

Here and Now

Mill Creek: A Hidden Corridor of Resurged Waterways



Mill Creek was a hotspot for fishing this year. Amateurs and pros alike tested their skills among the riffing waters and were rewarded with some prized fish. Thriving species including: saugers, walleyes, rock bass, blue gill, and hybrid white striped bass have been caught and released this year in the Mill Creek. Thanks to slews of volunteers and restoration events, restored forests along the riverbanks have been fortified with native plants. These plants then help sustain growing insect populations which help sustain the growing fish populations as they disperse among the 28 river miles of Mill Creek.

Thousands of hours have gone into reclaiming and restoring Cincinnati's hidden corridor. This urban waterway begins in Liberty Township transecting 37 municipalities and neighborhoods until it reaches the mouth at the Ohio River. Though it is overlooked by most of the 450,000 residents of the watershed, wildlife have not skipped a beat in returning to the riverbanks and riparian forests. Bald eagles have been seen perching and flying among the tree canopy along with a vast array of migratory birds that use the riparian forest as a protected route to travel. This hidden oasis provides water, food, and shelter for all inhabitants including beavers, turtles, pollinators, and amphibians. "THE CREEK IS BACK! I am 48 years old and what I am doing, as far as catching all of these fish in such abundance, has never been done before on Mill Creek in my lifetime! I'm telling you this watershed is as healthy as any other in this state." Shawn Tyler, local angler of Cincinnati

More than a dozen volunteer restoration events took place along the Mill Creek encouraging more than 700 volunteers to remove (shallow rooted) invasive species and plant (deep rooted) native trees. The deeper roots deter erosion by providing stream bank stability and the native trees can store water which can help reduce flooding. The trees not only provide safety for the wildlife, but also provide ecological services to the human inhabitants. Our watershed is being restored and the diversity of fish in the water is testament to the water quality. For a long time, fishing on Mill Creek was only a dream, but here we are now, fishing, paddling, and exploring the hidden corridor of resurged waterways.



DONATE TODAY

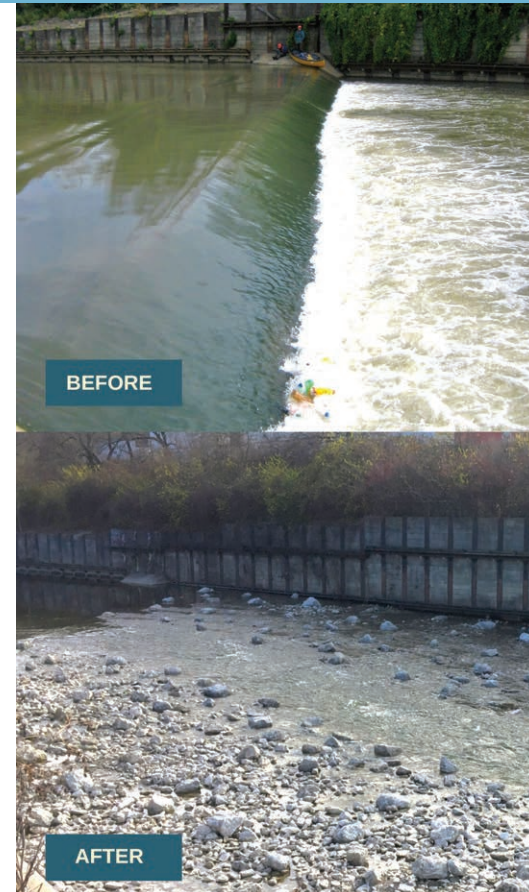
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#MillCreekRestoration

DONATE to Restore

Low head dams in the Mill Creek are a result of crisscrossing sewer lines that transfer liquid waste to the Gest Street sewage treatment plant. While most of the dams in the Mill Creek watershed are small, the height of only a few feet, they are nevertheless fish barriers and paddling hazards. There were once 20+ such barriers on the Mill Creek, but this has been reduced now to just six! These utility lines are necessary infrastructure that cannot be removed. Nonetheless, they can be mitigated to restore valuable ecosystem services and functions.

To aid the fish and reconnect the aquatic communities, MCA has funding and plans to mitigate two more of the remaining low-head dams in the Mill Creek. Both projects cost an estimated \$230,000 which is funded with federal dollars through the Ohio EPA §319 program. The first low head dam mitigation site is located at River Mile 12.2 in Arlington Heights. The second, located at River Mile 12.0, is known as “Bonecrusher Falls,” a dangerous obstacle to paddlers. The existing high-energy, 2-4 foot high waterfalls will be replaced by gently sloping riffles similarly seen in the BEFORE/AFTER photos from Northside to the right. These massive underwater rock ramps will allow fish, turtles, and other creatures reliable passage through the aquatic corridor.



#MillCreekRecreation

DONATE to Explore



Today, an urban stream adventure on Mill Creek can consist of bright blue skies, a soaring bald eagle, and evidence of urbanization. Dozens of shopping carts, a mountain of tires, and thousands of pounds of miscellaneous recyclable metal scrap have been removed from the waterway by some of Mill Creek's greatest champions of the water's resurgence. The Mill Creek Yacht Club, our intrepid explorers of the creek, has spent hundreds of volunteer hours this past year cleaning our watershed. The impact on the landscape is spectacular and by removing these hazards from the waterway, Mill Creek has metamorphosed into a more inviting, safer waterway for recreation.

Two hundred paddlers including council members, city officials, water quality scientists, university students, and local residents and families took their first guided adventure on the water. Some described the waterway as a secret forest, engulfed in life on both sides of the banks. Students are often taken aback that we are surrounded by forests and yet only a few minutes walking distance from a gas station or minimart at all times.

Highways, train tracks, and unfortunate planning has resulted in communities being separated from the waterway. Community events through the 2022 season aimed to reconnect residents to the Mill Creek and remind them that this waterway has great potential. The watershed has also been rediscovered by groups of trail advocates with plans to extend the greenway trail system. Mill Creek is once again a sought-after urban asset. Don't miss the boat; join us for an urban stream adventure, get inducted into The Mill Creek Yacht Club, and explore Mill Creek!



Melody Feazel

"Most of my time as a Social Media Marketing and Outreach Intern with Mill Creek Alliance was in the fresh air; I was able to enjoy and take advantage of working outside in an increasingly digitized world. I got much out of my summer that way and picked up some useful skills that can be used in any backyard or to explore another local watershed."

Chauncey Luce

"I got to see parts of the environment within my city in a way that I never had before; I had no reason to go down to see the channelization of Mill Creek near Western Hills Viaduct, or to look at the stream next to a Menards and think twice about why it's shaped the way it is. So much work has been going on for decades that nobody really notices, and working with MCA opened my eyes to a new world of environmental activism that has helped me peer behind that curtain."

Grace Behrman

"Working at the Mill Creek Alliance has truly been one of the highlights of my college career. As the Blue Team Lab Leader, my role is to assist with coordinating Saturday sampling events and data entry. I remember writing my name on the sign-in sheet under 'Lab Manager;' it felt so surreal. I immediately snapped a picture to send to my parents!"

Rayah Brumley

"Much of my research began with the Midwest Biodiversity Institute (MBI) report which includes data on the species that live in polluted sites versus the species that live in the excellent quality sites as a form of habitat health assessment. This internship has taught me a lot about the watershed and what goes into restoring it and also that a lot can be assessed in terms of water quality depending on what kinds of species live in the water. Mill Creek is abundant with a wide array of species."

Mary Bahala

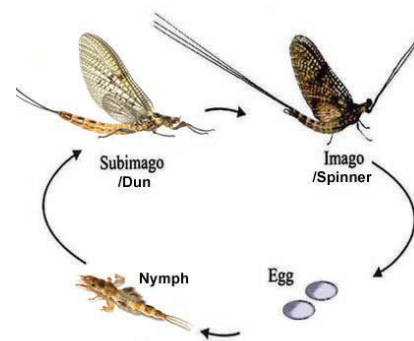
"I chose to work with this agency for my senior capstone project at MND because of its mission 'To champion the resurgence of the Mill Creek watershed as a natural and community asset. We envision the watershed as a healthy ecosystem where people and communities can thrive!'"

This was one of my first experiences working with adults outside of school which pushed me to adapt my critical thinking and communication skills as well as build confidence to present science lessons with students and adults without feeling timid or nervous."

Mayflies (*Ephemeroptera*) are important macroinvertebrates, visible organisms without backbones. These prolific insects provide sustenance to the growing fish populations and also help regulate nitrogen levels in the water. Mayfly nymphs are primarily herbivores that devour decomposing leaves and organic matter called detritus. Mayflies are pivotal in their ecosystem role as a decomposer, primary consumer and prey. The process of decomposition can produce nitrogen and when too many leaves are decomposing, there can become an overabundance of nitrogen. Though it is an essential nutrient, too much nitrogen in a closed environment can result in devastating algae blooms which can negatively impact other aquatic organisms. Mayflies thus regulate the process of decomposition by consuming the detritus and convert the matter into ammonia instead.



Like the butterfly, these insects metamorphose through four cycles: the **egg**, **nymph** (swimming stage), **subimago** (immature adult), and **imago** (mature adult). For the nymph to thrive, it can tolerate only so much contamination before it perishes. When these creatures are discovered to be in sections of Mill Creek, it is an excellent indication of the improved water quality that has occurred in the



waterway. The Midwest Biodiversity Institute (MBI) recently published a report of their findings in Ohio's waterways which includes various testing sites in Mill Creek. MBI uses various data sets to calculate the Invertebrate Community Index Number which helps qualitatively assess the waterway. One of their published findings reports an (ICI) of 46 (exceptional) at a sampling site in the Mill Creek with a total mayfly nymph percentage of 35%. Though insects may not be everyone's favorite, having these mayflies present is an excellent indication of a thriving ecosystem.

Mill Creek Alliance introduced more than 300 students to the watershed by formal and informal ecological lessons. The focus of our education programs is geared towards connecting students to the hidden corridor underneath their noses. From the den of gray rat snakes, to the family of deer, to the kaleidoscopes of butterflies, this watershed is a living classroom and wildlife refuge. We can access the waterway and work alongside students performing biological and chemical assessments of the water. Students temporarily collect macroinvertebrate organisms and then categorize those creatures into pollutant tolerant subgroups for interpretation. The students get truly immersed with their hands dirty and feet wet during these captivating ecology lessons.

We further our understanding of water quality by collecting chemical data as well. For example, dissolved oxygen and turbidity testing can really solidify the student's understanding of 'why clean water matters.' Turbidity or the general cloudiness of the water can connect students with the food web since turbidity can affect predators, prey, and photosynthesizers. The dissolved oxygen test is really exciting not only because of the color change during the experiment, but also because the students are able to connect with an invisible gas. They see first-hand the impact temperature, plant abundance, and riffles have on fluctuating oxygen levels in the water.



Ecology is a powerfully engaging science that strengthens a multitude of skills and concepts. Being physically present in the environment, students are able to hear, feel, see, and smell the science while observing and recording in real time. These students further strengthen their communication skills, their balance, and even hand eye coordination while exploring Mill Creek. Teaching about the resurged waterway and its inhabitants is pivotal to our mission; we are confident that these students' positive interactions with the Mill Creek will lead to a cleaner, healthier watershed for all.

Upcoming Events

- 1/21 Seed Bombs & Winter Sowing Workshop 10am-12pm
- 2/1 WQM Training is Published and Available Online (Virtual)
- 2/4 Workparty in the Watershed (1st Saturday/month) 10am-1pm
- 2/13 Monthly MCYC meeting (2nd Monday/month) 5-8pm
- 3/1 State of the Mill Creek Address at Gorman Heritage Farms 6:30-9pm
- 3/11 Water Quality Monitoring Begins (2nd Saturday/month)
- 4/21 Mill Creek Valley Cleanup by Canoe 9am-2pm
- 5/20 Urban Stream Adventure 9am-2pm
- 6/24 Pop-up Canoe Livery 9am-2pm

*For event additions and details, visit our website:
themillcreekalliance.org/calendar-of-events*

Get involved today!



Invest in Your Local Watershed

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