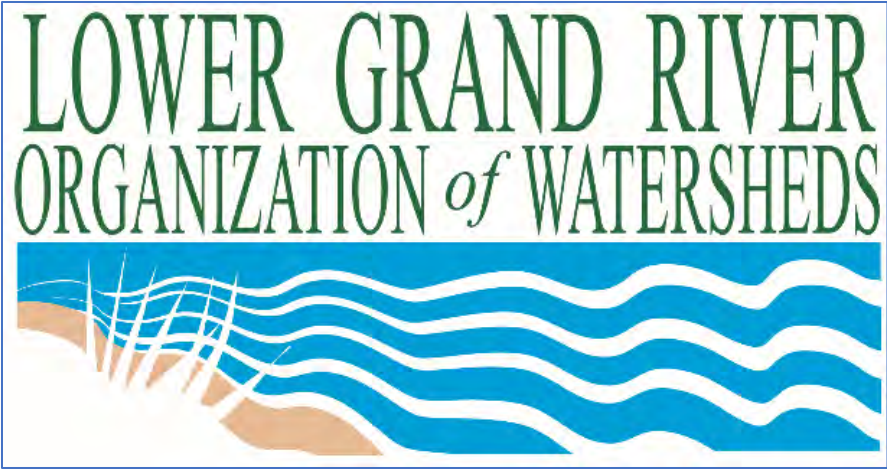




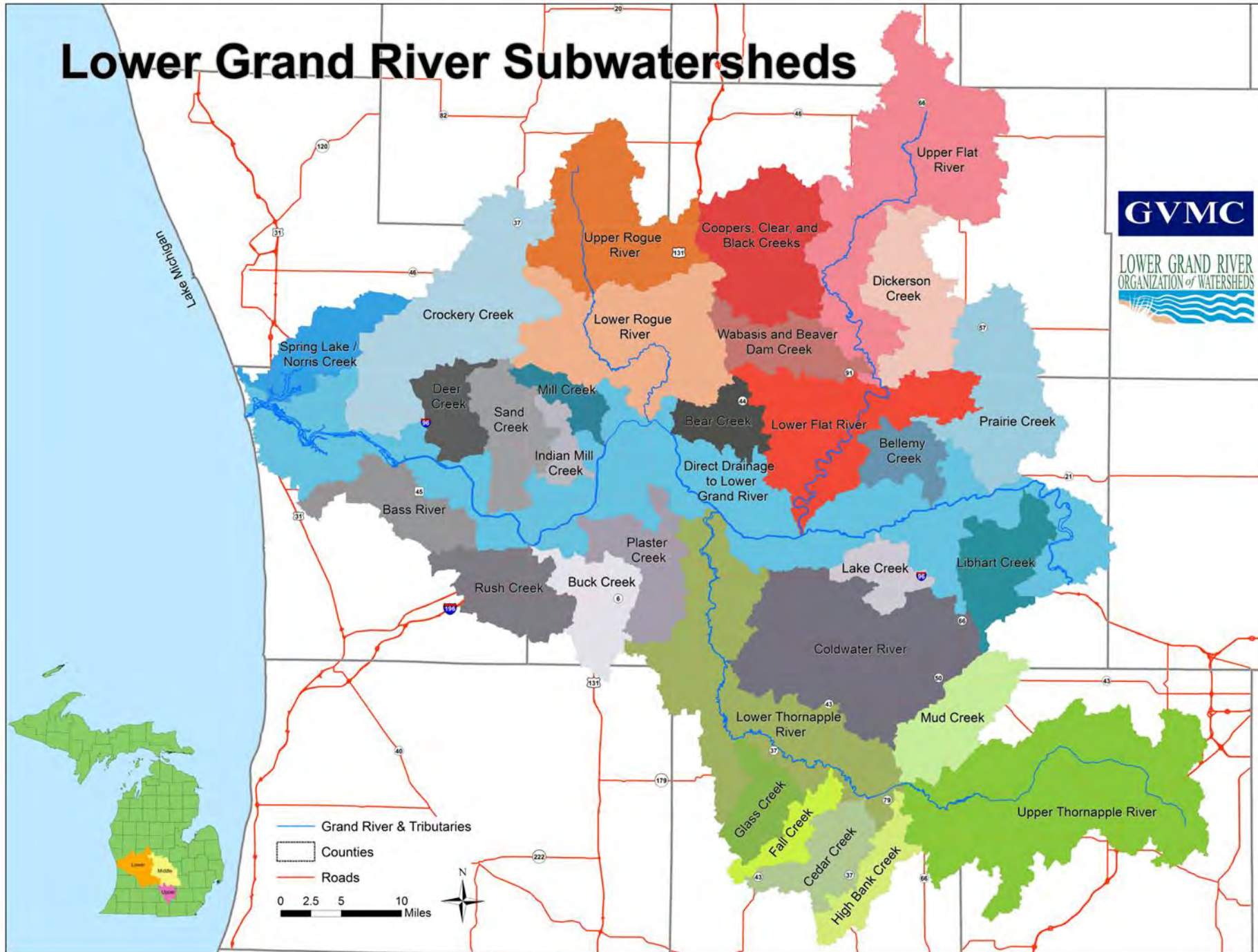
Volunteer Stream Monitoring in the Rogue River and Selected Tributaries

18th Annual MiCorps Conference, October 20, 2023

Matthew L. Bain



Lower Grand River Subwatersheds



Lower Rogue River Watershed

Hydrologic Unit Code (HUC): 04050006-0404/5/6/7/8

Size: 65,534 acres

Land Use (% Total):

42% Agricultural

23% Forest Land

19% Urban

10% Wetlands

4% Open Land

2% Lakes

Trout Stream Miles: 38.5

TMDLs: None

Pollutant Loadings: **whole river

Sediment - 4,049 tons per year

Phosphorus - 50,936 lbs per year

Nitrogen - 291,252 lbs per year

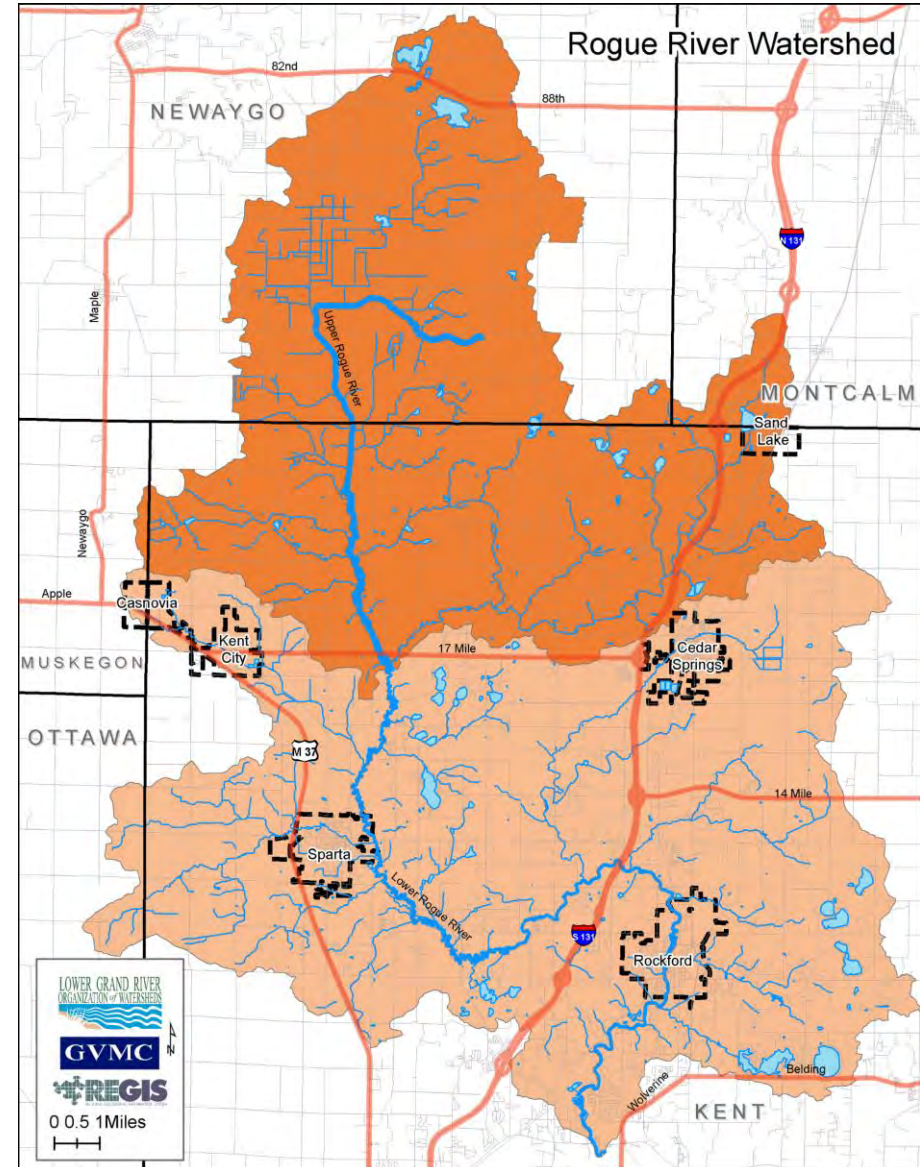
Priority Pollutant: Pathogens

Priority Sources & Causes:

Cropland: Over or improper application of manure

Livestock: Uncontrolled livestock access to river

Septic Systems: Aging systems





Program Description/Goals

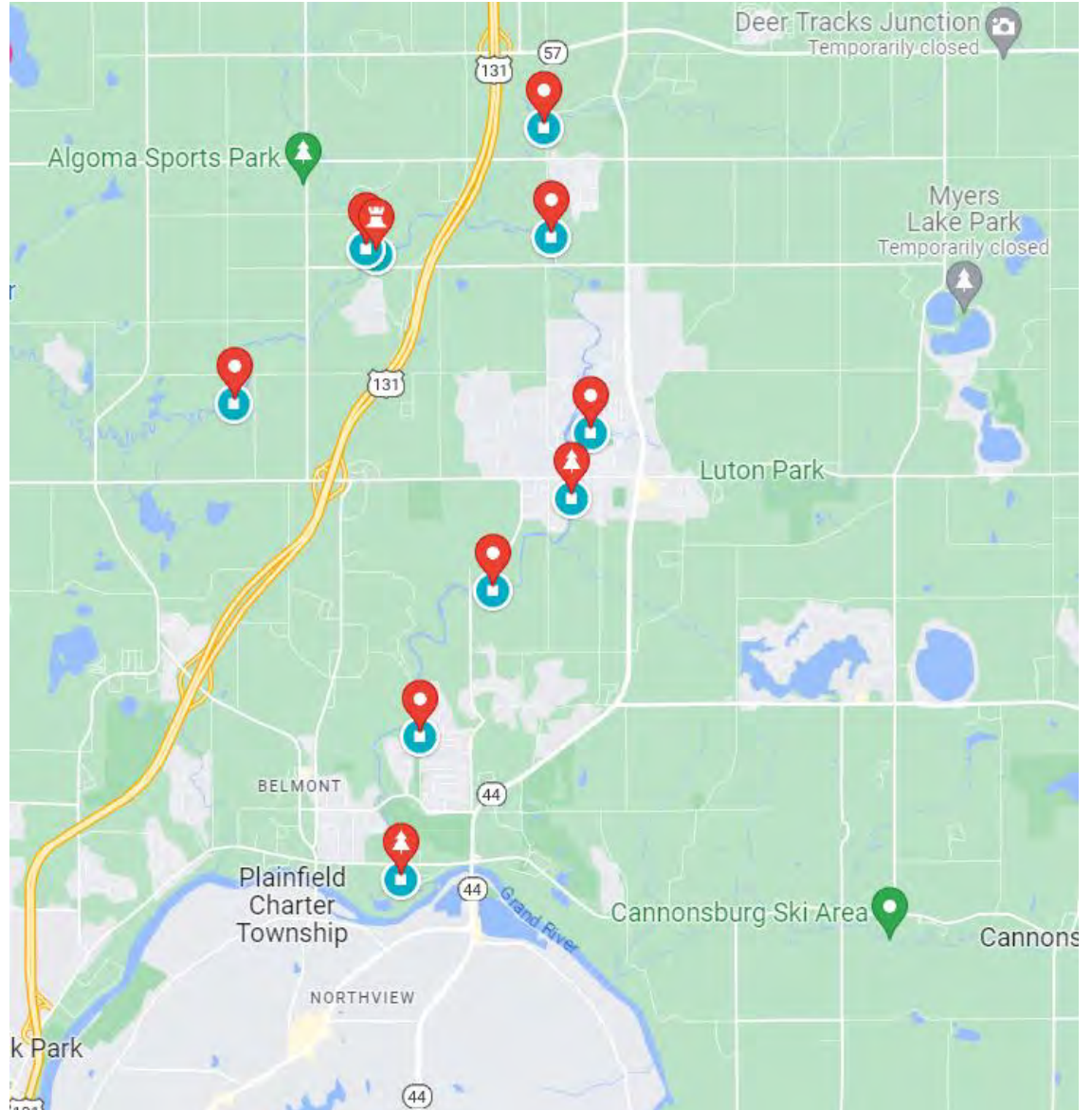
Employ MiCorps methodologies (macros and habitat) throughout the Rogue River Watershed in order to


- Educate residents about threats to our waters
- Recruit residents, and new partners into a cohesive effort
- Acquire useful data about the watershed
- Ensure that the monitoring program is sustainable

Program Development

Developed a map of accessible sampling sites throughout the Lower Rogue

- Took over sampling of most TU sites (continued monitoring)
- Worked with Ryan Baldwin of EGLE to select additional sites





Outreach, Engagement & Robust Organization

- Worked with our many partners (community, academic, state) to recruit a robust group of volunteers
 - Outreach to Local colleges, schools
 - Engaging residents and others via local events
 - Social media (LGROW, RRWP, Facebook, Instagram)
- Used informal polls to select all training dates and the event date
- Kept up consistent but concise contact
- Held multiple training sessions to fit volunteer schedules



Team Leaders and Collectors



Outreach, Engagement & Robust Organization cont.

- Separated the Team Leader/Collector training from the ID session
- Separated the sampling event/habitat assessment from sampling sorting/ID session
- Created and used relied on inventory lists and volunteer roles to coordinate training and the event.





Challenges

- Taking over the program at the halfway point (constant game of catch-up)
- Building a reliable support network (RRWP and TU)
- Recruiting new volunteers while reaching out to old
- “The Summer holiday” (low RSVPs)
 - Our July attempt at a training session netted three total volunteers, two of which were family

Fall 2023!



Accomplishments

- 31 volunteers on the day-of
- 7 teams
- 8 sites sampled in total out of 10

- Other successes?
 - Contact with landowners on an as-yet-unsampled tributary

Plans

- Continue to reach out/update partners and volunteer network
- Present a summary of the program, data, etc. (summer 2024)
- Find funding source for continued monitoring and to address potential impacts (Phase II)

Lessons Learned

- You can't have too many volunteers
- Never assume you'll have enough volunteers
- Keep up consistent but concise contact
- Find successful predecessors and ask for help
- Lean on team leaders for logistical support
- Be responsible/pass the torch
- Consider catch and release for large/rare (QAPP)

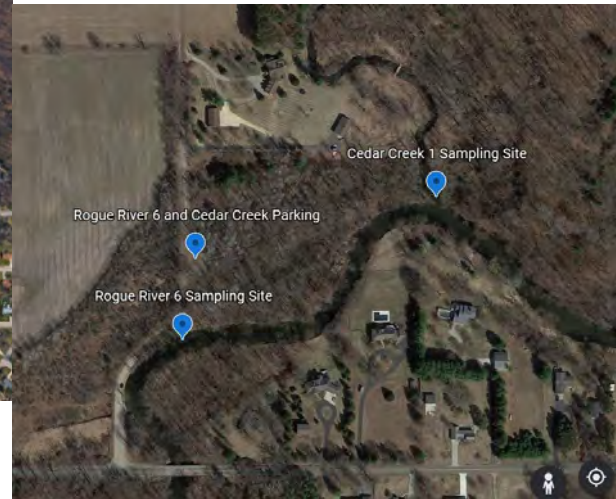
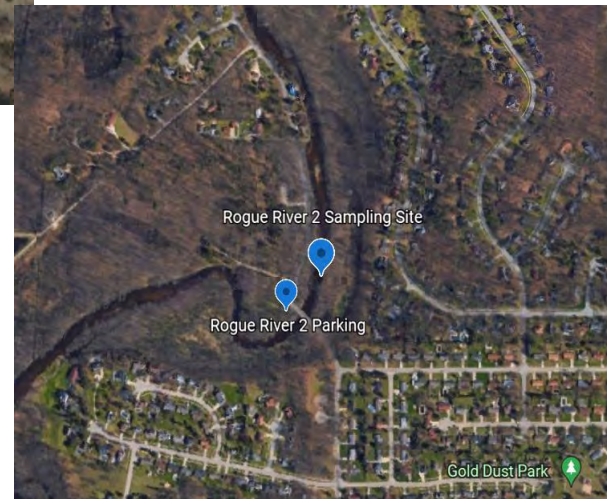
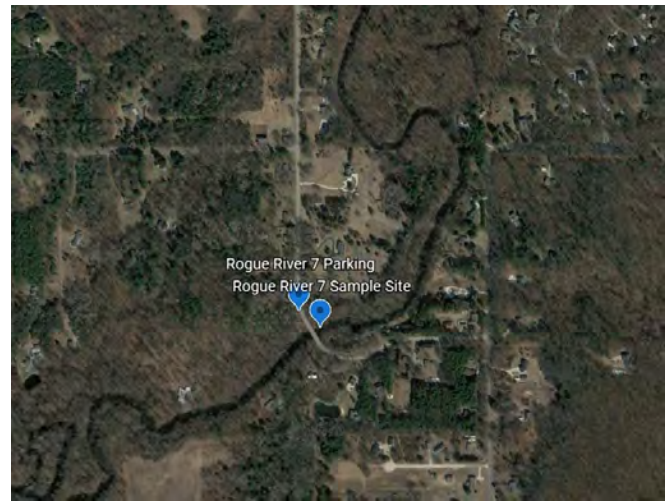
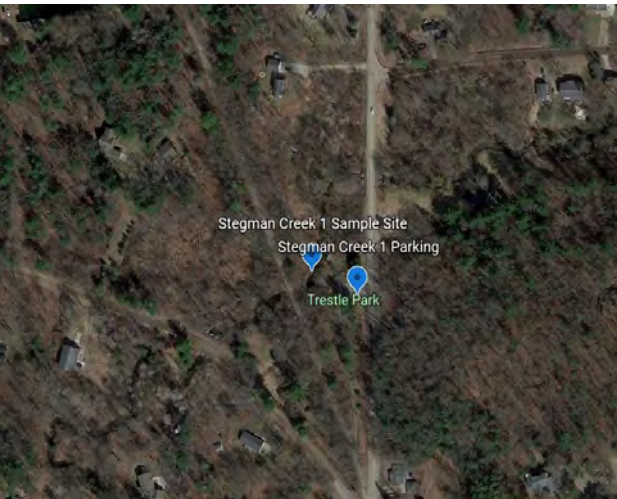
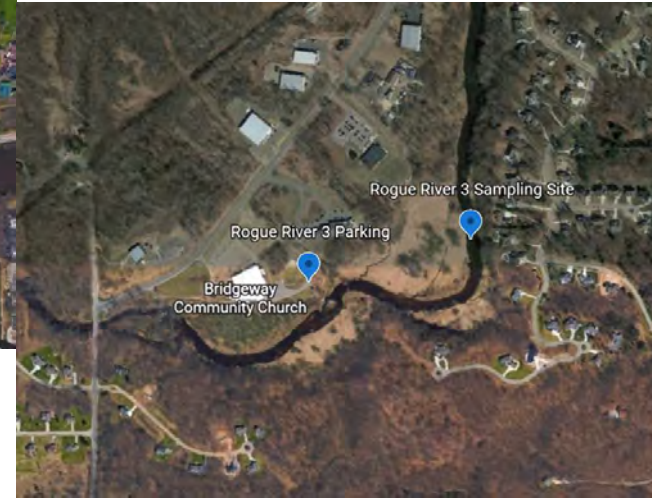
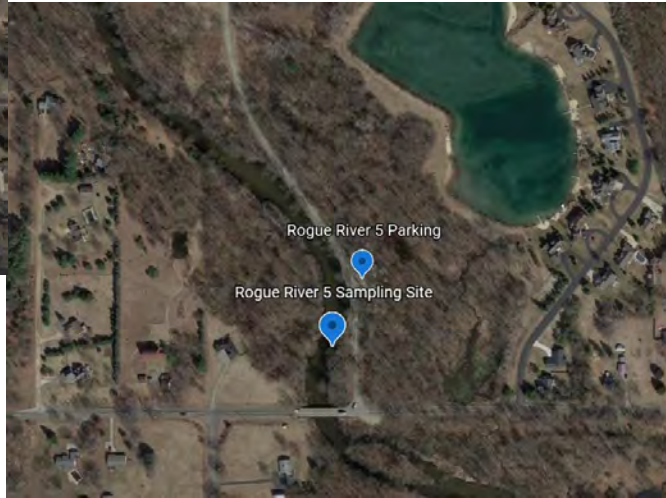
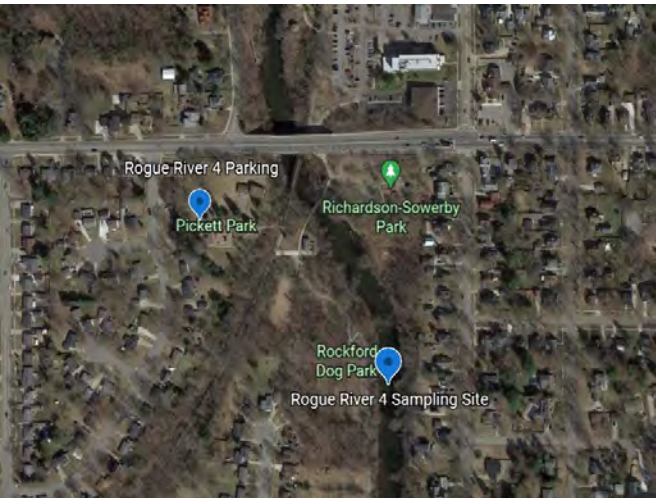


Questions?

GVMC

LOWER GRAND RIVER
ORGANIZATION *of* WATERSHEDS







WMEAC ADOPT-A-STREAM

Building a Community of Stream Keepers in West MI

Carlos Calderon, Dir. Of Sustainable Community Development

Kyle Hart, Education Programs Manager

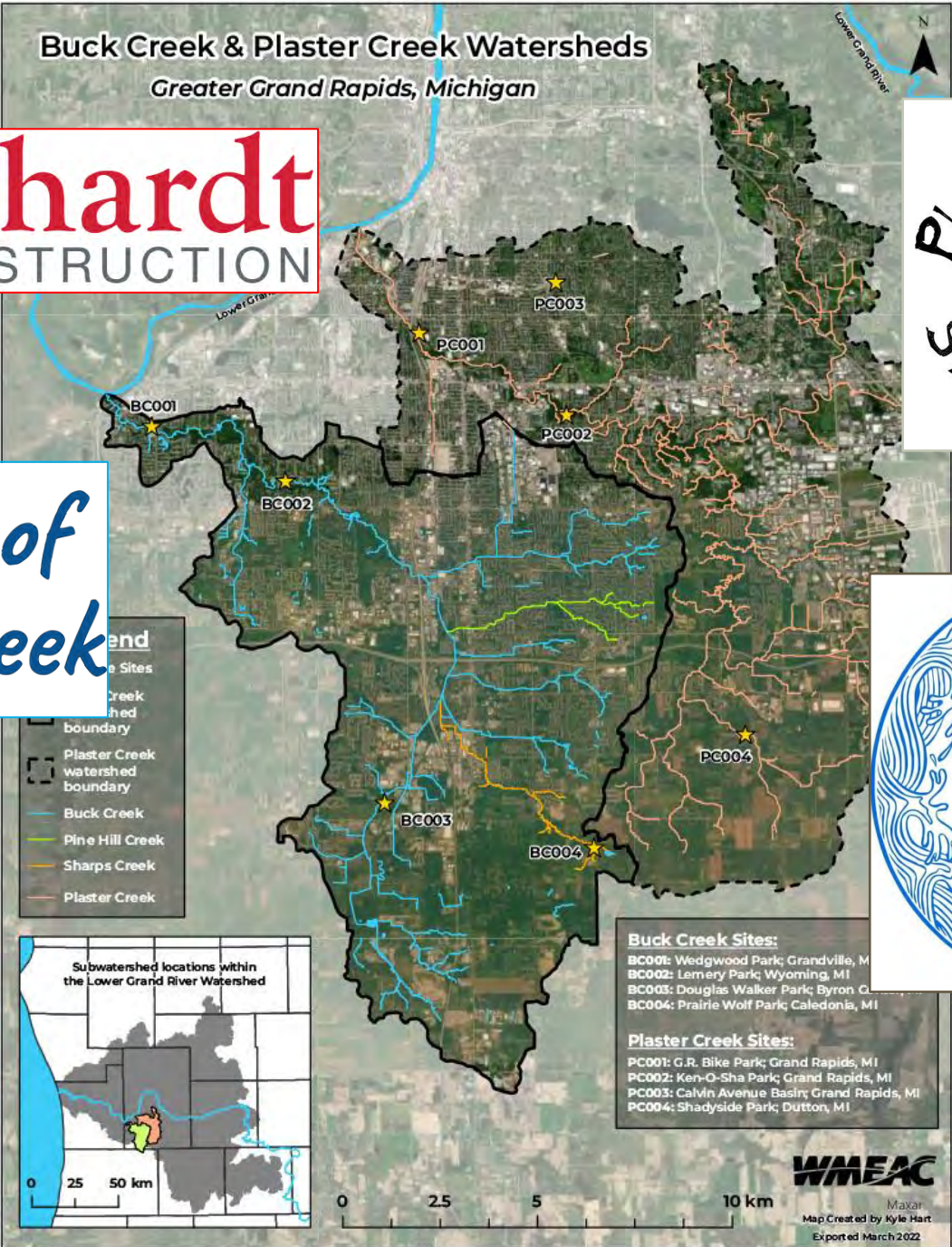
WMEAC ADOPT-A-STREAM: THE STREAMS

PLASTER CREEK

- West MI's "most impaired" stream
- Development pressure from Ag->Urban
- Highly impervious
- Dedicated watershed group, housed in high ed

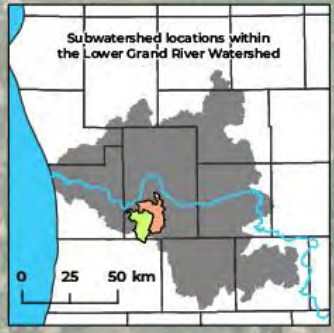
BUCK CREEK

- Stream out of balance
- Development pressure Ag -> Urban
- Wide range of land uses
- Dedicated watershed group of citizen-volunteers



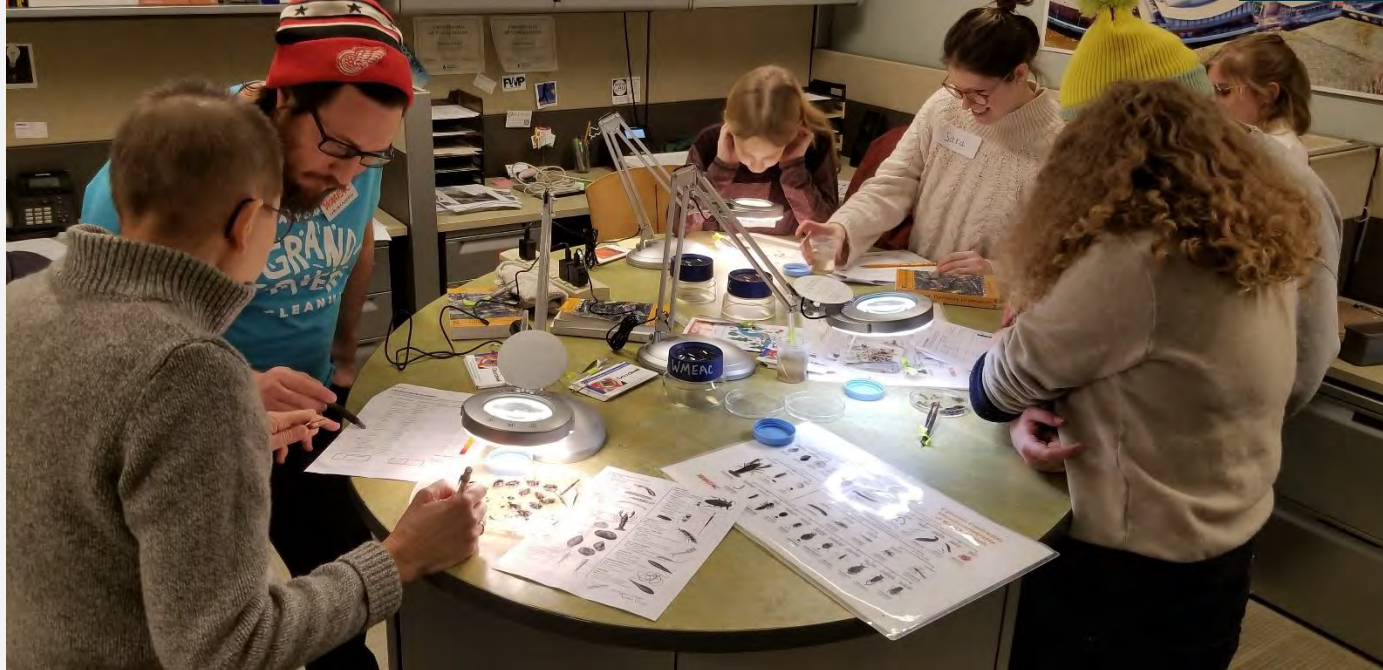
Friends of Buck Creek

- Legend**
- Monitoring Sites
 - Buck Creek Watershed boundary
 - Plaster Creek watershed boundary
 - Buck Creek
 - Pine Hill Creek
 - Sharps Creek
 - Plaster Creek



- Buck Creek Sites:**
- BC001: Wedgwood Park; Grandville, MI
 - BC002: Lemery Park; Wyoming, MI
 - BC003: Douglas Walker Park; Byron Center, MI
 - BC004: Prairie Wolf Park; Caledonia, MI
- Plaster Creek Sites:**
- PC001: G.R. Bike Park; Grand Rapids, MI
 - PC002: Ken-O-Sha Park; Grand Rapids, MI
 - PC003: Calvin Avenue Basin; Grand Rapids, MI
 - PC004: Shadyside Park; Dutton, MI

WMEAC ADOPT-A-STREAM: THE STREAM KEEPERS



WMEAC TEACH FOR THE WATERSHED



KYLE HART
KHART@WMEAC.ORG
WMEAC.ORG/EDUCATION

Viven bajo la agua
Lives underwater

Animales sin espina
Animal with no spine

AQUATIC MACROINVERTEBRATE

Can easily be seen with our eyes

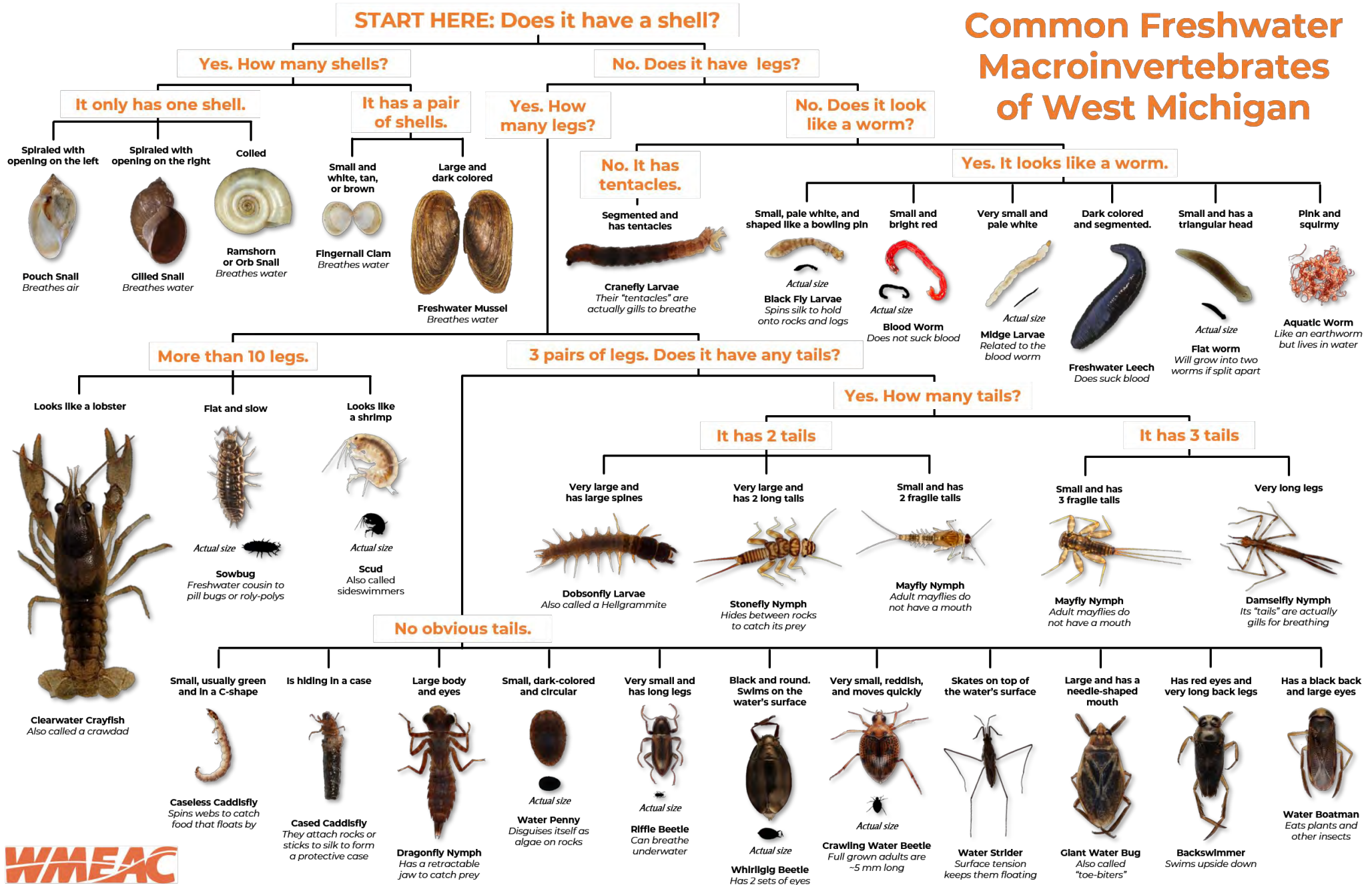
Se pueden ver fácilmente con el ojo

Aquatic macroinvertebrates are small animals that live in our streams, rivers, and lakes. Most are **insects** but macroinvertebrates also include worms, clams, mussels, snails, leeches, and crayfish.

Los macroinvertebrados acuáticos son pequeños animales que viven en nuestras corrientes, ríos y lagos. Casi todos los invertebrados son **insectos** pero también incluye gusanos, almejas, mejillones, caracoles, sanguijuelas y crustáceos como los cangrejos de río.



Common Freshwater Macroinvertebrates of West Michigan



STREAM KEEPERS JR. SUCCESS



University and Community Collaboration: Stream Monitoring in Eaton County

Erin Pavloski
Assistant Professor of Environmental Science
The University of Olivet

Local Needs

- Previous sites had been monitored in 2006-2009 (Michigan Clean Water Corps, 2022)
- EGLE conducted a biosurvey that included sites in Eaton County in 2018, but didn't appear to be a continuous, annual effort (Rippke & Schmitt, 2021)
- There was no established annual stream monitoring program in Eaton County



Photo credit: Eaton Conservation District

Fits Needs at UO and in the Community

A way to...

- Have students dedicate more time to fieldwork and working towards mastery of these skills
- Build partnerships in the community and involve local citizens
- Educate about watersheds and water quality
- Collect and provide data annually to a statewide database for use



Photo Credits: Above - Connor Gilbert, Below - Erin Pavloski, UO



Our Objectives

1. Provide new and continuous macroinvertebrate collection and habitat assessment data that will assist in assessing the success of any restoration projects and updating the watershed management plan
2. Educate and collaboratively engage Eaton County residents, students, and other stakeholders in monitoring, upholding quality, and protecting water resources
3. Identify or verify problem areas where degradation has occurred and where future remediation efforts or best management practices can be implemented

Partner & Audience

Eaton Conservation District:
Sue Spagnuolo, Rachel Cuschieri-Murray,
Hillarie Gibbs & Val Reisen



EATON
CONSERVATION
DISTRICT



THE UNIVERSITY of
OLIVET

Audience: College students &
teenagers and adults known as
community scientists



Photo credits: Erin Pavloski, UO



Design & Delivery

- Expansion beyond a traditional one-day collection event
- The University of Olivet is unique in that it offers a three-week ILT each May
 - Students will learn the processes, then host and assist community scientists on Community Collection Days
 - Opportunity for the local community members to join in the macroinvertebrate identification session
- ILT students and community scientists are invited back
- For the following spring, a new group of enrolled ILT students will engage with recurring/new community scientists
- Designed for ongoing engagement of volunteers and longevity in collecting macroinvertebrate data



Photo credits: Erin Pavloski, UO



Accomplishments

- 10 sites sampled each spring and fall since Spring 2022
- Engaged 17 enrolled students and 29 community scientists as of Spring 2023

Outreach:

- UOlivet Marketing Department produced short video
- Stream monitoring flyers designed for outreach
- New tab on ECD website for our program



Photo credit: Erin Pavloski, UO



Lessons Learned

What worked:

- Sharing ideas and having good communication from the start
- Overall organization of equipment ordering and material storage
- Preparing materials for course and community collection and ID days well in advance. Not procrastinating!
- The weather!



Photo Credit: Connor Gilbert, UO

Lessons Learned

Changes for the future:

- Community scientist check-in process
- Another ID time earlier in the class
 - We should still prioritize a day for ID in the early/middle week of the ILT
- Timing of collections - weekends
- Longer Community ID events - enough time to get to all samples



Photo credit: Erin Pavloski, UO

Recommendations

- Identify a project partner
- Know your organization's legal requirements of any waivers, photo releases, etc. for volunteers
- Plan out your volunteer recruitment strategy - can use already existing social media and volunteer lists
- Send letters to your landowners, and have information to share if anyone stops to ask you questions while in the field
- Always have food to share with volunteers, and thank them for their time!

Future Plans

- MiCorps Implementation Grant through June 2024
- Offering Stream Monitoring ILT class each May at The University of Olivet
- Continued monitoring of sites each spring and fall

I am grateful for the support of my department chair and administration at The University, Eaton Conservation District staff, MiCorps, students, and community scientists to be able to continue this work!



Photo credit: Erin Pavloski, UO

Questions?

Thanks!

Erin Pavloski
epavloski@uolivet.edu
269-749-7761
www.uolivet.edu

CREDITS: This presentation template was created by **Slidesgo**, including icons by **Flaticon** and infographics & images by **Freepik**



Photo Credit: Connor Gilbert, UO

References

Michigan Clean Water Corps. MiCorps Data Exchange. MiCorps. (2022, June 20). Retrieved August 10, 2022, from <https://micorps.net/about-data-exchange/>.

Rippke, M., & Schmitt, G. (2021, November). Biological surveys and water chemistry sampling of selected stations in the Thornapple River watershed in Barry, Eaton, Ionia, and Kent Counties, Michigan: 2015-2018. www.michigan.gov/egle. Retrieved August 15, 2022, from <https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/WRD/SWAS/Monitoring-Watershed/Biosurvey/report-2018-thornapple-watershed.pdf?rev=de4781f063b440fbb9714ded08a80190&hash=4E4201C179FAB7C9624AAE6342AB0E55>.