



KENTUCKY FIELD NOTES

FALL/WINTER 2022

The Full Story



We publish Field Notes twice a year, and it is our longest standing and most reliable way to update our supporters (that's you!) on our work. Most of those stories focus on successes, victories (large and small), and progress towards our mission. This focus is understandable. We do excellent work, and we have much to be proud of. And like any nonprofit, sharing good news is essential to keeping our supporters engaged and committed.

But it is important for us to also be transparent when things do not go as well. Conservation is hard work, and the size, scope, and complexity of our projects and strategies have increased substantially over the past decade. If we are not honest that our road to success is rarely smooth or straight, we simply aren't sharing the full story. In truth, our staff spend a lot of time problem solving, working through challenging situations (and sometimes dealing with challenging people), and putting out proverbial fires. Said another way, the road to success is often rough and full of twists and turns.

The first article in this issue deals directly with the challenges, delays, and, yes, disappointments that are an honest part of our conservation story. Indeed, summer brought a raft of challenges to our efforts to remove Lock and Dam #5 on the Green River and complete the tree planting portion of the larger Green Heart project. While water supply questions on the Green and dead trees in Louisville made for some long and stressful days, I am so proud of how The Nature Conservancy and our partners have responded. We've shown up with integrity, humility, and solutions. We've stayed true to our longer-term objectives, while pivoting to devote time and resources to meeting the challenge at hand.

There are a lot of aphorisms about struggle and failure. Some can be trite, but most are grounded in truth. One that comes to mind is that the only way to ensure success is to set your sights so low they are just off the ground. The urgency of our mission and the complexities of the shared challenges facing nature and people force us to raise our sights considerably higher. That means that sometimes we will stumble along the way. My thanks to you for continuing to travel the road with us. Your support makes the journey possible.

See you outside,

David Phemister

Kentucky State Director



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8.4
trees preserved
for the future



630.7 gallons
water not consumed



1,224.1 lbs.
CO₂ emissions
avoided

COVER Removal of Barren River Lock and Dam #1 © Mike Wilkinson; THIS PAGE TOP TO BOTTOM Crimson clover © Cody Rakes; Kentucky State Director David Phemister, and trees planted for Green Heart project © Mike Wilkinson

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Conservation CHALLENGES

Conservancy staff spent a lot of time this summer addressing significant challenges to two of our signature projects—the removal of Green River Lock and Dam #5 and the Green Heart project. The dam removal at #5 is paused because of potential impacts to community water supply, and we lost several hundred trees during a hot and dry start to the summer.

“More significant projects are often more complicated and riskier,” says Danna Baxley, director of conservation for the Kentucky program. “It is important to be transparent with challenges and to recognize that the Conservancy is stepping up to help move these critical efforts forward.”

On the Green River, low summer flows provided ideal conditions for dam removal. But after crews removed roughly eight feet of the dam, river levels at Edmondson County Water District intakes at Brownsville fell more than forecast.

“TNC and partners did extensive feasibility studies prior to removal work, but river levels did not match the model,” says Heather Majors, director of external affairs for TNC in Kentucky. “We are still committed to taking the dam out. But we take water supply concerns seriously and are already hard at work with our partners and the local community on a solution.”

Those solutions will take some time to implement, but TNC, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and other partners have shifted removal work to Lock and Dam #1 on the Barren River. This dam was already failing, and removal has gone quickly. By this fall, the dam will be gone, and the river will be

safer and more accessible for people and healthier for nature.

Nature is also healthier in Louisville thanks to Green Heart. TNC and its partners have planted more than 8,400 trees and shrubs in the study area, even more than the original plan. To reach that milestone prior to the start of clinical studies, we planted into June, later than ideal. Unfortunately, late spring and early summer were very hot and dry in Louisville. Despite our best efforts to water, these conditions stressed new trees and over 600 died. As with the dam removal, TNC leaned in, convening partners and dedicating resources to address the challenge.

“University of Louisville and TNC are working together to address this challenge—as we have on previous hurdles,” says Aruni Bhatnagar, the project’s principal investigator and director of the Envirome Institute. “I’m confident that we have the expertise and determination to move forward and arrive at a good outcome for the project and the community.”

Members of the community play a key role in project success. Danice Creager, a resident and member of the project’s Community Advisory Board, noticed the tree mortality. But she also noticed how quickly the team stepped in to address it.

“I’m a proud supporter of Green Heart, and this summer I became an even bigger fan,” Creager says. “I watched the Green Heart team quickly respond to our concerns and then saw the team on the ground making necessary planting changes. They addressed community questions and shared information. I so appreciate their quick and productive response.”





A Promising New TECHNOLOGY FOR FARMERS

Agriculture is necessary for human life. Since so much of our land area is dedicated to food, fuel, and fiber production, it is essential to strike a balance between human needs and environmental needs. One farming practice that helps find this balance is cover crops.

Raising a cover crop during the late fall to early spring, when cash crops are not growing, offers critical benefits for people and nature. Keeping live roots in the soil year-round reduces erosion, prevents fertilizer from running off into waterways, and draws carbon into the soil to help mitigate climate change. Farmers benefit from healthier, more productive soil, and nearby communities benefit from cleaner water. So, why doesn't every farmer use cover crops? There are several barriers to adopting this conservation agriculture practice.

"Two significant barriers are capacity and cost," says Zach Luttrell, director of agriculture for The Nature Conservancy's Kentucky program. "A third barrier is technical, being knowledgeable about the what, how, and why."

Wanting to address these barriers led Luttrell and Steve Blanford, state soil scientist for the Natural Resources Conservation Service (NRCS), to utilize a Conservation Innovation Grant to demonstrate a new technology for farmers considering cover crops.

"The Conservation Innovation Grant is meant to take ideas from other parts of the country that are new and taking off and bring them to Kentucky," Blanford says. "Interseeding of crops—planting a cover crop simultaneously with the harvest of a cash crop—hasn't really been considered here because we have such a long growing season. In other areas with

shorter growing seasons like Indiana and Illinois, it has been used to get the seeds in the ground."

Luttrell and Blanford used the grant to demonstrate on Kentucky farms a new technology which enables interseeding during harvest. Farmers harvest their crops while a piece of equipment mounted on their combine simultaneously spreads cover crop seed onto the ground. Residue from the cash crop covers the seeds.

"We've got to find a way to help farmers establish cover crops during the harvest without requiring more labor, time, or expense," says Cody Rakes, who manages Loretto Motherhouse Farm in Marion County and assisted Luttrell and Blanford with an on-farm demonstration. "The interseeder allows us to accomplish the harvest and plant the cover crop seeds in a single, efficient pass."

The new interseeder—which operates off of pressurized air—addresses the first two major barriers to planting



cover crops. The machine itself is about \$8,000. Rakes says the savings on fertilizers and herbicides helps to pay for the cost of the equipment. Farmers do not need to add additional labor to their operations, since this interseeder is mounted on the combine already being used for harvesting. And since harvest and cover crop seeding are done together, very little additional time is needed. Farmers must stop to refill the interseeder occasionally with cover crop seed, but Rakes says this extra time is minimal.

To help address the third barrier, technical knowledge, Luttrell, Blanford, and Rakes participated in a University of Kentucky-led agricultural field day at Rakes's farm in July to demonstrate the technology to farmers.

"One benefit of these types of on-farm demonstrations is to anchor and facilitate farmer-to-farmer networks and demonstrations," says Luttrell. "The need for the interseeder is tangible and recognized, and people were interested."

The interseeder isn't a silver bullet for adoption of cover crops, however. It is the first iteration in what Luttrell hopes to be a series of future variations that will troubleshoot problems and improve the product.

"There needs to be a cost-effective version that also works for bigger combines," says Luttrell. "This is an engineering challenge."

Rakes says another limitation is weather. The first season he used the interseeder, there was very little rain, and the results were not good.

"We've used it for two years now. If you had asked me after the first year, with its very dry conditions, the worst conditions possible for cover crops with this method, I would have told you it doesn't work," says Rakes. "But if we see two or three more years like we had this year, with a good amount of rain, we're going to be comfortable parking our drill in the shed and just using this air seeder."

Rakes says the fields he planted with the new seeder look much better this year

than the fields planted with a drill. This is good news for farmers who cannot afford to buy this expensive piece of equipment. A drill can cost upwards of \$100,000.

"One thing is key to using this new equipment: Farmers should use small cover crop seed species, like annual rye grass, crimson clover, rape seed, or hairy vetch," Rakes says. "Large-seeded varieties need to be planted deeper in the ground, and the air seeder lays the seed on top and covers it with residue from your crop harvesting."

Luttrell says models that can be cost-effectively retrofitted onto high-clearance sprayers instead of combines would have high impact potential. This would allow cover crops to be established even earlier in the year.

"A perfect solution hasn't been invented yet," says Luttrell. "So for now, our goal is to find and promote new tools that make cover crops more practical for farmers."

THIS PAGE LEFT TO RIGHT Interseeder trial yields excellent results with crimson clover cover crop (left field); Interseeder (center photo) mounted on combine meters and blows seed through tubes; Interseeder disperses seed along back of grain platform © Cody Rakes

Potential HELP FOR KENTUCKY WILDLIFE

A new influx of conservation funding could soon be coming to Kentucky. The Recovering America's Wildlife Act (RAWA) would provide a huge win for conservation by boosting the state's Wildlife Action Plan funding, enabling Kentucky Department of Fish and Wildlife Resources and its partners, including The Nature Conservancy, to conserve wildlife species and their habitats before they become imperiled.

"This increased investment into conservation would really be meaningful for Kentucky," says Danna Baxley, director of conservation for TNC in Kentucky. "The goal is to keep common species common. Instead of waiting until these species are so rare they're endangered, and recovery is complex and expensive, the plan aims to implement conservation measures when they are more efficient and effective."

Each U.S. state and territory must create a Wildlife Action Plan to obtain federal funding. The plan provides a blueprint to conserve the species and habitats that need the most assistance. But Kentucky gets less than \$1 million in funding to support its plan each year. If RAWA passes, the state would receive closer to \$16 million per year. Increased funding allows the conservation community to take more meaningful action on critical issues such as biodiversity loss. More than one-third of America's fish and wildlife species are at risk of extinction, and more than 1,600 species are listed under the Endangered Species Act.

"This legislation represents the most significant investment in wildlife conservation in decades," says Heather Majors, director of external affairs for the Kentucky program. "RAWA would provide our partners with funding to implement on-the-ground conservation efforts that are critical to conserving and restoring habitats, fighting invasive species, reintroducing native species, and tackling emerging wildlife diseases."

TNC is currently working with the Kentucky Department of Fish and Wildlife Resources on the state's Wildlife Action Plan by providing updated mapping to inform conservation priorities. Our partner welcomed TNC's science and assistance. Conservation works best when partners have a common plan that is guided by science. TNC is helping make that possible.

"The partners are working together so we can make the biggest impact when RAWA passes," says Baxley. "Each state has to update their Wildlife Action Plan now, and TNC is excited to be working with partners to fill in data and science gaps and make the plan as strong as possible."

Majors says RAWA has broad bipartisan support and has already passed in the U.S. House

of Representatives. As this story was going to press, a vote in the Senate was expected soon.

"This legislation represents the most significant investment in wildlife conservation in decades."

Heather Majors

The total investment in U.S. conservation would be \$1.397 billion, including \$97.5 million for Tribal wildlife conservation. In addition to benefiting nature, the legislation could support as many as 33,600 U.S. jobs each year in areas such as construction, forestry, and outdoor recreation.



Gordon Dabney: GIVING TO THE NATURE CONSERVANCY

What led you to focus on The Nature Conservancy philanthropically? I

believe that TNC's mission is essential, and its work makes a real difference. Simply put, it is worth the investment of my time and financial resources. Said another way, I believe that TNC's work provides the greatest return possible because every single person I have met at the organization—locally or globally—has been among the most professional, knowledgeable, and passionate people with whom I have had the pleasure and honor to work.

Can you talk a little bit about your love for the outdoors? My father was

a big sportsman and outdoorsman. I'll never forget our duck hunting trips. Getting up at 4 a.m. in the freezing cold, and sitting in a duck blind over a spread of decoys before dawn gave me the opportunity to see Mother Nature at her best. Hearing the quack of the ducks overhead break the morning silence before dawn, then watching the world wake up as the sun begins to peek over the horizon was a very moving and memorable experience for me, and one I will never forget. These are the moments that tie us to this earth and give us an appreciation of the natural world.

How have you and Lori put an emphasis on philanthropy for your daughters? Just like hunting,

it's something that you don't just wake up one day and say, "I think I'll go try that." It's something that is taught to you. I grew up in a family where philanthropy was important and viewed as a responsibility. My father made sure we understood and appreciated this responsibility. We've always made sure our own girls were



aware of the importance of the work being done by the nonprofit community and encouraged them to seek out organizations and causes they feel strongly about and "get involved" with their time and treasure.

In what ways have you chosen to give to TNC? What were the benefits of giving like this? Other than cash, through our donor-advised fund, I made a deferred gift as part of the conservation campaign by making TNC the beneficiary on a life insurance policy provided to me by my former employer. In addition to the satisfaction of being part of the Legacy Club, it was also an easy way for us to make a more substantial gift without affecting our income.

What led you to include TNC in your estate plans? Did you find the process easy and convenient?

Unlike redrafting a will and incurring additional expenses, simply changing

the beneficiary designation to TNC was quick and easy and a great way for us to make a deferred gift.

What advice would you give to others who would like to support conservation? The first bit of advice

I would give anyone is to take a good introspective look at why you want to support conservation. What is it about conservation that is important to you and then how important is that to you? Those kinds of questions will ultimately help determine how much of an investment you're willing to make financially, whether through your estate, a major capital-size gift, or through regular annual giving. People should ask themselves: "What's the desired outcome or 'return' I want from any investment," including their personal philanthropy. This is very personal and everyone will have a different answer to this question. For me, giving generously to The Nature Conservancy delivers so much back in return.

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The Rockcastle River surrounded by eastern Kentucky forest. © Mike Wilkinson

We are inspired by our members' boundless creativity. We join you in embracing creativity by thinking outside the box to provide new ways for you to protect the world you love. For example, you can donate stocks and bonds or residential and commercial real estate. You can even create a gift tailored specifically to your unique situation. **Speak with your local Kentucky team today.**

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