

After many years of collaboration, one of our closest partners has officially become part of the ODC team. The Macatawa Watershed Project (MWP), which has been housed at the Macatawa Area Coordinating Council since 2000, joined the ODC this past October. Kelly Goward, the Watershed Manager, who has worked at the MACC as the Watershed and Environmental Program Manager since 2012, became an official member of the ODC's Project Clarity team.

The MWP began as a way for local communities to partner on improving Lake Macatawa and the Macatawa Watershed following findings by the state and EPA that the lake contained extremely high levels of suspended sediment and phosphorus. The MWP has worked towards improving the lake by addressing issues such as stormwater, agriculture, land use, monitoring, and education. The ODC and the Macatawa River Greenway have partnered closely with them over the years, working to host events such as the Macatawa Water Festival and annual River Cleanups, educating students and community leaders on water-related topics, and collaborating on research efforts with partners like Hope College and Grand Valley State University. In addition, Kelly and the MWP have worked closely with the ODC on Project Clarity, our initiative to significantly improve in water quality around the watershed. MWP staff have served on advisory boards and provided input on plans and helped disseminate our progress to our government partners. This partnership has resulted in the myriad of successful projects that have gone into our watershed over the past eight years, including restored wetlands, stabilized streams, soil-saving agricultural projects, and greener stormwater infrastructure. By joining us at the ODC, we will streamline many projects and partnerships, allowing greater gains for the watershed.

We are excited to have Kelly on board with her host of experiences at the MACC and local conservation districts prior to that. She will continue working closely with our local cities and large companies on stormwater permitting and compliance, ensuring that we can update and improve existing and future infrastructure. Her skills as a grant writer, project coordinator, and educator will be great assets to our team and create additional connections to regional water experts. Additionally, we are looking forward to walking down the hall to chat or ask her questions, rather than call, email, or drive to her office! Kelly will be working out of DeGraaf Nature Center, where she will work closely with our greenway, conservation, and sustainability efforts. This team will collaborate to make our area a more vibrant and ecologically sustainable place for current and future generations.



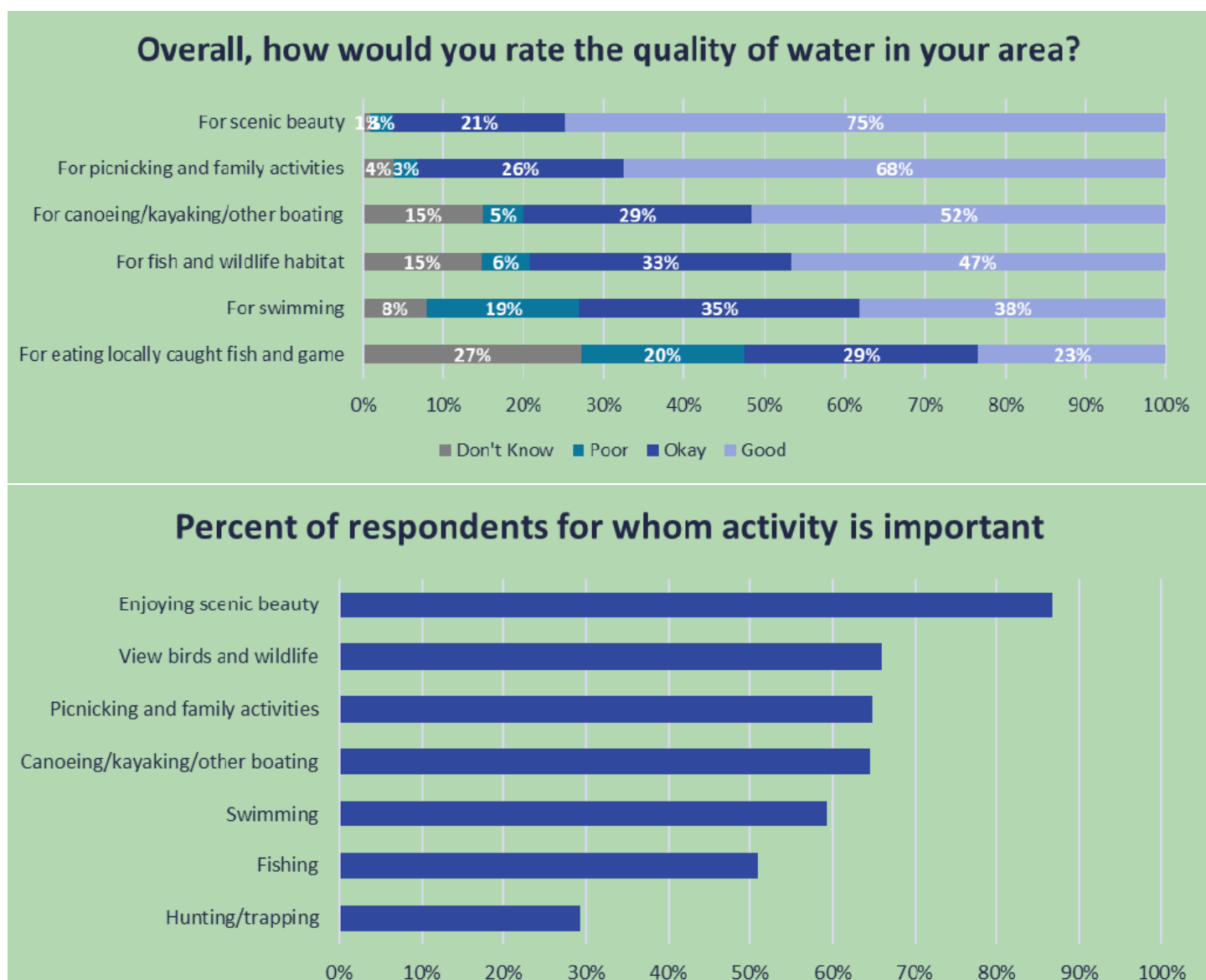
In 2021, the ODC Network hired GVSU to conduct a social survey to gauge awareness and knowledge of water quality issues and best management practices among residents and farmers in the Macatawa Watershed. In general, the results show that knowledge is increasing, but there is still room for improvement. For example, many people don't know much about phosphorus, which is the main pollutant of concern in the Macatawa Watershed. On a more positive note, many people report that they are using good practices at home to reduce water pollution.

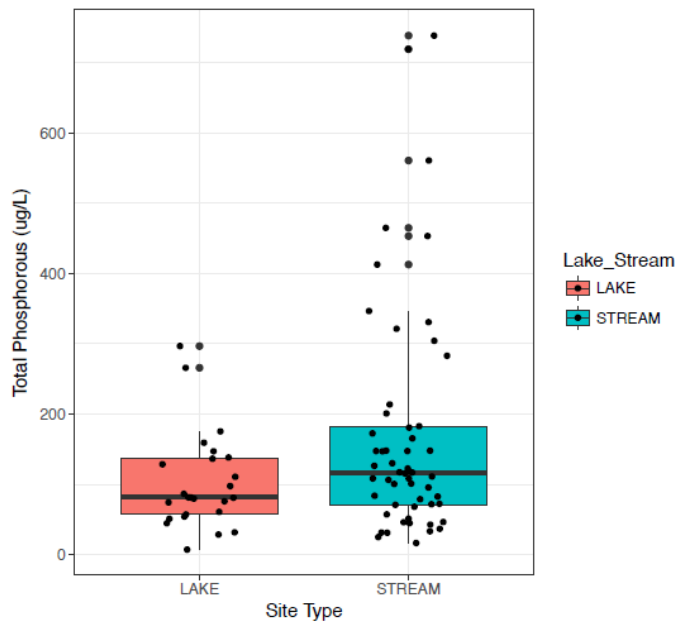
People also seem more comfortable with defining stormwater and understanding where it ends up. Compared to 2014 survey results, more people rely on the internet and social media now, which supports a shift from less in-person activities to a more digital outreach strategy. Other interesting take-aways include:

- Farmers are increasingly familiar with and using best management practices including cover crops and grassed waterways. They are less familiar with topics like two-stage channels and tile drain management.
- Residents are very likely (76%) to keep leaves out of roads and ditches but only 39% use phosphorus-free fertilizer.

We will use this information to develop an updated management plan for the Macatawa Watershed over the coming months. The management plan is an outline for restoration efforts within the Macatawa Watershed and helps show state and federal grantors what our priorities are when it comes to competing for grant funding.

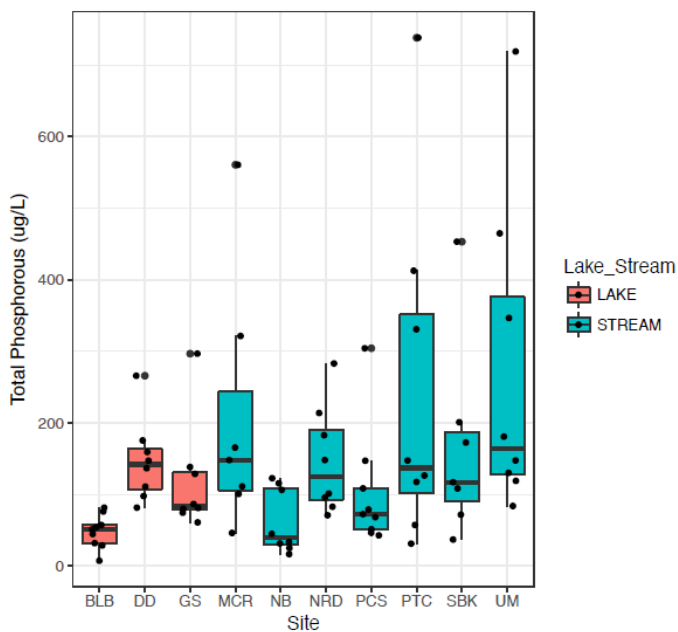
Interested in providing input on the plan? Connect with Kelly to learn more: kelly@outdoordiscovery.org.



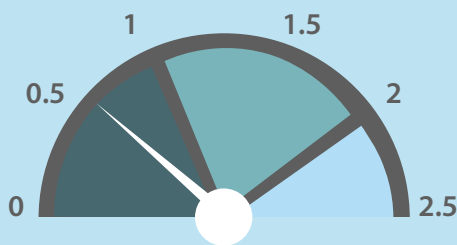


Hope College and the Annis Water Resources Institute have completed their monitoring efforts again this year. AWRI has continued their in-lake and project impact monitoring, while Hope has expanded their lake and stream monitoring. Of particular interest has been their ongoing examination of total phosphorus levels compared to dissolved phosphorus, which is more readily available for use by algae.

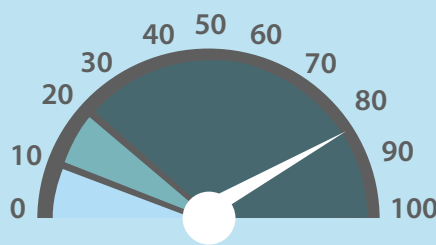
The first two graphs at the left compare levels of phosphorus between lake (red) and stream (blue) sites. Generally, the streams of the Macatawa Watershed tend to have higher levels, particularly during rain events. The graph at the bottom reflects the latest (2020) dashboard for Lake Macatawa; P levels continue to be well below their historical averages (200+), but work remains to reduce the levels of pollutants to healthy levels (<50).



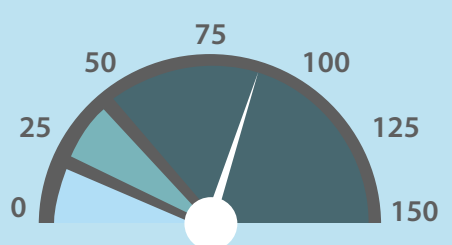
We have piloted a new, low cost stream gauge at Paw Paw Park this year. Developed by Dr. Jeremiah Asher from Michigan State University and in partnership with Ottawa County, this gauge uses acoustics to determine the distance from the bridge it's suspended from and the water below. We hope to expand this network and work on broadcasting the data in the future with other water-quality data.



WATER CLARITY



CHLOROPHYLL
CONCENTRATION



PHOSPHORUS
CONCENTRATIONS

View all of these reports in full at outdoordiscovery.org/project-clarity



A rain garden installed in the City of Holland with funds from the Great Lakes Restoration Initiative Stormwater grant.

Between grants held by the MACC and the ODC, we have secured nearly a million dollars in active state and federal funds, stretching the local dollars invested by the community that much farther. Here's a summary of our current grants we've worked on this year:

Great Lakes Commission Agricultural Grant

- Goals: 4,000 feet of grassed waterways, 1,450 acres of cover crops, 2,100 tons sediment and 3,500 pounds of phosphorus kept out of Lake Macatawa
- Progress: 3,600 feet of grassed waterways being designed, 1,500 acres of cover crop under contract
- Implemented: 1,120 acres of cover crops planted in

2020, 427 acres of cover crop planted so far in 2021, 240 tons of sediment and 525 pounds of phosphorus

- 2022 plans: finalize designs and implement grassed waterways, fall cover crop planting

Great Lakes Restoration Initiative Stormwater

- Goals: implement a volunteer rainscaping program, up to 5 private rainscaping installations, up to 20 curb-cut rain gardens with road reconstruction projects, and green infrastructure installations at 2 City of Holland properties, all capturing and managing 3 million gallons of stormwater annually
- Progress: City projects have been designed at Kollen Park and City Hall and are awaiting approval from the State Historic Preservation Office
- Implemented: 9 people participated in rainscaping volunteer training (spring 2021), 14 site assessments conducted, 2 private rain gardens installed, 9 curb cut rain gardens installed on 19th, 20th and 21st Streets, 320,000 gallons of stormwater captured annually
- 2022 plans: additional volunteer training, plant 2 more curb-cut rain gardens on College Ave, additional private rainscaping installations, construct City projects





Project Clarity partnered with the Ottawa County Water Resources Commission to construct nearly a mile of two-stage channel on the Harlem Drain in Park Township. Matching funds from the township made this project possible.

Great Lakes Restoration Initiative Trash Free Waters

- Goals: improve 80 acres of beach and riparian habitat, host 42 volunteer cleanup events, log 2,000 volunteer hours
- To date: 128 acres improved, 29 events held, 1,058 volunteer hours
- 2022 plans are still in development, but will include many more volunteer events and community outreach

EGLE Watershed Council Grant

- Awarded July 1, 2021
- Goal: develop engineered designs to restore a portion of the Tulip Intercounty Drain (North Branch Macatawa River)
- Future plans: secure funding for restoration work

MiCorps Maintenance Grant

- Awarded May 2021
- Supported staff time and purchase of equipment for macroinvertebrate monitoring program

EGLE Non-Point Source Grant

- Awarded June 2021
- Supporting the restoration of 1,950 feet of Peters Creek in Zeeland and Overisel Townships

MDARD Research Grant

- Awarded 2019
- Developing the use of iron slag filters in the Macatawa Watershed as a means to capture dissolved phosphorus from agricultural tile lines





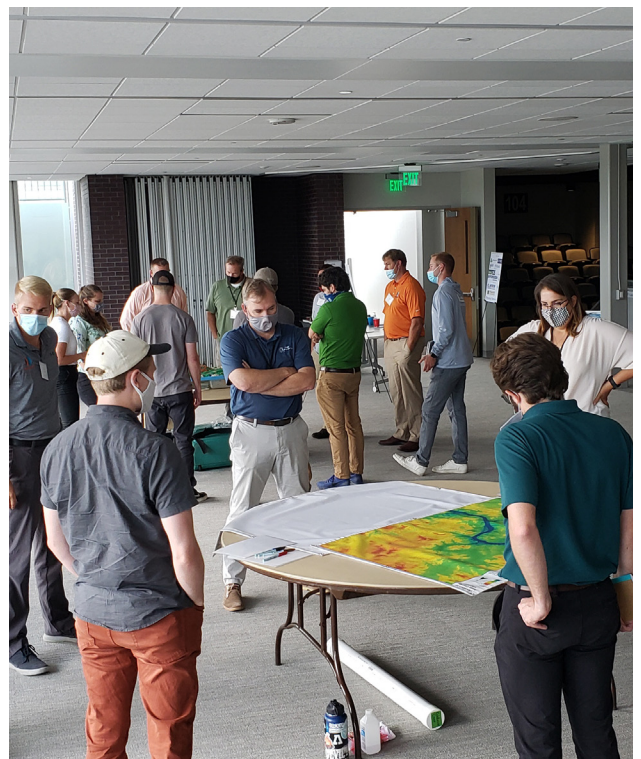
Cultivating Resilience 2021

Held in August at Dykhuis Farms, Cultivating Resilience was a field day for Ottawa and Allegan County farmers. Over 100 guests learned about techniques for no-till farming, soil health, cover crops, and weed control. This event was a partnership between the Ottawa and Allegan Conservation Districts, NRCS, the MACC, MDARD, and Nutrien Ag Solutions.



West Michigan Green Stormwater Infrastructure Seminar

Kelly has organized this program for the past several years, including this year's hybrid event held at the Holland Civic Center. It included presentations and interactive seminars for engineers, local government leaders and staff, and educators.





2021 Macatawa Water Festival

We hosted another successful water festival in July at Windmill Island. Over 2,000 guests attended the outdoor event, featuring games, fishing, crafts, workshops, and kayaking trips on the river. Numerous partners as well as the staff of Windmill Island again made this event a success.





Help Us in 2022!

We have had a number of volunteers help out with our work this year. This has included monitoring stream and lake conditions, collecting aquatic bugs to assess stream health, picking up trash, and helping plan and install green infrastructure. Many of these same projects will take place in 2022 — consider helping us out!



River Cleanups

May 21 • September 17

Macroinvertebrate Collection

May 12

Macatawa Water Festival

August 13

