

The Crucial Role of Partnerships in Protecting Eastern Ohio from Floods

By Craig Butler, MWCD Executive Director and Colonel Jayson Putnam, U.S. Army Corps of Engineers, Huntington District

Floods are the deadliest weather disasters in the United States, killing more Americans every year than hurricanes or tornadoes. As leaders in organizations whose missions include protecting lives and property from flooding, we know firsthand the devastation that flooding can inflict on our communities. Floods can literally wash away lives, homes, businesses, public infrastructure, and the environment. Moreover, they pose a significant threat to communities themselves, and can forever alter the character of the places we call home.

To the challenge of preventing and reducing the impact of floods, the U.S. Army Corps of Engineers (USACE) and MWCD each apply our respective expertise in engineering and water resource management, and a range of sophisticated—and expensive—tools including levees, dams, and flood control structures. Even with our technical know-how and resources, however, successful outcomes often depend on our working together. And sometimes, despite our best efforts and collaboration, Mother Nature wins the battle.

For more than 90 years the USACE and MWCD have been partners in flood mitigation in Eastern Ohio. The Muskingum River Watershed is historically prone to flooding, and in 1913 a flood in the watershed took the lives of nearly 500 residents, destroyed 69 bridges in the area and effectively wiped away Ohio's canal system. The cost of property destroyed and resulting economic losses exceeded \$300 million. This event, which remains the greatest natural disaster in Ohio history to this day, was the impetus to creating the MWCD and starting its collaboration with the USACE.

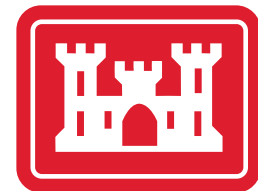
The USACE operates and maintains the 16 dams on MWCD property and the MWCD cost shares major dam safety modifications as well as owns and operates the lakes and parks.

Just as both agencies work in close collaboration with each other, we both also partner with local organizations throughout Eastern Ohio to advance flood mitigation and prevention. First, there is not a monopoly on good ideas or

insights, so having other frontline partners expands what you know and how fast you know it. Despite all the technology we have today, it does not replace firsthand, human intelligence when working in the natural environment where things change rapidly. Second, local partnerships foster community engagement and support, which is essential for the success and sustainability of flood management initiatives. Finally, local partnerships enable the pooling of resources and expertise, maximizing the effectiveness of flood mitigation efforts.

Though the Corps of Engineers and MWCD are each large organizations with strong budgets and the ability to hire experts in dam operations and watershed management, we still lean on each other to protect Eastern Ohio residents and their homes, farms, and businesses. Similarly, together, and separately we have a network of smaller, local partners that share our missions, and which amplify our mutual success—all for the purpose of protecting lives and property.

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**MUSKINGUM
WATERSHED**
CONSERVANCY DISTRICT

The USACE and MWCD work in close collaboration to advance flood mitigation and prevention.

Make Your Plans for Summer Fun!

Programs are offered each week throughout the season, May through September, at Atwood, Charles Mill, Pleasant Hill, Seneca, and Tappan Lake Parks. Additional programs are scheduled at Clendening and Piedmont Lakes. Programs are open to campers, community members, and daily visitors.



Second Saturdays at Tappan Lake Park

Enjoy vendors, food trucks, music, and activities at the beach. Each date has a theme and will feature different vendors. To become a vendor, contact 330-343-6647.

June 8 – Farm to Table | July 13 – Car Show | August 10 – Art in the Park

Go Kayaking

Choose from a variety of kayak programs at MWCD lakes. Try kayaking for the first time or explore a lake on a guided tour, all while learning to be safe. Compete for a chance to win a kayak at one of our Poker Paddles, or paddle under the stars on a guided Meteor Shower or Moonlight Kayak tour. Find the perfect kayak event to float your boat!

Attend a Day Camp

Get the kids outdoors this summer. Day camps are designed to provide a fun and safe place for kids, ages 8-16, to explore nature, have fun, and learn a new skill. Each camp is designed with a special theme and age-appropriate activities for a full day at the lake. Day camp themes include Adventure Camp, Wild Things Camp, It's All Fun and Games, Space Exploration, Messy Play, Outdoor Cooking, and Creative Crafts Day Camp. Registration is required for all day camps.

Watch a Movie at the Lake

Bring your family or friends to watch a movie on the BIG screen outdoors at the lake. Movies are scheduled throughout the summer. Due to copyright restrictions, movie titles are posted at each park or message the park on Facebook.

Take a Hike

MWCD Lakes offer a variety of hiking trails for beginners or experienced hikers. Get outside on your own or join a guided hike. Guided hikes include nature hikes, night hikes, and scavenger hikes. View hiking maps at www.MWCD.org/trails.

Princess in the Park is Back

This ever-popular event is back at Atwood and Charles Mill Lake Parks! Dress in your royal finest and enjoy an enchanted day at the lake! Each princess will participate in a craft, royal tea party and snack, face painting, and horse-drawn carriage ride through the park. Make your princess dreams come true at the lake! Space is limited and registration is required.

Some programs require pre-registration. Program details can be found online at www.MWCD.org/events

Don't Miss Fireworks Over the Lake!

Fireworks shows begin at dusk and can be viewed from land or water!

July 5 - Tappan | July 6 - Atwood, Charles Mill and Seneca | July 20 - Pleasant Hill

From Operation Dry Water to Advanced Training, MWCD Rangers are Committed to Safety

By Patrick Brockmeier, Chief Ranger



Operation Dry Water

MWCD will once again participate in Operation Dry Water. During this annual, heightened awareness and enforcement three-day weekend, law enforcement officers will be on heightened alert for those violating Ohio's Boating Under the Influence (BUI) laws. Our mission is to protect boaters.

Law enforcement agencies that participate in Operation Dry Water are asked to increase BUI enforcement during the targeted enforcement weekend of July 4 - 6, as well as work with their local media, businesses, and recreational boaters to spread the message and raise awareness of the dangers of boating under the influence during the heightened enforcement weekend and throughout the year.

Ranger Training

MWCD Rangers are well-trained professional officers, who pride themselves on staying up to date on essential training for law enforcement. Rangers are required to take Lexipol monthly training bulletins and complete yearly continuing professional training and firearms requalification through the state. Lake Patrol Rangers must take and pass a marine patrol course through ODNR. We have several who have become OBEC instructors and teach boating laws and safety to the boating community.

Why do we take training so seriously? The answer is simple. To assure the safety of our visitors. Rangers have a balanced skill set and can respond appropriately to a variety of situations, effectively minimizing harm and maintaining public trust. Ongoing training and reinforcement of these skills are key to maintaining proficiency and promoting positive outcomes.

Ranger Education Specialist Ensures Proper Training

The MWCD Ranger Department has a Ranger Education Specialist officer who is responsible for establishing yearly training for the rangers. Rangers participate in hundreds of hours of training and we have had several rangers taking training to the next level to become instructors for a variety of law enforcement disciplines. These include CPR, first aid, de-escalating suicidal individuals through the QRP Institute, and electronic immobilization devices.

I am proud to say we also have six firearms instructors on staff. Having these extra firearm instructors allows us to participate in additional training with our duty weapons and has improved our proficiency as a department. To recognize these skills, we implemented the first annual Top Shot Competition.



Congratulations to: Chuck Teisinger (right) of Seneca Lake Park (South Region): Ranger Category Top Shot

Luke Pace (left), Ranger Supervisor of the Central Region: Ranger Firearm Instructor Category

National Night Out in the USA Promotes Community Safety

On August 6, our Rangers will participate with other law enforcement agencies for National Night Out, a community-building campaign that promotes police-community partnerships. Please join us to learn more about our trainings, programs and equipment.

Partnerships Cont.

This also reinforces the fact that the best and most effective responses to disasters, should they occur, start at the local level, and are amplified by external organizations.

The lesson in all of this is that no single leader, government, or organization can ever have all the know-how it needs to fulfill such an essential, complex, and multi-faceted mission as protecting Eastern

Ohio from flooding. When other missions such as the conservation of wild spaces and recreation opportunities are added, the need for collaboration becomes even more true. We are proud of what our organizations have accomplished together and of the relationships that exist with other groups that share our mission. The example of the value and success of collaboration in natural resources management is an

important one that we hope other organizations can learn and benefit from as we work to make Eastern Ohio a better, more prosperous place to live and work. We will stay connected and not rest on our laurels. We know there is more work to do and we, jointly with our local partners, will identify new opportunities and challenges and take actions to protect property and lives.

Stewardship in Action: MWCD's Earth Day Events Foster Environmental Conservation and Community Involvement

By Matt Thomas, Chief of Conservation

In recognition of Earth Day, MWCD provided a variety of activities for visitors and our communities throughout the District. As an organization whose mission is the stewardship of our natural world for the safety of life and property, recreation, and conservation, this is a natural time for us to work with partners to tell our story and invite more people to share our work and visit our lakes and parks.

I am proud to report that our work this year was a huge success and our efforts paid off.

Tire Take Back

One of the largest successes was the Tire Take Back event at Atwood Lake

Park, sponsored by Kraton Chemical of Dover, Encino Energy, and the Muskingum Watershed Conservancy Foundation (MWCF). We knew it was going to be a big day when, at 7:30 a.m., people were already lined up for the 8:00 a.m. start. And big it was. While we were aiming for approximately 2,500 lbs. of tires, in the end we received over 33,000 lbs. and more than 1,100 individual tires. That's 1,100 tires that might otherwise have been tossed into MWCD lakes or dumped in the countryside, negatively impacting water quality, or collecting water and spawning mosquitoes. With the help of Willig Tire Recycling, the event was a big success.

Earth Day Cleanup

Another waste diversion effort, the Earth Day Clean Up, was held across the District and drew more than 300 participants. Each participating household received a free night of camping at an MWCD campground for their efforts. We are, of course, excited about any effort to help clean up and protect our parks' natural beauty, but when that also draws more visitors it's an extended win. Additionally, groups that participated in our Earth Day challenge spent time outdoors and aided in the cleanup efforts.

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PWM Grants Support Sustainable Stormwater Management to Help Local Communities

By Dave Lautenschleger, Chief of Engineering

Since the spring edition of Lake Views was published, the Muskingum system was tested during April rains that brought 5.73 inches to the New Philadelphia area, 5.87 inches to the Zanesville area, 5.94 inches to the Marietta area, and 4.89 inches to the Mansfield area. Clendening, Leesville, and Piedmont lake regions experienced the heaviest rains: Clendening received 7.80 inches of rain, Leesville received 9.29 inches of rain, and Piedmont experienced 8.07 inches of rain. These rains generated a substantial amount of water and the system of 16 dams and lakes performed as designed, strategically holding water where needed, preventing serious damage. The MWCD reservoirs held approximately 28 billion gallons of additional water above what is called the “summer pool” elevation. However, they are designed to hold 107 billion gallons of additional water during flood events. How much is that? If you wanted to fill Ohio Stadium at The Ohio State University with water, it would take over 466,000,000 gallons of water, which means you could fill the stadium about 230 times!

In short, the dams and reservoirs are designed to handle large flooding events and are more than capable of controlling the rain volumes to prevent and minimize flooding. But what about the local issues and smaller events impacting communities and residents, day-to-day transportation, and emergency responders? This is where our Partners in Watershed Management (PWM) grant program

comes in to play. Since 2009, we have provided over \$12 million to all MWCD counties for 190 projects.

One of PWM’s goals this year is to implement Best Management Practices (BMPs) that focus on flood mitigation for smaller localized communities impacted by flooding. The primary focus will be encouraging more communities to move away from Gray Storm Stormwater infrastructure and introduce more Green Stormwater Infrastructure (GSI) methods.

Gray Stormwater Infrastructure refers to traditional stormwater management systems that primarily rely on engineered structures such as concrete catch basins, manholes, and culverts to manage stormwater runoff. While these methods have been used for many years and effectively manage stormwater in urban areas, they have high installation and maintenance costs. They can also contribute to water pollution by transporting pollutants directly to water bodies and may intensify flooding in downstream areas due to the rapid movement of stormwater runoff. In short, we want to slow the water down, not speed it up.

There is growing interest in complementing gray infrastructure with Green Stormwater Infrastructure (GSI), which utilizes natural processes and vegetation to manage

stormwater runoff more sustainably and effectively. This can be achieved in multiple ways. GSI refers to various practices and systems designed to

manage stormwater runoff more sustainably and environmentally friendly. These practices can help absorb and filter stormwater, reduce runoff volume, and improve water quality. Here are some common examples:

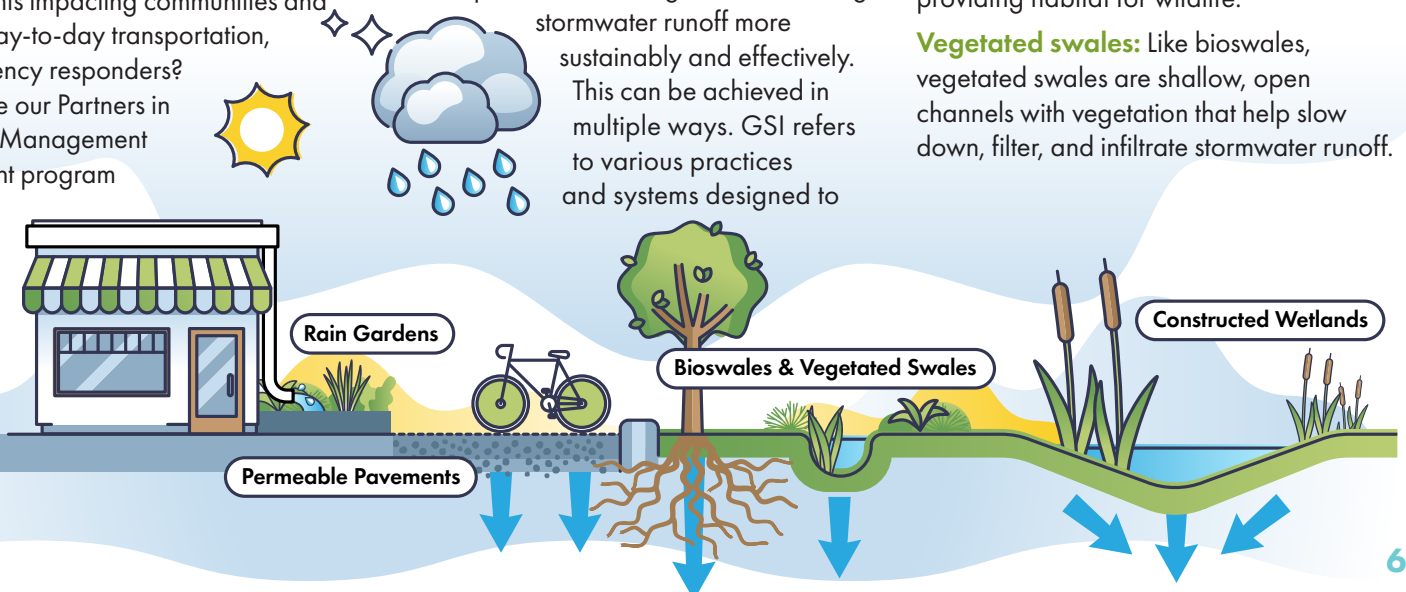
Rain gardens: These are shallow, vegetated basins designed to capture and absorb stormwater runoff from impervious surfaces like rooftops, driveways, and sidewalks. They use native plants to help filter pollutants and recharge groundwater.

Permeable pavements: These are surfaces, such as porous asphalt, pervious concrete, or permeable interlocking pavers, that allow rainwater to infiltrate into the ground rather than run off. They help to reduce stormwater volume and filter pollutants.

Bioswales: These are landscape elements designed to capture, filter, and convey stormwater runoff. They are typically vegetated channels or depressions that slow down and filter runoff, removing pollutants and replenishing groundwater.

Constructed wetlands: These are engineered ecosystems designed to mimic the functions of natural wetlands. They can treat stormwater runoff by capturing pollutants, reducing flooding, and providing habitat for wildlife.

Vegetated swales: Like bioswales, vegetated swales are shallow, open channels with vegetation that help slow down, filter, and infiltrate stormwater runoff.





Scenes from April 2024 rains

These green stormwater infrastructure practices can be used alone or in combination to help manage stormwater in urban and suburban areas while providing additional environmental benefits.

MWCD is partnering with a consulting firm specializing in water resources to create a list of these options over the next several months. The team will review existing floodplain management BMPs from other Ohio entities and compile information to create a Floodplain Management BMP memorandum, including best practices, standards, and lessons learned for flood mitigation BMPs for MWCD. The

memorandum will include narratives, figures, drawings, design guidance, and maintenance and operations requirements for each BMP. This data will then be made available to prospective PWM applicants.

In addition to reviewing Green Stormwater Infrastructure BMPs, an updated funding matrix of stormwater and flood mitigation grant dollars will be made available to applicants to use to help leverage PWM and local cost-share dollars. It is our goal that by creating a mechanism that outlines these BMPs and providing additional funding options, more PWM applicants embrace this method of flood mitigation.

Stewardship Cont.

These individuals were entered into a random drawing for prize-filled coolers. Additional giveaways were sponsored by Infinity Natural Resources, Encino Energy, and MWCF.

Tree Planting and Giveaway

Our tree planting and tree giveaway efforts were two other big highlights. With the support of the Williams Companies, around 900 native trees were given away to be planted on private property. Not only will these trees beautify our area, but they will provide new habitat for wildlife, contribute to clean air, and help control water runoff. Only a few trees remained unclaimed and were donated to the Camp TuscaZoar Foundation.

At Clendening Lake we partnered with MPLX to plant native fruit and nut trees near the marina. Altogether, the company's

\$3,000 grant helped provide upward of 100 trees to help beautify and upgrade the land surrounding the marina, and the company's employees, with the help of Gulfport volunteers, came out to help us plant them and clean up the surrounding area. I look forward to watching these trees mature.

We are grateful for our partners who helped sponsor these and other events and, as Chief of Conservation, I am grateful to all those that participated in making these successes happen. Everything we do, from the smallest effort to the largest one, begins and ends with individual commitment to our mission and efforts to carry it out. The people of our region are fortunate to have such dedicated and caring individuals who help make our communities and natural resources thrive.

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Lake Views



CATCH A LINE ON MWCD EMPLOYMENT OPPORTUNITIES

The Muskingum Watershed Conservancy District has a variety of full-time and seasonal employment opportunities. Whether you are in high school, college, or advancing your career, we have opportunities for everyone.

Types of positions include: park and marina staff, law enforcement and security services, engineering, maintenance/grounds keeping, gate attendant, cleaning staff, and beach attendant.

For more information, please visit www.MWCD.org.