

Raccoon Creek News

Fall 2020

Staying Connected to Our Watershed

A Letter From the Chair

Nora Sullivan – RCP Chair

According to the website CharityNavigator.org, 83% of non-profit organizations report experiencing economic hardships during the COVID-19 global pandemic. Raccoon Creek Partnership is lucky that we are able to continue our environmental monitoring through support from our partners, the Ohio Department of Natural Resources, Ohio University, and others. More difficult to maintain are the fun things we try to bring to our community. Our AmeriCorps members volunteer a year (or more!) of their lives to organize camps, canoe floats, school field trips, classroom activities, owl prowls, and much more. Most of the funding to do those things comes from donations from our members and community. The fact is, if we could do these for free, we would, but we all know that's not the world we live in.

As a member-based, non-profit organization, we rely on the generosity of folks like you who understand that by restoring and protecting Raccoon Creek, we are protecting the future. Since this pandemic began, we have been unable to be active in the community: we had to cancel Family Outdoors Day, no Paw Paw festival, no kayak raffle, and worst of all, no camp. Aside from the fact that we love having these events, we have also missed out on them as fundraising opportunities. We know that the social, environmental, and economic impacts of COVID-19 are tremendous, and the whole world will be managing them for years to come.

Yet we are committed to continuing our mission to healthy watersheds, and healthy communities. We are still here, and we're making plans for a huge party to celebrate the Ohio EPA's reclassification of 40 miles of Raccoon Creek as Exceptional Warmwater Habitat. That is the BEST rating they can give Raccoon Creek, and the best validation we can get that our work is paying off!

We are deeply grateful for your continued support, and though we realize that times are tough all over, we ask you consider an additional donation to support the work of Raccoon Creek Partnership if you are able. If you would like to make a donation to the Raccoon Creek Partnership, please visit our website www.raccooncreek.org and click the DONATE button, or, send a check made out to RACCOON CREEK PARTNERSHIP to: Raccoon Creek Partnership, c/o Amy Mackey, Building 22, The Ridges, Athens, OH 45701. Stay safe, and we hope to see you on Raccoon Creek when the pandemic is over!

RCP Apple Tree Fundraiser

By Ashley Smith – RCP AmeriCorps Member

This year in the last week of March, RCP was going to have an apple grafting workshop. Along with most events in 2020, the apple grafting workshop was canceled. Due to the last minute cancellation of the workshop, we had already acquired all the supplies needed for grafting the trees so Raccoon Creek Watershed Coordinator, Amy Mackey, grafted all the rootstock and scions. After the trees were grafted, Nora Sullivan and Natalie Kruse Daniels potted and cared for the trees until they were ready to be planted.

The apple tree fundraiser was a huge success with all the trees being spoken for in just one day! We would like to thank Derek Mills from Hocking Hill Orchard for providing an impressive variety of heirloom scions and for his generosity, assistance, and knowledge! Another thanks goes out to everyone who gave a donation for apple trees, we wish you plentiful harvest in the future!



ATHENS

GALLIA

HOCKING

JACKSON

MEIGS

VINTON

Carbondale Doser Emergency Maintenance

By Amy Mackey – Raccoon Creek Watershed Coordinator, Ohio University Voinovich School

The Carbondale Doser is an active acid mine drainage (AMD) treatment project in the Hewett Fork subwatershed of Raccoon Creek, in western Athens County. The doser dispenses granular calcium oxide, an alkaline material, into the acidic and metal laden drainage from the Rice Hocking mine. This mine, abandoned in the 1920s, drains an underground room and pillar mine complex that spans from Nelsonville to Carbondale. The granular calcium oxide dispensed from the doser comes from Greer Lime in West Virginia and is dispensed at a rate of 500-800 pounds per day; treating not only the AMD discharges at Carbondale, but also downstream AMD tributaries, Trace Run and Carbondale Creek.

The Aqua-fix doser was installed in 2004 with funding from ODNR Division of Mineral Resources Management, Ohio EPA, and Office of Surface Mining. This doser is powered entirely by the underground mine discharge on site. Mine water is piped into the doser house where it turns a water wheel, which turns an auger, which dispenses the calcium oxide. The dispensing rate (rate of treatment) is controlled by opening or closing the valve that governs the flow of water over the water wheel. Dosers, though extremely effective at neutralizing AMD, are very maintenance intensive. Carbondale Doser maintenance is performed primarily by Ohio University staff and watershed AmeriCorps members with ongoing maintenance funding provided by ODNR Division of Mineral Resources Management (ODNR DMRM). Regularly scheduled maintenance at the doser consists of weekly pH checks and lubricating the chain and bearings, quarterly water wheel cleaning and valve exercising, and as-needed cleaning the mixing channel to remove unreacted material.

Occasionally, unexpected maintenance emergencies occur at the Carbondale Doser that require all hands on deck. One such emergency occurred this summer. On July 13th, during regularly scheduled weekly maintenance, the pH in the channel was a 4 instead of the typical 9. Upon further investigation, it was discovered that although water was coming into the doser house, the wheel and auger were not turning. Most doser maintenance tasks can be completed in house with the assistance of ODNR DMRM staff. However, this task was a bit more complicated than most. To access the auger (to determine if it was jammed with a foreign object, broken, seized, etc.) there is an access panel that can be removed at the bottom of the silo. Before opening that panel, the slide gate must be closed to prevent the calcium oxide from pouring uncontrollably into the doser house. Unfortunately, we discovered that the slide gate would not close completely, which means the access panel could not be removed. Time to call in the professionals! Aqua-fix, the West Virginia based company that originally installed the doser, was contracted to replace all of the interior components of the doser. With the exception of chains, gearboxes, bearings, and sprockets, all of the doser components were original to the 2004 doser installation.

During the replacement of the doser mechanism, the cause of the malfunction was determined. A pair of pliers and a wing nut had been thrown into the silo by vandals and jammed the auger. The month prior to the doser break down, there had been several incidents of vandalism at the Carbondale doser including attempted break-ins, cutting locks, and climbing on the doser house. Not only is this behavior illegal and dangerous, but it results in costly repairs and degradation of the biological communities downstream of the doser. Increased signage and educational materials are being developed for the Carbondale doser to prevent these incidences in the future. Thanks to all our partners who helped us get the doser back up and running!



Raccoon Creek Partnership Interns of Summer 2020

This year Raccoon Creek Partnership was fortunate to have the help of two interns through a high school internship program ran by Rural Action and Allison Rickett. Originally the interns' main task was to assist with summer camp, but unfortunately, summer camp was canceled. Even though camp was canceled our interns still stuck with us and helped with tasks that needed to be done. Raccoon Creek Partnership would like to thank both Ella Karagosian and Maellie Jean-Francois for all the work they put in their internship! We asked both Ella and Maellie to write about themselves and what they enjoyed about their internship. Here's what they had to say!

Hello! My name is Maellie Jean-Francois. I graduated from Athens High School this past May 2020. I am currently attending Ohio University and majoring in Interior Architecture. I found my internship this spring through Rural Action and my high school, and was assigned to work with Raccoon Creek Partnership. During my internship, I have learned a lot about the lasting effects of acid mine drainage in Southeast Ohio, how to identify different types of organisms in and surrounding the water, and all about the maintenance and care necessary for some of the project sites that help restore the quality of the water along the watershed. I created a lesson plan for future summer camps with the guidance and resources provided by my internship leaders. I gained the opportunity to explore a lot of places in Ohio that I have never been to before, which was a great thing to be able to do especially during a summer like this. I was quarantined for a long time before I started to leave my house every week for this internship. I am a very active person and love the outdoors so that, combined with being cooped up for a long time, definitely made the experience 10 times better. It also provided me with an opportunity to meet and work with some very hard-working people, my internship leaders Ashley and Kelly, and my internship co-worker Ella. It is very inspiring and motivating to work with people who are so passionate about their work and bettering the world around them. This internship was one of the highlights of my summer and I am so glad that I got to be a part of something that helps several communities and the environment!



Hello! My name is Ella Karagosian and I am an upcoming senior at Alexander High School in Albany, Ohio. During my high school years, I have been a part of my schools Leo Club, FFA, Peer Collaboration, Student Council, Prom Committee and Track and Field team. After graduating high school I plan on attending Ohio University to study Biology on the Pre-Veterinary pathway. This summer I joined Raccoon Creek Partnership as an intern. This internship stuck out to me from the beginning because I enjoy being outdoors and getting my hands dirty. I have learned so much from our two advisors over the summer. We have visited many of the creek's historical sites all summer and learned about each place that we traveled to. My favorite memory this summer with Raccoon Creek Partnership was exploring Moonville and King's Hollow tunnel and having picnics together throughout the summer.



Congratulations Miles!

Here's a follow up on Miles Makosky's research project for the 2020 Ohio Academy of Science District 12 Science Day. Due to his hard work and addressing local watershed research, Miles was awarded the Ohio University's Voinovich School of Leadership and Public Affairs Watershed Science Award. His research project focused on the effects of acid mine drainage on plant growth.

Here's what Miles had to say about his project; "In my project I tried to deduce how water with local contaminants effected plants. I did this through observing the growth of plants in the different waters. My hypothesis was that the water with the least contaminants (the control) would grow the healthiest and biggest, while the others would soon die off. While this is close to what happened, it is not exact. The plants with the control did grow the healthiest and most consistent, but the others actually prospered. While the acid mine drainage caused the plants to act inconsistent, it did not do as much damage to the plants as I predicted. Perhaps a longer study would find more substantial data or more extreme results."



Help Stop the Spread of Aquatic Invasives!

By Ashley Smith – RCP AmeriCorps Member

Most if not all watersheds around the globe are negatively impacted by invasive species, the Raccoon Creek watershed is no exception. Non-native species are brought into new environments where they thrive and often out-compete native species and change the balance of the ecosystem. Some invasive species are intentionally introduced to new areas (as a food source, or to serve a purpose in the ecosystem) while others are by accident (ship ballast water, bait bucket releases, hitchhikers on equipment and boats, etc). Pet owners and aquarists often release exotic species into local waterways not knowing the negative impacts of those rereleases onto the native habitat. In order to reduce the spread of aquatic invasive species, RCP is distributing signs around the Raccoon Creek watershed and surrounding areas to increase awareness and to lessen the negative impact of invasive species. Funds for the signs was provided by a Quidel CARES grant.

These signs give helpful information on what citizens can do to help stop the spread of aquatic invasive. To date, we have delivered over thirty signs to local canoe liveries, soil and water conservation districts, and other areas frequented by outdoor enthusiasts. We challenge you to spot some around the watershed! If you spot a sign somewhere please e-mail: raccooncreekpartnership@gmail.com. We would be delighted to know that these signs are being viewed. If you know of a location that would benefit from an invasive species sign please message the e-mail above.

Help stop the spread of AQUATIC INVASIVES!



Bighead Carp
Hypophthalmichthys nobilis

What are Invasive species?

The National Invasive Species Council defines invasive species as those that are both non-native and causing harm to a particular ecosystem or to human health. Prevention is the best way to protect our waterways from the harmful effects of aquatic invasive species!

How can you help?

- **Do not release pets or plants into the environment or storm drains!** Instead, donate live organisms to other interested owners, aquariums, or schools. Aquatic plants can be sealed in plastic bags and disposed of with trash.
- **Wash boats and equipment between water bodies!** Anything that comes into contact with water can transport aquatic invasives. Drain livewells and remove all visible plants or organisms from boats and equipment before leaving the dock. Properly clean all equipment with hot water or an approved sanitizer and allow it to dry before next use.
- **Do not release live bait!** Invasive species can enter water if live bait is dumped in water or on nearby land. Instead, dispose of these organisms in the garbage and drain the bait container on land away from the waterway.



Purple Loosestrife
Lythrum salicaria



Asian Clam
Corbicula fluminea

For more information:

OSU Field Guide to Aquatic Invasive Species pdf:
<https://ohioseagrant.osu.edu/products/4j7wz/ohio-field-guide-to-ais>
Raccoon Creek Partnership website: www.raccooncreek.org



Sign created by the Raccoon Creek Partnership & funded by the Quidel QCARES Program

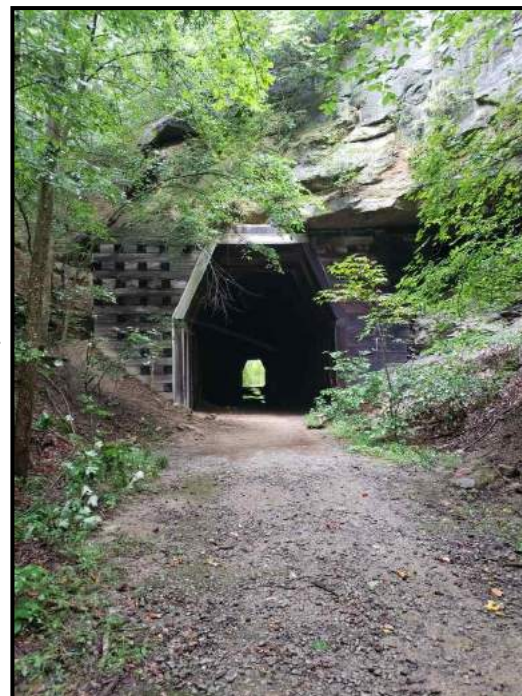
King's Hollow

By Kelly Love – RCP AmeriCorps Member

I have been living in the area for about 4 years now, but recently I have been trying to explore as much as I can in the Raccoon Creek watershed specifically. I have discovered so many tucked-away hidden gems! My favorite places so far are an old bridge that was overtaken by nature in the Vinton Furnace State Forest, the haunted aesthetic of the Moonville Tunnel, and history's left behind clues of a former town at King's Hollow. There are so many other places I could name if I had the time.

Recently, my favorite place to hike has been King's Hollow. King's Hollow is located near a small village called Mineral. There are still structures left of the old town! King's Hollow has a tunnel, just like Moonville, but it is supported by wooden frames and posts. When I walk through King's Hollow, I notice lots of different smells. For example, when you are approaching the tunnel, a breeze will carry the smell of the tunnel to you. It smells like old wood and dew (creosote). After you walk through the tunnel, the visuals are stunning. You are overwhelmed by various shades of green. Fields and hills are covered with vast and dense trees, flowers, and bushes. The solitude of walking at King's Hollow allows the sounds of nature to come through. I always feel relaxed when I go there. And I feel like every time I go, I see something new.

Since many events, such as Midnight in Moonville, are canceled this year, I recommend that everyone go out and explore a new place in the Raccoon Creek watershed. You can go to our Facebook page to look at our weekly posts on Thursday that talk about the history of the watershed and our Friday posts that talk about different animals in the watershed. You wouldn't believe how much is out there!



Cleaning Up During COVID

By Ashley Smith – RCP AmeriCorps Member

The Ohio River Valley Water Sanitation Commission (ORSANCO) hosts the Ohio River Sweep every year since 1989, joining together groups from all the states that share the Ohio River as a resource. For many years now Raccoon Creek has been a clean-up location. Cleaning litter from Raccoon Creek prevents litter from traveling to the Ohio River in which the mainstem of Raccoon Creek drains into. This year's official River Sweep was sadly canceled because of large group gatherings being a concern for health and safety. Luckily, RCP was allowed a "mini" sweep where ten devoted volunteers came to the Buckeye Furnace in Jackson County, along the banks of Little Raccoon Creek, for the sweep. The Buckeye Furnace was a location that gave many opportunities to spread out in small groups and get some good work done. Special thanks goes out to the Friends of Buckeye Furnace for giving us access to parking, ORSANCO for coordinating the event, and to all our great volunteers!



Species Spotlight: Bowfin

By Ashley Smith – RCP AmeriCorps Member



The bowfin is truly a unique fish because it is the only species in the family Amiidae. They go by many different names; dogfish, mudfish, grindel, and choupique. Bowfin are considered primitive fish due to their rounded tail, a bony structure on the ventral side of their mouth, and vascularized air-bladder. These features aren't commonly found in modern fish. Bowfins can be easily mistaken for the non-native northern snakehead. The key difference is that bowfins have short rounded anal fins whereas snakeheads have straight long anal fins. If you catch/find a northern snakehead make sure to kill it and notify your local Division of Wildlife to report the location of the fish. Bowfins are sexually dimorphic, meaning the males and females are visibly different. Males have a black spot at the base of their tail that has a gold halo surrounding it. Males also have bright turquoise green coloration on their pelvic, pectoral, anal fins, and the lower half of their tail fins. When it comes to size mature females are larger, being around 24-30 inches long, which is around 6 inches longer than the males. Bowfins are great parents with the fathers actively protecting their offspring. Males protect their offspring by housing the fry in their mouth for about a whole month! That's the longest parental care of any fish species in North America! Bowfin can be found in slow-flowing sections of Raccoon Creek and lakes.

RCP UPCOMING EVENTS & OPPORTUNITIES

Events for the fall and winter seasons are canceled for the time being.

Stay up to date with changes on our Facebook page:

<https://www.facebook.com/raccooncreekpartnership/>.

Or e-mail raccooncreekpartnership@gmail.com or mackey@ohio.edu.



Raccoon Creek Partnership

c/o Amy Mackey
 Voinovich School
 The Ridges, Bldg 22
 Athens, OH 45701

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Yes, I (we) would like to help protect Raccoon Creek

Creek Chub	\$15	<input type="checkbox"/>
Johnny Darter	\$30	<input type="checkbox"/>
Channel Catfish	\$50	<input type="checkbox"/>
Grass Pickerel	\$100	<input type="checkbox"/>
Spotted Bass	\$500	<input type="checkbox"/>
Paddlefish	\$1000	<input type="checkbox"/>

Membership

*A local partnership working towards conservation,
 stewardship, and restoration of the watershed,
 for a healthier stream and community*