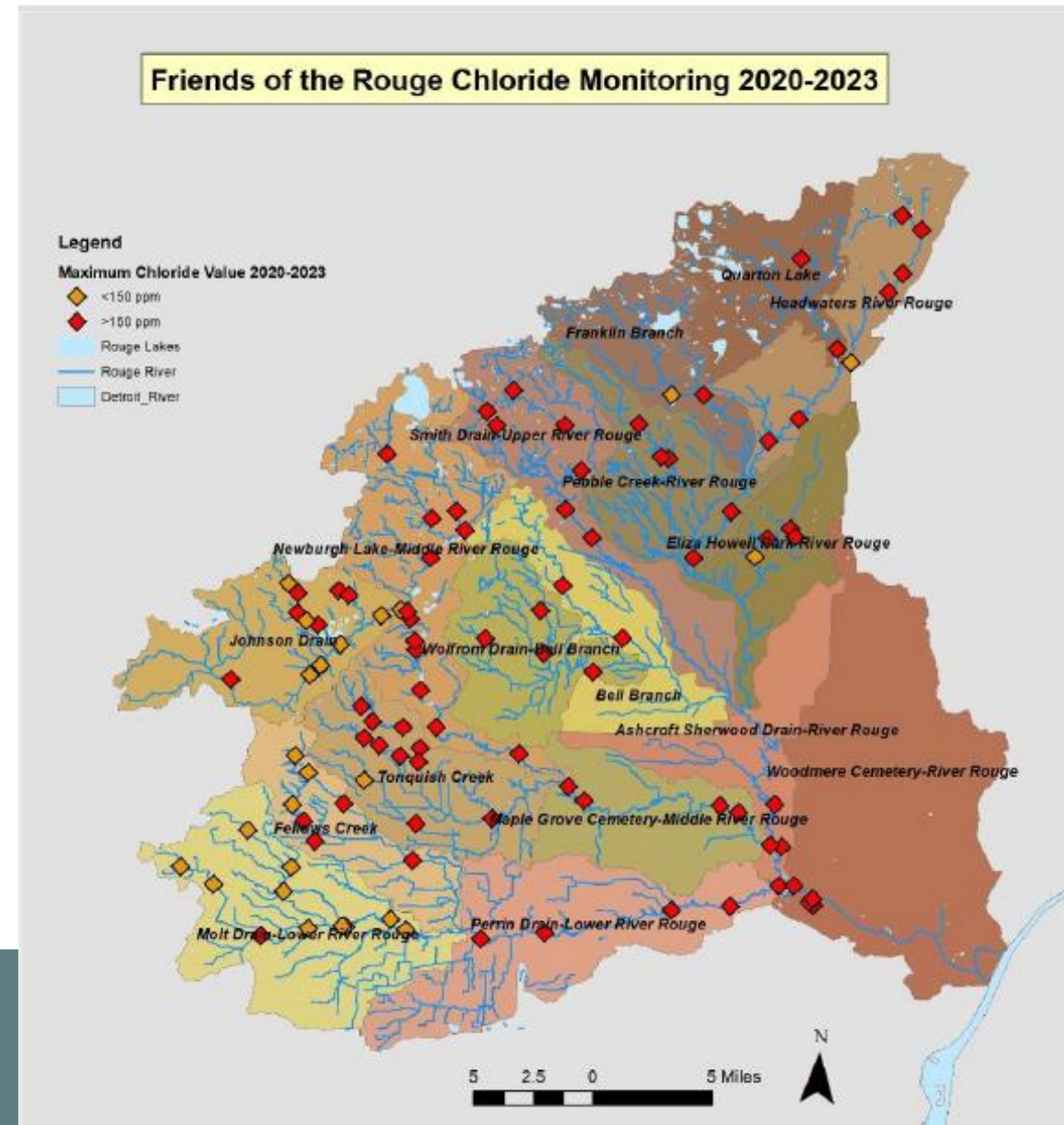
- EGLE implementation of CWA Water Quality Standards under NREPA Part 8
- WQV = Numeric value above which adverse impacts from a specific pollutant are likely to occur on water body designated uses (impairment).
- Implications for impairment listings, TMDLs, and management
- Implementation Plan

Pollutant	Final Acute Value (ug/L)	Aquatic Maximum Value (ug/L)	Final Chronic Value (ug/L)
Chloride	640,000	320,000	150,000
Sulfate	1,200,000	600,000	370,000



2023 FOTR Watershed Council Grant

- EGLE NPS Watershed Council Grant Program
- \$600k annual allocation from MI state legislature
- Support orgs in various activities to benefit water quality – education, watershed planning monitoring, capacity building, equipment purchase, etc.
- 1-year timeline, \$40k maximum
- FOTR awarded FY23 watershed council grant (\$40k) to explore uses for chloride monitoring data



Project Scope and Deliverables

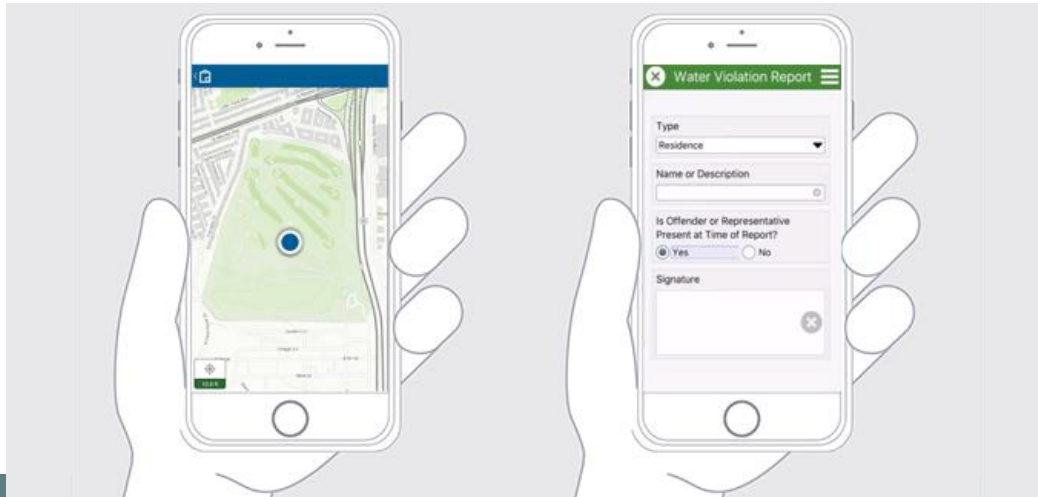
- Develop + implement monitoring QAPP
- Grab samples across the watershed to determine impairment status (4x at each site)
- Compare other data collection methods to grab results
 - Hach QuanTab test strips
 - YSI Chlorides
 - YSI Conductivity
- Summarize, display, and share findings
- Develop management recommendations
- Equipment, software training, capacity building



Team SALT

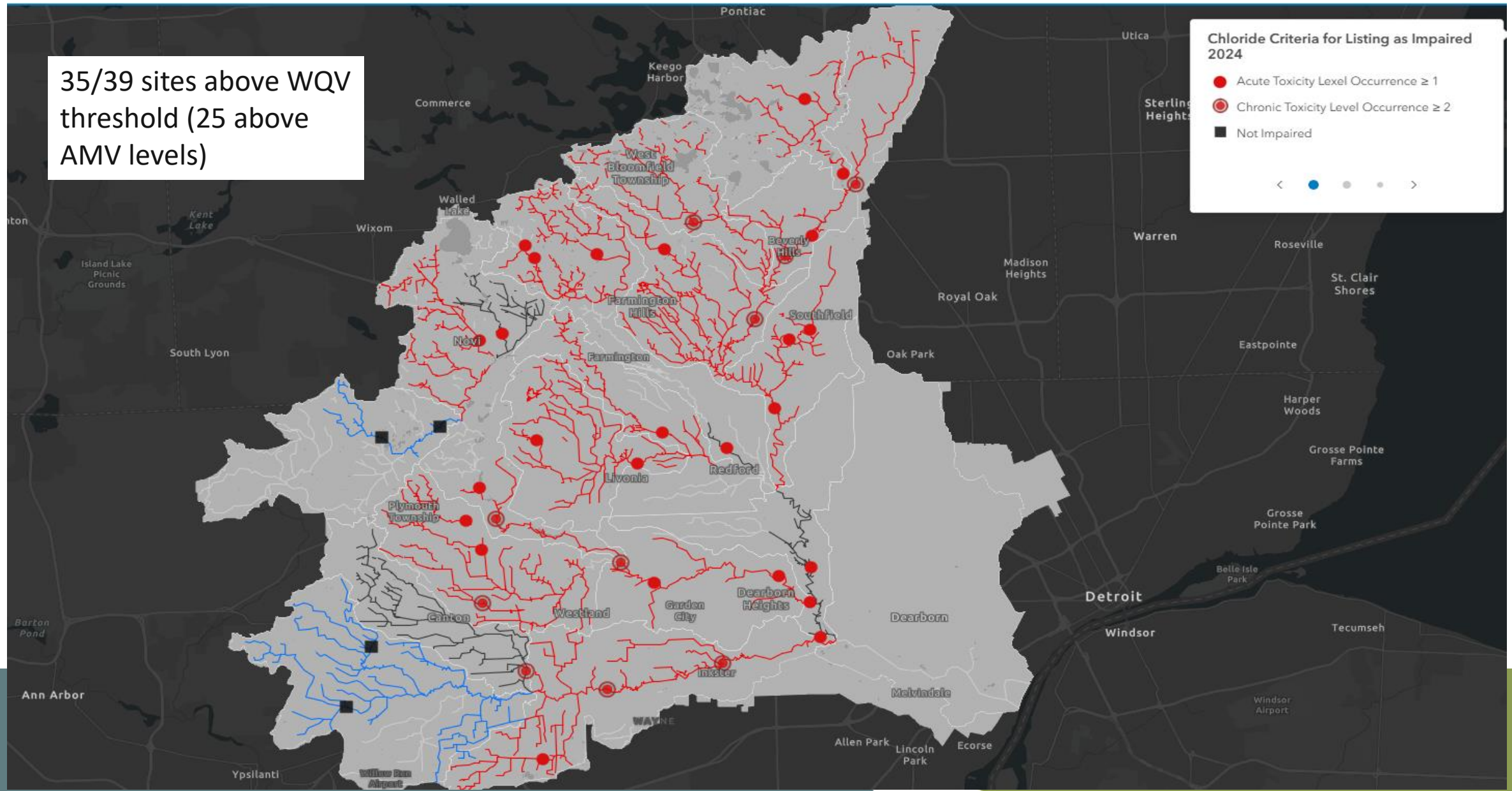
Friends of the Rouge Monitoring

- 39 sites monitored from Jan-Jun 2024, using all 4 monitoring methods
- Data input into Survey 123



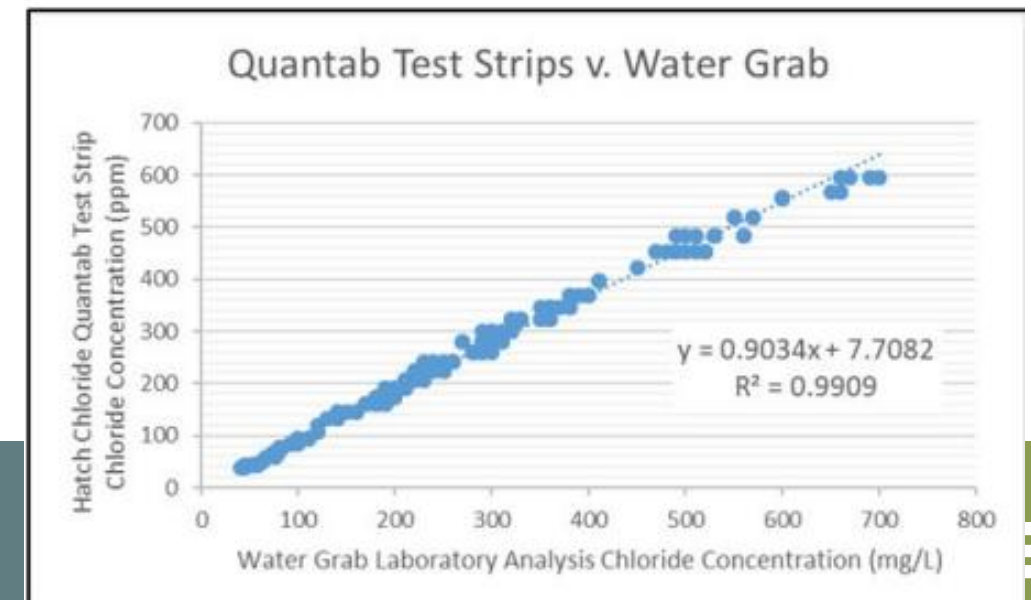
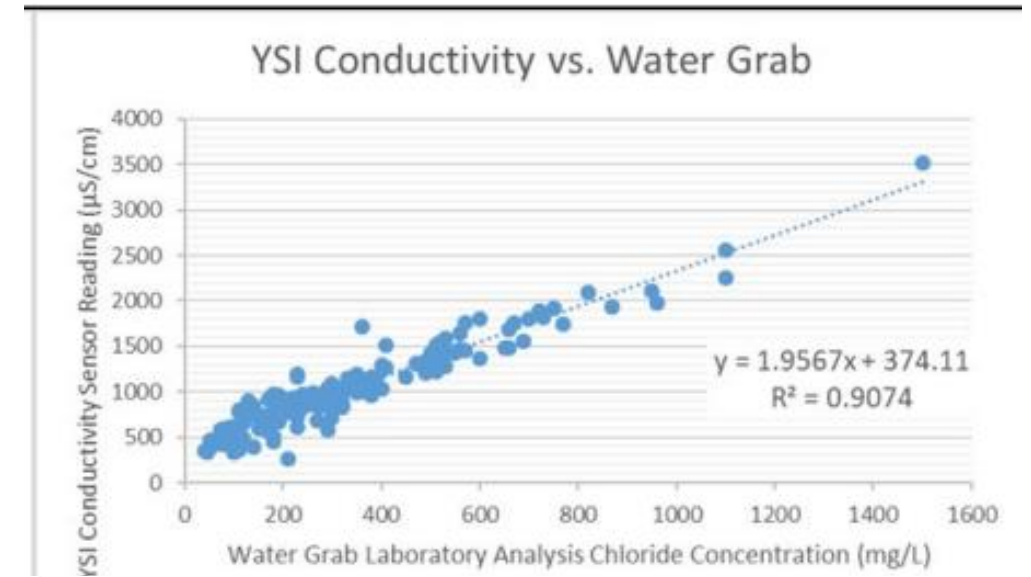
Findings – Chloride Impairments

35/39 sites above WQV threshold (25 above AMV levels)



Findings – Data Analysis Methods

- Strong/consistent correlation between conductivity/chloride
 - Potential for conductivity as a proxy (chloride>sulfate)
 - Potential for continuous/real time monitoring
- Inconsistent results from YSI chloride sensor
- **Strong potential for use of QuanTab test strips**



Next Steps – Rouge River

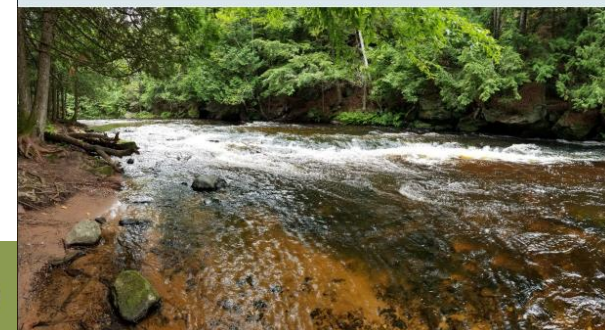
- EGLE evaluates Rouge chloride impairment listings for inclusion in the 2026 Integrated Report
- FOTR continues to use volunteer-collected data to monitor chlorides and expand datasets
- Both orgs use data to identify possible chloride sources and prioritize management solutions
 - Additional monitoring at problem sites
 - 9 Element Watershed Management Plans
 - TMDLs/NPDES permits
 - Education and outreach
 - Policy and advocacy

MI/EGLE/WRD-24/006

EGLE MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

**Water Quality and Pollution Control in
Michigan 2024**

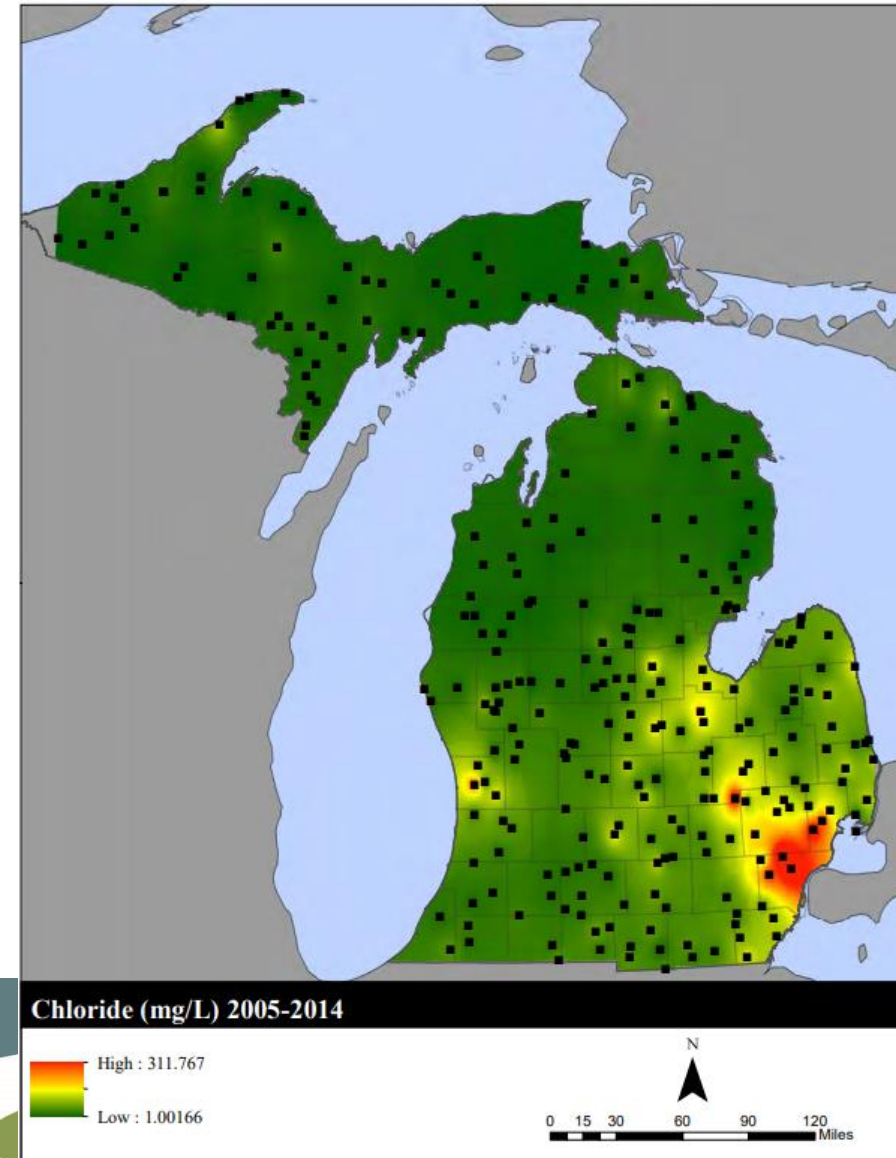
Sections 303(d), 305(b), and 314
Integrated Report



Michigan Department of Environment, Great Lakes, and Energy
Water Resources Division
March 2024

Next Steps – Statewide

- Encourage adoption of chloride test strips in other volunteer water quality monitoring programs
- Explore opportunities for using new/existing strip test data for determining impairments in other watersheds
- Use data to support chloride/sulfate WQV Implementation Plan actions
- Consider potential uses for other volunteer-collected water quality data



Michigan Department of
Environment, Great Lakes, and Energy

Jack Cotrone, Nonpoint Source Pollution
Program
248-763-1994
cotronej@michigan.gov

- [FOTR Chloride Monitoring Project](#)
- [FOTR MiCorps Monitoring Data](#)
- [Izaak Walton League Salt Watch](#)
- [EGLE NPS Watershed Council Grant Program](#)
- [EGLE Chloride and Sulfate Implementation Plan](#)
- [FOTR Stonefly Search on 1/24/26 @10:00](#)



**Friends
of the ROUGE**