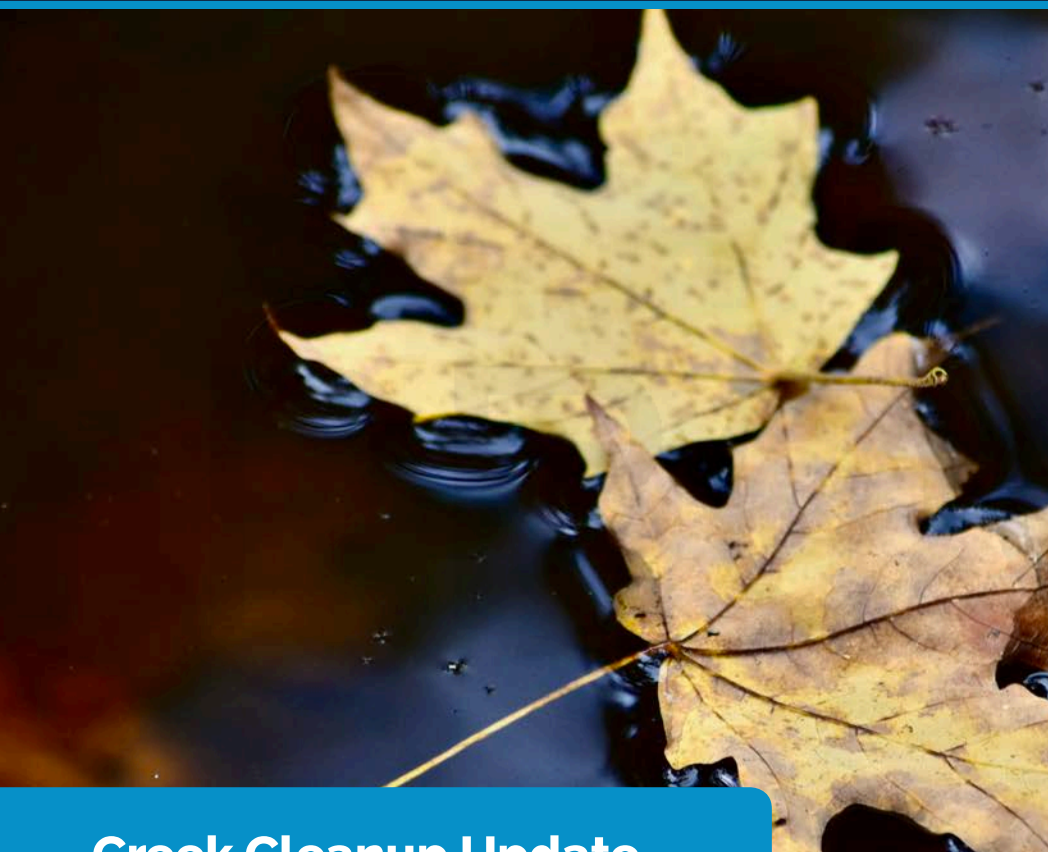


# NewsStreams

Because Clean Water Can't Wait

Kentucky  Waterways Alliance  
Healthy waterways.  
Healthy communities.



## Creek Cleanup Update



While KWA's creek cleanup season has been heavily impacted by the pandemic, we are grateful for the opportunity to host several small-scale cleanups this year. KWA's partnership with Canoe Kentucky has enabled us to host several cleanup events on the Elkhorn Creek and Kentucky River this season. Chris Howard, Outreach Coordinator at Canoe Kentucky said 2020 has been a hectic year to say the least, we have

seen a massive increase in outdoor activity across the industry. Our waterways are being used so much more than ever before, it is a great thing getting more people outside, but the flip side of more use is we can visibly see the impact of this use in the form of litter. We have stressed the importance of taking care of our natural environment to everyone that walks through our doors.

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# A Message From Ward Wilson

Executive Director, Kentucky Waterways Alliance

Dear Friends,

Despite it all, we at KWA are continuing our work and starting new ventures this year. Our Red River Watershed Project is going strong with a new grant cycle from the US Forest Service and Kentucky Division of Water. Because we were there, we were able to help steer the Red River Resort towards a more environmentally-friendly and locally-directed path. We have been so fortunate to have some excellent new staff helping us take on new challenges such as Coronavirus monitoring and environmental education. And we still did our Wild & Scenic Film Festival this year, virtually and safely and even including popcorn!

None of this happens without you, our loyal members and supporters. We need your donations, of course, but we are also carried along in the tough times by your volunteering and encouraging messages. The KWA team is small, but mighty, and I'm proud of them all. Our board is dedicated and provides steady direction even on the rough waters of 2020. Please stay with us – follow us on social media, come to our events (or Zoom in), volunteer, speak up for your waterway, and please renew your membership or join. We really need you and we appreciate every one of you.



Happy Holidays

*Ward*



## Board of Directors

### Executive Committee:

Martin Hjalm - President  
Gordon Garner - Past President  
Kay Harker - Vice President  
Pamla Wood - Secretary/Treasurer

### Emeritus Board Members:

Hugh Archer  
Frank Elsen  
Beverly Juett  
Bruce Scott

### Board Members:

Tom Vierheller - Big Sandy River  
Bob Johnson - Jackson Purchase  
Marcia Boone - Salt River  
Linda Cowan - Salt River  
Caitlin Johnson - Salt River



# Creek Cleanup Update

continued from pg. 1



Canoe Kentucky cleanup volunteers at Elkhorn Creek

We hope to see a continued reconnection with the outdoors for years to come, along with that education on how to respect the environment needs to be a priority. KWA is grateful to have Canoe Kentucky as a partner who promotes responsible recreation and ensures that their community of paddlers understands the value of preserving local waterways for future generations. We are very much looking forward to

returning to our normal operations in 2021, and recognize that the need for stream restoration has not lessened, and that our work is more important than ever.

## Certified Wildlife Habitats Growing

In the age of COVID-19, the hobby of home gardening has surged in popularity. KWA's affiliation with the National Wildlife Federation enables us to promote the Certified Wildlife Habitat program, where households can go through a checklist to get their backyard certified as wildlife habitat. In 2020 alone, we have seen an increase of about 150% in new Certified Wildlife Habitats for a total of 142 Certified Wildlife Habitats across the Commonwealth. Interested in certifying? Learn more by visiting: [www.nwf.org/garden-for-wildlife/certify](http://www.nwf.org/garden-for-wildlife/certify).



# River Life Is Returning to the Green

Article and photos by Mike Compton of the Office of Kentucky Nature Preserves, with additions by KWA



## After three years, dam removal is paying off

Over Thanksgiving weekend 2016, the structure named Lock and Dam 6 on the Green River failed, meaning it cracked open to let the water run through. This failure of the century-old structure led to a success for paddlers, anglers, and the ecology of the longest river within Kentucky's borders. KWA was a part of the team that had been planning to remove three dams from the Green and Barren Rivers and now had our chance to get the first one out. In April 2017, the structure was completely removed and approximately 10 miles of Green River was free flowing again.

### Biodiverse Green

The Green River drainage in central Kentucky is one of the most biologically diverse rivers in the Southeast United States, with over 150 species of fish, over 70 species of mussels, and 25 species of crayfish. Dozens of these species are considered unique and imperiled, such as the stargazing minnow (*Phenacobius uranops*), fanshell mussel (*Cyprogenia stegaria*), and bottlebrush crayfish (*Barbicambarus cornutus*). Unfortunately, a series of navigational dams have existed within the lower half of the mainstem of the Green River for over 100 years, which has impacted the ecosystem.

### Dam Damages

There are nearly 90,000 dams in the U.S.; approximately 1,100 are in Kentucky. Although dams have provided benefits in navigation, flood control, and recreation, their presence within the waterways has been profoundly negative on the natural aquatic fauna, water quality, habitat, and hydrology. Dams disrupt the connectivity of streams and rivers, fragment populations, alter hydrology and sediment transport, and decrease water quality. Overall, dams are considered one of the most substantial threats to riverine ecosystems, often resulting in decreased biodiversity and shifts in ecological functions.



The removal of dams has increased over the last couple of decades in the United States as the purpose, need, and integrity of the infrastructures has decreased. Dams have become viewed more as liabilities and ecological hazards than as beneficial entities, and a shift in focus towards river restoration, species conservation, and sustainability has propelled the removal of them. Approximately 1,200 dams have been removed in the U.S., with 4 dams removed in Kentucky. Although it is perceived that the removal of dams is beneficial to the river ecosystem, less than 10% of the dams removed in the U.S. have been monitored and assessed to document the benefits obtained from the removals. Given the diversity and importance of the Green River, the removal of the old, obsolete, and hazardous dams within the drainage are a priority for resource managers.

### More Dams to Fall

When lock and dam #6 (Dam 6) was removed, it was the first step in a process that began years before with studies and permitting projects that allowed for the removal of Dams 5 and 6 on the Green River and Barren River Dam 1. KWA and partners US Fish & Wildlife Service, US Army Corps of Engineers, Kentucky Fish & Wildlife, and The Nature Conservancy are working on plans to remove the remaining two dams, which will set free much more of these beautiful, biodiverse rivers for those of us that love them and the wildlife that depend on the rivers for their home.

### Comeback Story

Since 2017, the Office of Kentucky Nature Preserves (KNP) has led the monitoring effort of the response and recovery of the river following the removal of Dam 6 and the pending removal of Dam 5. The ecological assessment project studies how the fish, mussel, macroinvertebrate, riparian zone vegetation, and instream habitat are changing within 45 miles of the river corridor impacted, downstream and upstream, of the Green River dams. The project aims to document and measure the ecological response of the river ecosystem over time and determine whether diversity and ecological quality have improved.



Sheepnose mussel (*Plethobasus cyphus*)



Blue sucker from the Green River downstream of Dam 5

Each component of the study is in different stages of data processing and is ongoing, but survey efforts so far have encountered 66 species of fish and 35 species of mussels, with four federally listed species, such as sheepnose (*Plethobasus cyphus*) and rough pigtoe (*Pleurobema plenum*). Preliminary results indicate habitats and diversity are greater in the segments of river that resemble more natural conditions. In addition, downstream of Dam 5 several fish species, such as American eel (*Anguilla rostrata*), blue sucker (*Cycleptus elongatus*), and bowfin (*Amia calva*) occur, but are rare or absent upstream of the dam. It is anticipated their dispersal and

abundance would increase further upstream once Dam 5 is removed. The mussel community was indicative of the hydrology of the river and has been dominated by species tolerant of pool habitat upstream of the dams. The vegetation surveys indicated the newly exposed bank channel was in early succession, although unique ecological communities were discovered in some sections of river minimally disturbed by the dams.

Monitoring efforts will continue for many years to come as the river changes and stabilizes to the new hydrological changes, but early results are encouraging that the river will achieve a degree of recovery. For more information on the Office of Kentucky Nature Preserves' projects see annual reports at <https://www.kwalliance.org/news/green-river-update>.

## Water Literacy Collaboration

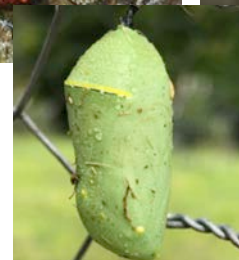
KWA is thrilled to be embarking on a partnership with the Kentucky Association for Environmental Education (KAEE) as we co-hire an Environmental Education Leadership Corps (EELCorps) member to help advance water literacy across Kentucky. KWA hired Abigail Stewart in September 2020, who is currently pursuing her Bachelors in Sustainability at the University of Louisville. Born and raised in Louisville, KY, she has always been very passionate about ways to make our city more sustainable along with our waterways cleaner. Abigail likes to spend her time volunteering, as well as being a part of committees that embrace the importance of sustainable choices. KWA's partnership with KAEE will allow her to educate individuals on current KWA events as well as coordinating with Project Water Education Today (Project WET). In Abigail's role as an EELCorps member, she will facilitate environmental education programming to students and community members around the state, as well as training educators around the Commonwealth to become certified to facilitate Project WET activities in their classrooms. Brittany Wray, KAEE Education Director, said "KAEE is thrilled to be partnering with KWA to host an EELCorps position. We feel so fortunate to get to work with an amazing organization like KWA toward a common goal of increasing water education for all."



Abigail Stewart

## Virtual Bioblitz

On September 25-26, Kentucky Waterways Alliance and Red Oaks Forest School co-hosted a Virtual Bioblitz powered by iNaturalist. This event was entirely virtual, yet it brought community together to observe and identify species people may encounter in everyday life... species that rely on clean water of course! Most observers took to their backyards, parks, and gardens. Some observers documented their finds from a corresponding herpetology/nature hike at Red Oaks Forest School campus. There was also a group at Floracliff Nature Sanctuary that was participating in a citizen science volunteer activity and guided hike that encourages citizen science as a way to connect with nature. Together, solo, across the state, with or without masks, here are our Virtual Bioblitz results: 31 observers, 1,181 observations, 594 species, 120 identifiers.



From left: Northern Red Salamander, Monarch chrysalis and American Toad

With sponsorships from StayOver at the Red River Gorge and Red River Rockhouse we were able to offer prizes for the top two observers with the most species observed. KWA and Red Oaks offered swag bags to randomly selected observers because it isn't always about having the most!



## 50th Anniversary of Earth Day (at Home)



**EARTH DAY AT HOME**  
APRIL 22, 2020 - BIOBLITZ RESULTS

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**469 OBSERVATIONS**

**250 SPECIES**

**25 OBSERVERS**



In celebration of the 50th Anniversary of Earth Day, on April 22, 2020, KWA hosted an Earth Day at Home event, where we invited our community, near and far, to participate virtually in a series of self-guided activities. Activities included a day-long BioBlitz, where individuals across Kentucky helped identify as many plant and animal species as possible to help give a snapshot of the biodiversity of species in an area, a trash tag to remove litter and debris from neighborhoods, and a “lunch and launch,” where folks could tune in for a virtual canoe paddle on Harrods Creek. We were thrilled to have so many participate in this event and to explore the nature in their backyard.

## Support KWA this Holiday Season

With the upcoming holiday season quickly approaching, we hope you'll consider giving the gift of all 90,000 miles of Kentucky's waterways by purchasing a gift membership or t-shirt for your loved ones. KWA is a member-supported organization and we rely on the support of individual donors like you to ensure the continuation and growth of our vital programs such as: Watershed Management, Water Policy, Community Engagement and Education, and Waterways Restoration. With the support of loyal members like you, KWA is able to advance our mission to protect, restore and celebrate Kentucky's waterways.



**GIVE THE GIFT OF CLEAN WATER**  
this holiday season!

.....

KWA merchandise and gift memberships available at:  
[www.kwalliance.org](http://www.kwalliance.org)

# Red River Economic Development

## News Release



After years and months of closed door followed by open door efforts, Red River Economic Development (RRED) released Stantec's Master Plan for a Red River Gorge 4-county (Wolfe, Powell, Menifee, Lee) Tourism strategy anchored by a 4.5 star destination resort in the Slade, KY area on Tuesday September 29, 2020.



Discussions held at Red River Economic Development public meeting, January 17, 2020.

Red River Economic Development, LLC (RRED) sponsored the planning process with a combined \$1 million federal-state grant and hired the consulting firm, Stantec, to produce the plan. A local advisory board consisting of 15 area small business owners, environmentalists, rock-climbers, hikers, cabin owners and three county judge-executives met monthly with Stantec's planning team and provided local input.

While the original planning process called for community forums and workshops to gather ideas, only two public meetings were held before COVID-19 restrictions halted in-person meetings. The pandemic delayed the planning process for two months while planners developed an alternative plan for public engagement. RRED agreed to host four virtual town hall meetings and Stantec created a dedicated website for gathering ideas and comments.

According to County Judge-Executive James Anderson, the planning process brought together area business leaders and public officials to balance economic growth and environmental protection. "Virtually everyone wants more economic opportunity and jobs so our young people can stay and raise their families here, and everyone wants to protect the natural environment that makes our region so unique and popular", according to Anderson.

According to Charlie Beach, RRED chairman, chairman of People's Exchange Bank and former eight-term mayor of Beattyville, "I'm really proud of the way the local advisory board rolled up its sleeves and helped guide this planning process. While a developer has not been identified, we now have a plan that we can talk to people about and see if we can create enough interest to develop a resort that is nicer and more exciting than anything Kentucky has ever seen."

The regional tourism plan for Lee, Menifee, Powell and Wolfe County calls for the development of various tourism attractions, an integrated trail network, a four-county tourism coordinating group, joint marketing of the Gorge area and the creation of environmental and cultural protections for an area immediately surrounding the geologically designated Red River Gorge.





The proposed destination resort is recommended as a high-end, 4 1/2-star resort that would include a 170-room lodge with a full-service spa, a full-service restaurant, a distillery and/or brew pub, conference facilities, a “gathering lawn” for outdoor events and live performances, an indoor/outdoor swimming pool, villas and a limited number of private residences.

The proposed location is a privately-owned 891-acre site on the Mountain Parkway at the Slade exit. It lies outside the Red River Gorge Geological Area and is outside the land of the Daniel Boone National Forest that is owned by the U.S. Forest Service. According to Stantec, the resort would create a total of 500+ jobs (300+ on the resort property and 200+ “spin-off” jobs created in the surrounding area).



Artist rendering, Red River Gorge Destination Resort

Congressman Hal Rogers and Congressman Andy Barr, whose adjoining districts include the Red River Gorge region, released a joint statement Tuesday, calling for a cooperative effort to move forward with the plan as a roadmap for the future. “This is an opportunity for the Red River Gorge to serve as a natural gateway to eastern Kentucky from population centers in Lexington, Louisville, Cincinnati and beyond. Regional attractions ranging from elk-viewing to rafting, and from wildlife excursions to camping can all grow as eastern Kentucky emerges as a popular tourist destination.” Various state and federal officials have been briefed on the project in recent weeks.

The Stantec report has been posted on RRED's project website, [www.redriverky.com](http://www.redriverky.com) and includes a detailed report on existing conditions for tourism in the region, the Tourism Strategy and Destination Resort Masterplan and specific reports on topics such as infrastructure and tourism incentives that might apply to implementation of the plan.

\*This news release was written by RRED. More information about this project can be found on the RRED website: [www.redriverky.com](http://www.redriverky.com)



# Red River Economic Development

Input from Laura Gregory KWA Red River Watershed Coordinator



While I wish that this resort had been proposed somewhere else in Eastern KY, it is the Red River Gorge area that is the focus. There's already a draw and "need for jobs" but there is a lot of room for growth and a select few are reaping the benefits from the growth. At least with this well-researched and considered plan by Stantec the RRG area residents and fans are speaking up as to what they really want to see here. If the developer follows the Stantec plan

Laura Gregory at Eagles Rock overlook

I think that we will actually be better off with the resort than if the current landowner were to develop the nearly 900 acres on his own as he has with most of his many RRG properties, often to the detriment of the environment and neighbors. Stantec also included a more robust 4-county (Wolfe, Powell, Menifee, and Lee) tourism plan along with the resort plan. RRED seeks investors/developers for the destination resort while the resort oversight and tourism suggestions are reliant on the community.



KWA's Laura Gregory, left, discussing Red River maps with Watershed Watch volunteers





## Water related proposals:

- Remove the dam at "Hoedown Island" in Natural Bridge which will possibly help with flow/flooding on middle fork of Red River.
- Impervious pavement and storm water pond retention at resort
- Water and sewer to Powell's Valley Water District
- KY River Center in Beattyville proposed

## Some highlights of the plan:

- Pine Ridge Industrial Park – HCTC campus and KY Wildlands Cultural center, workforce housing, business incubation
- Trail from Campton along Swift Camp Creek to Rock Bridge area (has been proposed before, but maybe more steam behind it this time)
- Shuttle service – hopefully will include town centers for workforce to reach jobs as well as reduce vehicles on RRG area roads

## Questions left to be answered:

- Red River Gorge Geologic area is the land of designations - about the same amount of a national park but without the funding of a national park. Can we get national park status? Wouldn't change access but would allow more effective management.
- With no planning and zoning in the RRG area, who will make sure Stantec's plan is followed and that the community and environment will be preserved? For this resort and for future developments?
- Who will ultimately benefit from the resort? Who will be the investors? Lots of tax incentives that the big resort will see for which many small businesses do not benefit.
- Can we achieve a comprehensive 4-county community development plan that benefits us all economically and culturally while protecting and preserving the rich heritage, biodiversity, fragile ecosystem, clean water, and the community?
- How will the communities and ecosystem handle the increase in visitors per year regarding water, sewer, trash, overuse (and sedimentation in rivers), Search and Rescue, infrastructure, more jobs than people to work (and not enough housing when people move in), rural gentrification, cultural appropriation, loss of sense of place, etc?

# Monitoring the Coronavirus in Wastewater and Surface Water

By Cullen Hunter, KWA Research Intern

In partnership with the Christina Lee Brown Envirome Institute, the Center for Predictive Medicine, and the University of Louisville, Kentucky Waterways Alliance is participating in the Co-Immunity Project, a multi-phase study to better understand the spread of COVID-19 in Louisville. This research project has multiple phases including a healthcare worker study, community study, wastewater-based epidemiology study, and surface water study.

The internship is research into the amount of SARS-CoV-2 virus in the wastewater and waterways of Jefferson County. The project goal is to understand the relationship of the virus in wastewater and streams as compared to the population with COVID-19. Infected people “shed” the virus in their waste, which can be found in the wastewater system. Since wastewater can overflow into area streams, we are also testing area waterways to determine whether there could be a risk to people using the stream for recreation.



We start our sampling days bright and early with clean hands and clean supplies and then head out to meet the MSD personnel at the first site. From there we caravan to each of the subsequent sites and collect small bottles of wastewater, disinfect the bottles, and keep them on ice until they make it back to the lab. Once we've reached all of the sites we head back and clean the supplies again, send off samples to a different University of Louisville lab to test for SARS-CoV-2, and one more set of sample bottles is sent to an off-site lab for additional testing. It is a routine that must be done in a particular order, and with very specific cleaning procedures to ensure the safety of everyone on the team.



The hands that come together, without touching, are humbling on this project. Safety, details, cleanliness, compassion, and hard work are all integral components. In the short time that I have been an intern with KWA working with the researchers of the Envirome Institute, and other graduate students has given an aspect of humanity to a virus that threatens just that. This project gives a different side of truth to the sobering news each night about the number of cases and number of deaths, but this side is one of hope. The data found on this project will directly help our fellow community members by learning more about the spread of the virus so that we can be better informed and as a result, keep us safer. To learn more about this project, visit <https://louisville.edu/envirome/thecoimmunityproject/wastewater>. ■

## Wild & Scenic Film Festival Recap

Our 12th annual Wild & Scenic Film Festival was like no other. While we were forced to celebrate this year's Festival physically distant, we'd like to think that our community was socially together in celebrating the natural beauty of our planet and exploring ways to better preserve natural resources for future generations. We were humbled by all of our members and friends who showed up to support our biggest fundraiser of the year, with folks tuning in from 15 different states and helping us to raise \$11,000.00. Our emcee for the evening was Mike Wilkinson, filmmaker of *Gone Tomorrow*, the Kentucky ice climbing documentary that features scenery on the Elkhorn Creek and Red River Gorge. We loved how *Gone Tomorrow* showcased some of Kentucky's beautiful natural landscapes and told the story of a group of adventuresome Kentuckians on a quest to climb. We felt especially grateful for this successful fundraising event in a year when we have had to limit public programs and fundraising events. We are always thankful to our loyal sponsors who make this event possible year after year. We are already getting excited for next year's Festival when we can be together in community once again!

KENTUCKY WATERWAYS ALLIANCE'S  
**WILD & SCENIC** FILM FESTIVAL  
 where activism gets inspired  
 JUNE 11, 2020

- \$11,000 RAISED
- 65 DONORS
- VIEWED IN 15 STATES
- 10 FILMS

EVENT MADE POSSIBLE BY:  
 Citizens Union Bank, REPUBLIC BANK, Park NATIONAL BANK, METRO COUNCIL DISTRICTS 8 & 9

## City of Covington Pollinator Gardens

Article and photos by Patrick Moore of the City of Covington, with additions by KWA

KWA and the US Fish & Wildlife Service have been working together for 12 years to protect threatened and endangered aquatic species. Among other things, we sponsor restoration and research projects with the Kentucky Aquatic Resources Fund (KARF). We fund a wide range of projects, from captive breeding of darters and mussels to stream restoration to removal of dams (see related article on Green River Dam 6 in this issue).

In 2017, the City of Covington proposed to install pollinator plantings in their parks and to promote pollinator habitat to park users. KARF funded the educational outreach and gave the planned work an early boost. Since then, their work has taken off!

- Joe Meyer, Mayor of Covington, led the effort from the top by signing on to the Mayor's Monarch Pledge, a program developed by our partners at the National Wildlife Federation. The Mayor committed to creating habitat for the monarch butterfly and pollinators, as well as educating citizens about how they can make a difference at home.



Although our cities may seem inhospitable to small insects traveling thousands of miles on their migration, these islands of habitat do help this beautiful and important butterfly, as well as many other species that pollinate our trees, flowers, and crops. Native plants improve the soil health and promote rainwater infiltration, which keeps our streams cleaner and healthier as well. Win-win-win!



- The City created 6,000 square feet of pollinator habitat in four urban parks, including a stormwater detention basin near an elementary school. All the plantings included milkweed species, which are the food source for the monarch caterpillars.
- All these installations include high-quality signs and interpretive materials that will educate park users. The City has also promoted public education through community events like the Great American Cleanup and workshops on pollinator habitat creation.



# Leadership KY | BRIGHT 2020

by Laura Gregory, Red River Watershed Coordinator

It is an honor to be part of Leadership Kentucky's BRIGHT 2020 program. BRIGHT KY is designed to build the capacity of next-generation leaders (age 21-40) in Eastern KY to innovate, collaborate, and advance community and economic development. BRIGHT engages entrepreneurial minds from all sectors and regions to offer non-partisan, ethical leadership training, expanded networks, and mentors designed especially for residents of the 54 Kentucky counties of the Appalachian Regional Commission (ARC).

BRIGHT KY is made possible by a \$500,000 grant from ARC and private funding from the Whitaker Foundation and others. With a major focus on helping participants understand the local economic context and to build



BRIGHT 2020 cohort paddling at Owsley Fork during September session



BRIGHT 2020 cohort at the KY State Capitol during the September session

robust skill sets in communication, collaboration, consensus building, visioning and community engagement, BRIGHT KY hopes participants will complete the program with the skills necessary to think long-term and to strategically build upon the strengths of their communities and lead the region to a prosperous future.

50 individuals were chosen out of 100 applicants and I am one of the lucky participants! Even during these strange COVID19 times, BRIGHT has been able to safely offer this program to the 2020 cohort. There are five sessions in five months. In July we began in Somerset, August was in Ashland, September was in Berea and Frankfort, October was in Pikeville for our personal mini-SOAR conference, and November is our final session in Hazard. So far BRIGHT has helped me to expand my professional network in Eastern Kentucky and given me insight into work and leadership techniques. I am gaining great perspective on the needs in Eastern Kentucky and the role that myself and Kentucky Waterways Alliance can play now and in the future.

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# NewsStreams

Because Clean Water Can't Wait - Autumn 2020