

APRIL 2025 NEWSLETTER



Quarterly Highlights

Spring is starting to show and we are gearing up for field deployment!

- **Watershed Working Groups** have identified priority locations for implementing iFlood.
- **Project Team** has trained nearly 40 partners across 6 counties to monitor flood conditions and submit iFlood reports.
- We have **40 gages** ready to install! Reach out to reserve yours today. They are offered at no cost and come with installation kits and support from the project team.
- Schedule training or adopt a gage by reaching out to the project team at mifloodresilience.org

What is one thing you could do today to help improve your community's flood resilience?

As spring storms move through the Great Lakes Region, this question has been a topic of much discussion by our partners, communities, and the project team. We are excited to share updates, highlights, and upcoming work with you and I want to invite you to think about how the tools, technology, and collaborations that the MI Resilient Watersheds Project highlights in this newsletter can benefit you and your community in your efforts to build flood resilience capacity.

The Project Team has been hard at work building gages, training scientist partners, and adapting technology solutions to fit the needs and priorities of our communities. Our partner spotlight and Expert Explains article highlight the importance of collaborative and community-driven approaches (including green infrastructure) to flood resilience. In our work over the summer months, consider - how can these approaches work for you?

- Wendy Robertson, MI Resilient Watersheds Project

iFlood + technology for enhanced use

The iFlood tool is a versatile and cost-effective approach to gaining insight into flood impact and frequency in places where a community needs more information. But what happens if a location is (a) difficult to monitor during an event, or (b) needs frequent observations to record change?

We are combining iFlood with wifi-enabled cameras, peak stage recorders, and pressure sensors to meet community needs for data and insights. Ask us how one of more of these might benefit your community.



Partner Spotlight: Lower Grand Organization of Watersheds (LGROW)



What does your organization do? The Lower Grand River Organization of Watersheds (LGROW) is an agency of the Grand Valley Metro Council. LGROW's mission is to understand, protect, and improve the natural resources of the Lower Grand River Watershed for all to enjoy. We work with partners across the watershed, region, and state in order to accomplish projects that positively impact quality of life and water quality by connecting water with life.

Why is fostering collaboration across communities, governments, and organizations so important for building flood resilience capacity? Fostering collaboration across communities, governments, and organizations is crucial because flood resilience is a complex, multifaceted challenge that no single entity can address alone. Watersheds do not follow jurisdictional boundaries. Partnerships between communities, governments, and organizations are important because each

group brings different strengths, and when combined they can offer smarter, more effective solutions. - *Cara Decker, Director of Environmental Programs*

What projects have you worked on (or are working on) at LGROW that makes you the proudest of the work you do? We have a green infrastructure project that involves building curb-cut raingardens in partnership with homeowners in the Grand Rapids area. We are working with lots of partners including the West Michigan Environmental Action Council, and the West Michigan Sustainable Business Forum. These gardens are located in the curb lawn between the sidewalk and the street. They are designed to absorb stormwater from the road and infiltrate it into the ground rather than flowing down the storm drain and into our local creeks and rivers. I love being involved with this project because we are helping to manage stormwater and educate residents on ways they can make a difference in local water quality! - *Anna Kornoelje, Land and Water Projects Manager*

Much of our work has an indirect impact on water quality – it is refreshing to be involved in activities that have direct impact, such as stream bank restoration. Last September, as part of an EGLE Watershed Council Grant, we worked with Kent Conservation District, Rogue River Watershed Partners, and Trout Unlimited to complete a stream bank/riparian restoration on Nash Creek, a tributary to the Rogue. It was a beautiful day in which all partners were able to contribute time and resources to remedy a long-standing problem! The impact was immediate. - *Matt Bain, Aquatic Specialist and Education Coordinator*

What is your favorite kind of green infrastructure and why? Retrofitted bioswales. These can be a great option to add a little GI to parking lot reconstructions! - *Rachell Nagorsen, Stormwater Programs Manager*

Events & Opportunities

Interested in learning about how to leverage technology to improve iFlood reporting? Schedule a call or meeting with the Project Team to learn more.

iFlood: Upcoming iFlood training events will be posted to our website. The team is actively seeking opportunities to add training dates and outreach events to our calendar. Contact us with ideas!

Expert Explains: How can green infrastructure increase flood resilience?

Dr. Rod Lammers, Environmental Engineer, Central Michigan University

Nature can be a powerful tool in protecting communities from flooding. Unfortunately, our development has compromised nature's ability to provide this service. Building cities and clearing forests and wetlands limits the amount of water infiltration and storage, leading to more runoff and worse flooding. We build levees along rivers that may protect some areas from inundation, but direct more water downstream and just shift where floods occur. Fortunately, we have recognized these issues and are taking steps to bring back some of these natural flood mitigation benefits.

Terms such as green infrastructure, natural infrastructure, and nature-based solutions have been used to describe these features. While the definitions vary slightly, these terms are all describing using more natural features to adsorb, retain, and slow runoff to reduce flood severity. There are two main ways that green infrastructure can reduce flood risk. First, infiltration-based practices (like rain gardens in cities) act like sponges to adsorb runoff from parking lots and roads. At a larger scale, forests and wetlands perform a similar function.

The second approach is using green infrastructure along rivers to retain and slow flood waters as they move downstream. Protecting and restoring floodplains (for example, by removing a levee or moving it further from the river) can increase floodwater storage and protect downstream communities. Smaller streams or agricultural ditches can also be restored to increase meandering and re-create floodplains. These practices also provide other benefits – they create habitat and promote biodiversity, improve water quality, and provide recreational opportunities.

Green infrastructure has its limitations too. One, these features (especially stormwater infrastructure) tend to provide the most benefits for smaller, more frequent flood events. It is easier to adsorb runoff from a 1-2" rainstorm, but really big events can easily overwhelm these systems. Second, a lot of land is needed to meaningfully reduce flood risk. For stormwater infrastructure, this means you need to install lots of infiltration practices throughout a watershed. For rivers and floodplains, large areas need to be restored to effectively retain water and reduce flooding. Despite these limitations, green infrastructure has been shown to be effective at reducing flooding and reducing the stress on our "gray" infrastructure (stormwater pipes), making the whole system more resilient.



Two examples of green infrastructure. A rain garden receiving runoff from a parking lot (top; credit: R. Lammers) and a levee setback and floodplain restoration project (bottom; credit: David Y. Lee).

