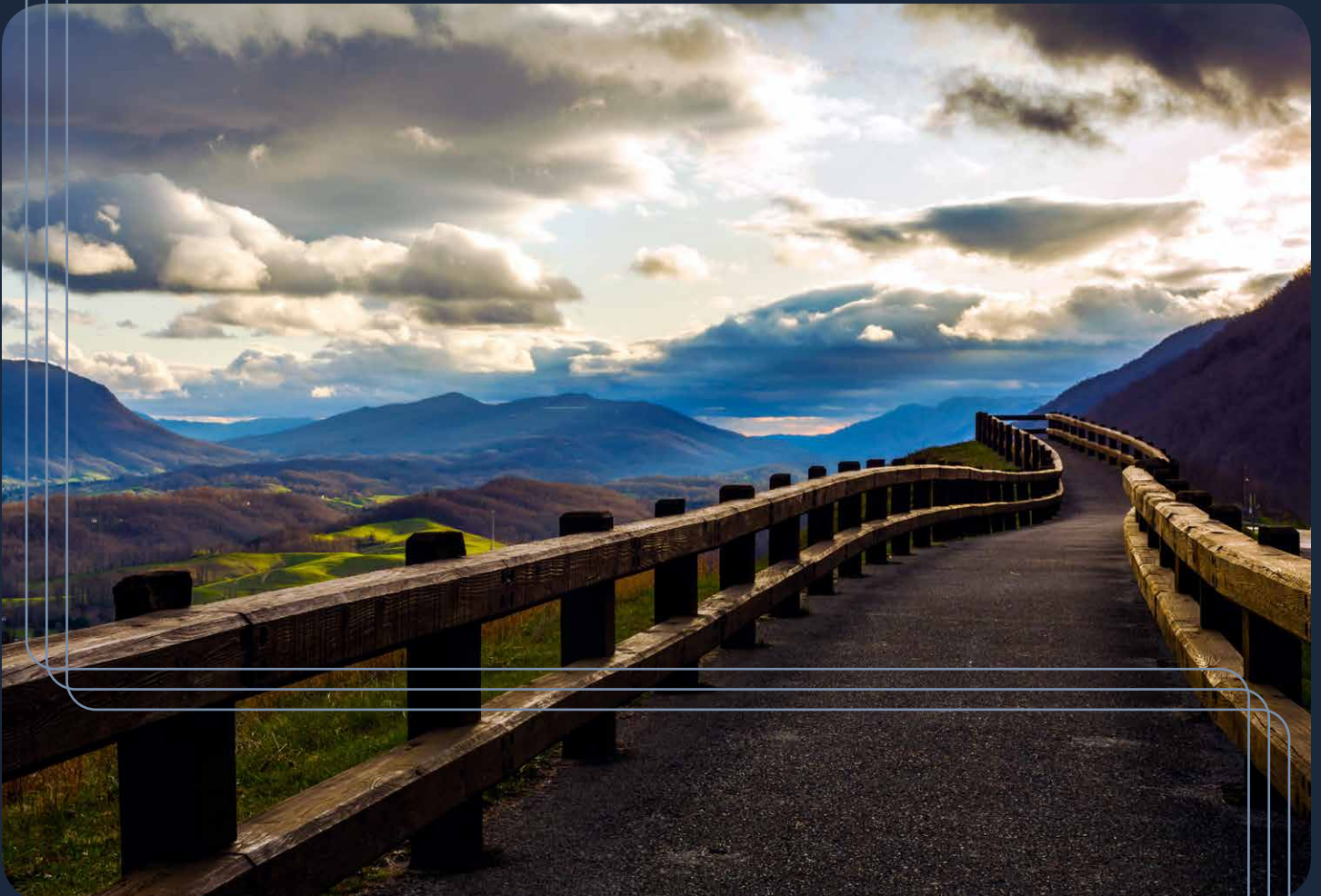


Restoration and Renewal

The New Appalachian Economy



A report by Appalachian Voices,
Coalfield Development
Corporation, Rural Action, and
Downstream Strategies

This report was developed by the Reclaiming Appalachia Coalition and was made possible through the financial support of the New York Community Trust, Just Transition Fund, Mertz Gilmore Foundation, Chorus Foundation, Mary Reynolds Babcock Foundation, JM Kaplan Fund, and Enterprise Partners. We would like to thank all of these supporters who helped make this report possible.



ABOUT THE COALITION

Founded in 2016, the Reclaiming Appalachia Coalition is a regional collaboration that seeks to spur mine reclamation projects throughout Central Appalachia that are responsive to community needs and interests and accelerate the growth of new, sustainable sectors.

The Coalition consists of lead non-profit organizations in three states—Appalachian Voices in Virginia, Coalfield Development Corporation in West Virginia, and Rural Action in Ohio. Each lead organization works with communities and partners on the ground in their state to identify places where reclamation of legacy mine features could yield transformative economic impacts for the surrounding communities. Then, working with regional technical experts at West Virginia-based Downstream Strategies and other reclamation experts, our coalition develops these ideas into viable project concepts and helps local partners secure funding to implement the innovative project. In some cases our organizations are leading these projects, while in others we provide support to community-led efforts; in either case, these projects are rooted in community needs and vision.

APPALACHIAN VOICES - VIRGINIA

Appalachian Voices has been a regional grassroots advocate for healthy communities and environmental protection for over 20 years and a leading force in Appalachia's shift from fossil fuels to clean energy and a just future. While the organization works across five states, it serves as the Reclaiming Appalachia Coalition's lead organization fostering projects in Southwest Virginia. Appalachian Voices' work in Virginia has led to the funding of the first ever solar project on an abandoned coal mine, as well as funding for numerous outdoor recreation and community revitalization projects.

COALFIELD DEVELOPMENT CORPORATION (COALFIELD) - WEST VIRGINIA

Coalfield Development Corporation (Coalfield Development) is based in Wayne, West Virginia, and has grown into a family of social enterprises working throughout the region as a leader in building a new economy during the wake of the coal industry's rapid decline. Since its time with the Reclaiming Appalachia Coalition, Coalfield Development has served as the lead organization for West Virginia, coordinating closely with local organizations and stakeholders on community-based revitalization and workforce development. This also includes supporting the West Virginia-based projects of

Downstream Strategies and other partners throughout the state. Coalfield Development has also pioneered its innovative role within the coalition as a leader in the emerging ReUse Corridor, catalyzing abandoned mine land sites to address and localize the recycling, upcycling, and maker-economies in Appalachia. This overlapping of the two multi-state network structures has created a symbiotic atmosphere of opportunity for the future of mineland remediation—with the potential to generate green collar jobs and training, bio-based manufacturing, tourism enhancement, and infrastructure improvements throughout the region.

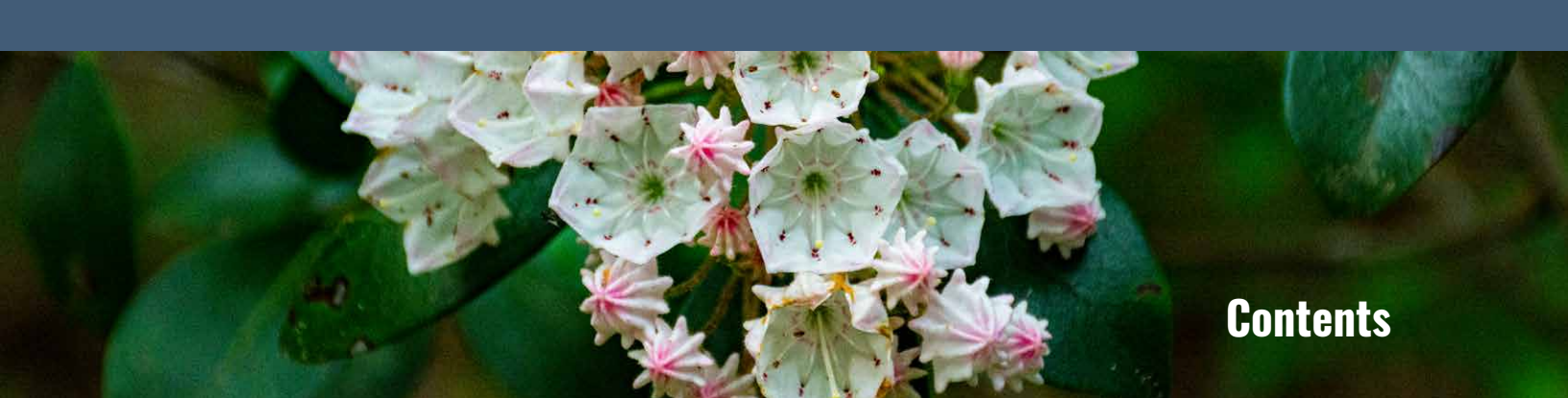
RURAL ACTION (RA) - OHIO

Rural Action has a mission to foster social, economic, and environmental justice in Appalachian Ohio, working at the grassroots level to grow sectors built from the region's assets—sectors that have the potential to expand sustainable economic development. These include projects, programs, and social enterprises in watershed restoration, zero waste/recycling, forestry, agriculture, environmental education, energy and climate, and resilient communities. As the Reclaiming Appalachia Coalition's lead organization for Ohio, Rural Action conducts community engagement while identifying project areas and economic development ideas and helping prepare applications for consideration by the Ohio Department of Natural Resources.

DOWNSTREAM STRATEGIES - REGIONAL TECHNICAL ASSISTANCE

Downstream Strategies. Downstream Strategies is an environmental and economic development consulting firm based in West Virginia. Through decades of work within the region, the firm is proud to be recognized as a leader in innovative economic development. Since 2017, Downstream Strategies has served as the regional technical expert for the Reclaiming Appalachia Coalition. Through this work, its staff identifies potential projects and opportunities, develops ideas into fundable project concepts, and helps secure partnerships and financial support for implementation.





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Introduction

Like much of the world, the Reclaiming Appalachia Coalition's work in communities throughout the region has been challenged by COVID-19. The Coalition adapted as much of the world did: taking meetings and presentations virtually, wearing masks and social distancing for necessary field work, and working diligently in the available capacity while preparing for better days.

Working within the context of a global pandemic presents uncertainties and challenges to Appalachia's ongoing economic transition. As the virus still looms large, we do not yet have a clear picture of how the travel, tourism, and hospitality industries, and other markets will recover. Nor do we fully understand how our industries, workplaces, and ways of life will evolve in response to the pandemic.

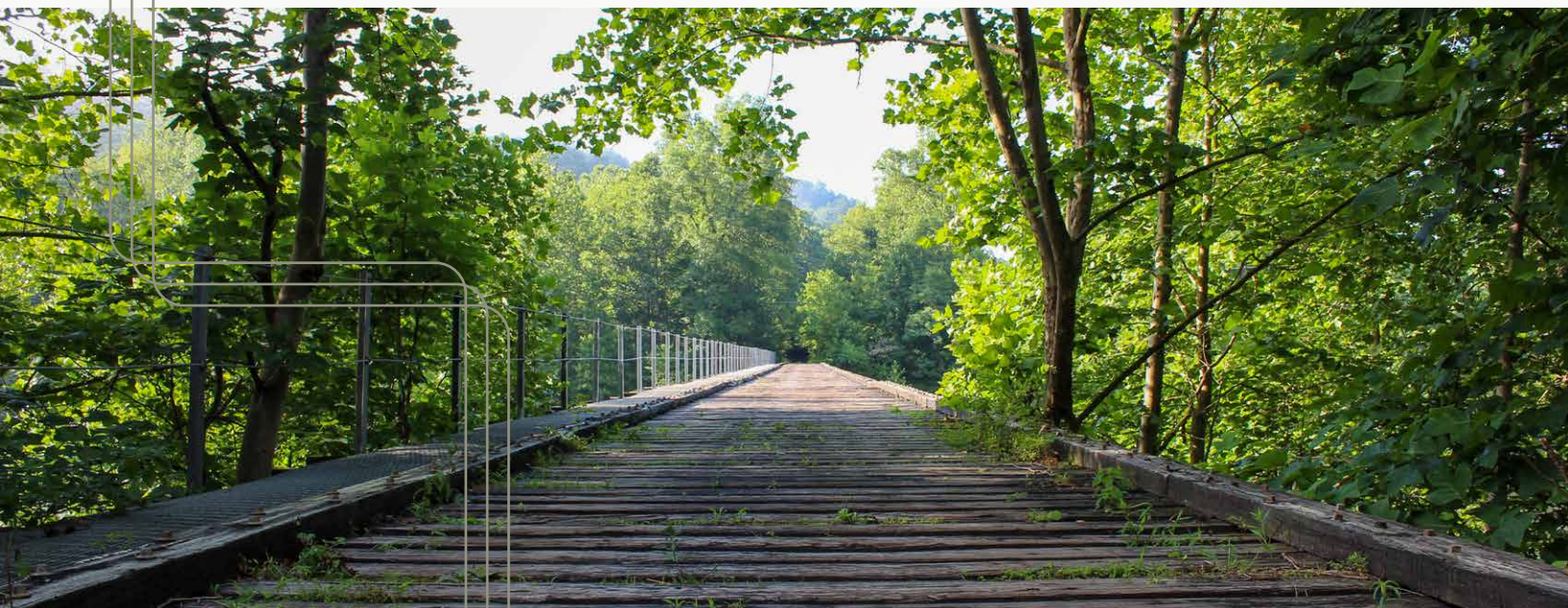
Ultimately, the pandemic underscores the importance of community resilience and the need for a Just Transition in Appalachia. Due to the economic shutdown in 2020, many Americans are experiencing for the first time what coalfield communities have endured for decades: shuttering businesses, widespread job losses, and few opportunities for employment rising to fill the void.

Our experience working in communities throughout the region has shown that the work of creating a Just Transition is a marathon, not a sprint. Though the realities of COVID-19 are truly unprecedented, Appalachians are no strangers to hardship. Shaped by decades of regional struggle and perseverance, this perspective gives us faith and determination as we continue working toward our long-term goal of economic transformation across Appalachia.

COALITION PROGRESS

Despite the lingering turmoil of 2020, it's not all bad news. With four years of work as the Reclaiming Appalachia Coalition under our belts, we are starting to see funded projects coming into fruition and showing initial results, as shown in detail on pages 3-4.

We are starting to see job creation, such as at the D.O. Hall Business Center serving Cambridge and Guernsey counties in Ohio. After an initial investment of \$954,593 in federal funding to stabilize a nine-acre parcel underlain by a deep mine within the D.O. Hall Business Center complex, private investment of \$322,000 for site development followed. This investment was made by FedEx



Corporation, which operates a distribution facility on a contiguous parcel. It has expanded its footprint to place 120 vans and trailers as well as 50–75 personal vehicles on the newly developed site as the company contemplates further enhancement of its facility.

While we recognize that achieving our vision of resilient communities with robust economies is still a long-term effort, our initial results show we are heading in the right direction. We are proud to present our progress in this report.

NEW IN THIS REPORT

In addition to project profiles in our core states, which has become the foundation of our annual reports, we are excited to provide overviews of new initiatives launched in 2020, which include:

- On page 7, we share a summary-report on the reclamation bonding issues facing Appalachian states, warning of a new round of abandoned mines as coal companies go bankrupt while the companies and states lack the necessary funding to clean up mines permitted under SMCRA. At least 490,000 acres of mined land in Central Appalachia require some reclamation. The cost of that reclamation may amount to \$6 billion, while available bonds only total \$2.5 billion. Coal companies are supposed to finance that reclamation, but the trend of bankruptcies presents the possibility that a large portion of those lands will remain unreclaimed if companies forfeit their bonds. This issue will be a major focus of our work in 2021 and beyond. We plan to expand on the initial analysis

presented in this report to gain a fuller understanding of the scope and cost of outstanding reclamation liability, and develop a data-informed strategy for policies that will address this looming social and environmental crisis.

- Starting on page 50, we share projects that received Coalition support through a mini-grant program funding five community-driven innovative reclamation projects in Kentucky, Pennsylvania, and Alabama. We introduced the Innovative Mine Land Reclamation and Economic Development Project Mini-Grant program in 2020 to expand our community of practice into additional states, reaffirm our investment in current states, further our commitment to innovative mine reclamation projects, and build capacity in new partners. The mini-grant offered start-up funds and technical and planning assistance for interested businesses, organizations, government agencies, and individuals in Alabama, Kentucky, Virginia, West Virginia, Pennsylvania, and Ohio. We were excited by the number and substance of the responses, which were from a range of entities located throughout eligible states and covered an array of topics.



FUNDED PROJECTS

This report is the third in a series presented by the Reclaiming Appalachia Coalition. In it, you'll find a review of projects funded to date—now totaling over \$31 million in investment while creating an estimated 400 jobs.

TABLE 1: FUNDED PROJECTS 2019-2020

State	Year	Applicant	Project	Federal Pilot Award	Leveraged Resources	Total Project Investment
KY	2018	Kentucky River Area Development District	South Fork Elk View Campground	\$1,345,000	\$0	\$1,345,000
OH	2019	Ohio Department of Natural Resources	Moonville Trails	\$1,150,600	\$920,500	\$2,071,100
OH	2019	Rural Action and Ohio University	Truetown Paint Pigments	\$3,489,408	\$3,982,211	\$7,471,619
OH	2018	Ohio Department of Natural Resources	D.O. Hall Business Park Expansion	\$954,593	\$0	\$954,593
OH	2019	Ohio Department of Natural Resources	Wellston Recreation Complex	\$391,000	\$0	\$391,000
VA	2018	Scott County	Devils Fork	\$88,000	\$172,000	\$260,000
VA	2018	Russell County	Dante Revitalization	\$269,000	\$265,000	\$534,000
VA	2018	Wise County Industrial Development Auth.	SWVA Solar Springboard	\$500,000	\$4,100,000	\$4,600,000
VA	2019	People Inc.	Trammel	\$1,143,575	\$1,000,000	\$2,143,575
VA	2019	The Nature Conservancy	Clinch River Campgrounds	\$2,460,000	\$0	\$2,460,000
WV	2018	Friends of Cheat	RE-CREATE	\$3,014,000	\$536,000	\$3,550,000
WV	2018	Refresh Appalachia	A Food-Safe Processing Facility	\$4,000,000	\$1,358,000	\$5,358,000
WV	2019	Coalfield Development Corporation	Black Diamond Re-Use Center	\$0	\$600,000	\$600,000
Total:				\$18,805,176	\$12,933,711	\$31,738,887



TABLE 2: CONSTRUCTION IMPACT 2019-2020

State	Project	Final-demand Output	Final-demand Earnings	Final-demand Employment	Final-demand Value-added
KY	South Fork Elk View Campground	\$9,239,643	\$3,116,426	67.34	\$5,041,451
OH	Moonville Trails	\$2,822,002	\$976,716	21.83	\$1,546,682
OH	Truetown Paint Pigments	\$8,535,566	\$2,795,345	60.45	\$4,714,540
OH	D.O. Hall Business Park Expansion	\$2,920,444	\$685,842	14.14	\$1,359,595
OH	Wellston Recreation Complex	\$826,657	\$256,493	9.09	\$480,332
VA	Devils Fork	\$615,789	\$167,826	3.53	\$318,974
VA	Dante Revitalization	\$1,173,309	\$357,951	7.79	\$629,623
VA	SWVA Solar Springboard	\$8,054,196	\$1,673,651	29.70	\$4,534,019
VA	Trammel	\$2,696,320	\$782,248	17.42	\$1,374,616
VA	Clinch River Campgrounds	\$5,317,691	\$1,373,209	31.30	\$2,773,934
WV	RE-CREATE	\$7,407,911	\$990,947	46.32	\$4,066,084
WV	A Food-Safe Processing Facility	\$12,019,497	\$3,706,718	83.25	\$6,310,845
WV	Black Diamond Re-Use Center	\$1,119,193	\$323,166	7.11	\$590,409
Total:		\$62,748,217	\$17,206,537	399.27	\$33,741,105

To date, the Reclaiming Appalachia Coalition has provided technical assistance to dozens of local government entities and community organizations, resulting in the submission of more than \$54 million in grant applications. These partnerships have effectively secured over \$18.8 million in AML Pilot funds and leveraged approximately \$12.9 million in additional funds. This success has cemented our coalition as a thought leader and indispensable resource for communities in the field. As demonstrated in the succeeding pages, the development opportunities our partners are pursuing are diverse and bring valuable impact to our region.



The Reclaiming Appalachia Coalition is a regional collaboration that seeks to spur mine reclamation projects throughout Central Appalachia that are responsive to community needs and interests and that accelerate the growth of new, sustainable sectors. The Coalition consists of leading organizations in four states—Appalachian Voices in Virginia, Coalfield Development Corporation in West Virginia, and Rural Action in Ohio—and a regional technical expert, Downstream Strategies, based in West Virginia.

Rural Action



Appalachian Voices



WHAT IS A JUST TRANSITION?

As the Appalachian region works to gradually evolve its economy into one that both guards the natural environment and bolsters the livelihoods of those who live here, the concept of a “Just Transition” is becoming manifest in communities throughout the mountains.

Although extractive industries have been the backbone of Appalachia for decades, current efforts to diversify its economy are turning the tide for future generations. As our national and global economies shift to a low-carbon platform, countless long-standing jobs and established companies are in jeopardy, creating tension between the concern for working people’s means to provide for their families and the concern for environmental stewardship in the marketplace.

Just Transition holds that the workers and communities who gave the most in the carbon-intensive economies of the past—those who have the most at stake as we shift to a greener economy—should be among the first to benefit from the new clean energy framework of the 21st

century. It is an elemental precept to understand that this will not occur without targeted, system-level intervention.

As we work to fulfil this immense mandate one project at a time, we help validate the hope that so many have placed in the Just Transition movement. When we fall short and mistake the cheerful message of hope for the actual outcome that is so desperately needed in our communities, we do a disservice to the hardworking individuals who shaped Appalachia as well as feed the voices of skepticism that cast doubt on our motives and methods. This report features projects that successfully enact the shift toward a flourishing sustainable economy on a local scale—ways we can make good on the promise of a Just Transition.

WHAT IS INNOVATIVE RECLAMATION?

Each project is a partnership with local stakeholders and community members; we help conceptualize and bring to life ideas that represent a microcosm of the larger coal-to-sustainable economy transformation taking place across the region. For decades, many mine land reclamation and reuse projects were simply stopgap plans to nullify the dangers of AML features and erect cookie cutter commercial and industrial buildings deprived of any long-term, deliberate end use. These former AMLs may be reclaimed, but many are still abandoned—they were developed with little or no input or collaboration from the community, guiding principles, nor purposeful design.

In contrast, Innovative Mine Reclamation replaces the stale strategies of the past with site-specific, community-minded, and sustainable approaches for vibrant end uses that will yield economic and environmental benefits for years to come. This new mode of mine land reclamation and reuse adheres to a progressive set of best practices that meet criteria established by the Reclaiming Appalachia Coalition.

Our projects follow the principles of Innovative Mine Reclamation:

- Go above and beyond the legal reclamation requirements for AML features and bond forfeiture properties to create sites that are primed for sustainable development, native ecosystem restoration, or both.
- Make projects appropriate to the specific place they are occurring.
- Be inclusive of multiple community stakeholders, especially in addition to traditional decision makers, in project development.
- Promote environmental sustainability, and do not cause additional harm.
- Make projects financially viable beyond the initial grant period.
- Introduce new, viable concepts to the Appalachian coalfields that could be successfully replicated on similar sites throughout the region.

GET IN TOUCH

Getting an email or phone call that begins with “I read your reclamation report. I have an idea to share” makes our day. We welcome your perspective, feedback, project ideas, and questions.

West Virginia: Jacob Hannah, Coalfield Development Corporation
jhannah@coalfield-development.org

Ohio: Marissa Lautzenheizer, Rural Action
marissa@ruralaction.org

Virginia: Adam Wells, Appalachian Voices
adam@appvoices.org

Regional: Joey James, Downstream Strategies
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A NEW ROUND OF ABANDONED MINES?

Since the passage of the Surface Mining Control and Reclamation Act (SMCRA) in 1977, coal companies have been required to provide reclamation bonds for all mining permits. The bonds help to ensure reclamation can be completed even if a company abandons a permit. But the Office of Surface Mining Reclamation and Enforcement (OSMRE) has given states significant leeway in designing bonding programs. As a result, states have implemented bonding mechanisms that are not sufficiently secure, and have estimated bond amounts that may not cover actual reclamation liability. Largely through federal oversight and pressure from local communities, some states have attempted to strengthen bonding programs. But it may be too little, too late. As coal companies continue to declare bankruptcy, these insufficient bonding programs mean that mines may once again be at risk of abandonment.

Over the past several decades, companies have rarely turned permits over to regulatory agencies, and when they have, they have forfeited their reclamation bond so that it may be used for reclamation of the abandoned permit. In most large bankruptcy cases, companies have either maintained ownership of mine permits when emerging from bankruptcy or have successfully sold permits to other coal companies. Bond forfeitures have occurred, but the total number of permits and total acreage has been low, so the forfeitures have not placed excessive stress on state bonding programs. But over 50 coal companies have gone bankrupt in the past decade, and the trend is only continuing.

As more companies declare bankruptcy or otherwise exit the thermal coal industry, fewer companies remain to take over existing mining permits in need of reclamation. We have not yet seen a large company abandon many mines, but we are likely about to. Many state bonding programs were not designed to withstand widespread forfeiture resulting from multiple bankruptcies or even the bankruptcy of a single large company. Insufficient data regarding outstanding reclamation needs and costs makes it difficult to determine the extent of bonding shortfalls. But what is clear is that without significant intervention, the bonding system may be unable to prevent a new wave of abandoned coal mines in Central Appalachia.

BONDING OVERVIEW

In Appalachia, most permits are covered either by surety bonds or financial asset collateral bonds. Virginia still has some legacy self-bonds in place, though new self-bonds are no longer allowed. In Ohio, West Virginia, Virginia, and Kentucky, many companies also take part in a state pool bond. In this scenario, a permit is covered in part by a site-specific bond, which is typically lower than a full-cost bond, and the company also pays fees into a pool. If a mine is forfeited, reclamation is covered first by the site-specific bond, and any shortfall is made up by the pool.

Surety bonds: bond amounts are guaranteed by a third party company

Collateral bonds: financial or property assets

Self-bond: bond amounts promised by coal company itself, but no cash or collateral exists

ESTIMATING THE COST OF RECLAMATION

State agencies and OSMRE collect data on the amount of land disturbed from mining, the degree of reclamation progress, and the amount and type of bonds available. While useful, this data provides an incomplete understanding of the true cost of outstanding reclamation needs. The cost of reclamation can vary considerably from permit to permit, depending on the amount of highwall requiring backfilling, the amount of regrading needed, the number of roads and ponds to remove, and any long-term water treatment needs. Regulatory agencies have been unable to evaluate all permits for outstanding reclamation needs. But this information is critical to determining whether bonding programs will adequately cover reclamation in the face of widespread mine abandonment.

Based on available public data, we have attempted to make a rough estimate of reclamation liability across Ohio, West Virginia, Kentucky, Virginia, and Tennessee. According to state and federal data, current mine permits consist of over 490,000 acres of disturbed land. Of that amount, about 370,000 acres have been partially reclaimed—typically including regrading and reseeding.

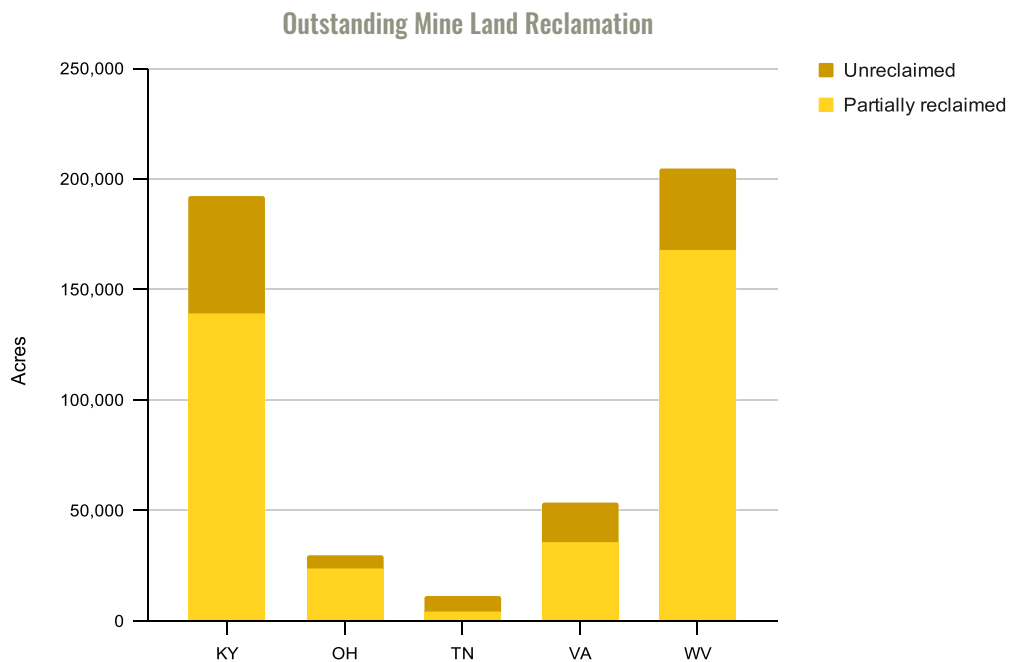


Figure 1: This data is based on state inspector data for all states except Tennessee. Tennessee data is based on acreage disturbed, and bond release status as a proxy for reclamation progress. Partially reclaimed land is typically defined as land that has been regraded and reseeded. Unreclaimed land may have some reclamation activity, as SMCRA requires contemporaneous reclamation.

To estimate the cost of reclaiming the disturbed land, we used reclamation cost worksheets completed by the Virginia Department of Mines Minerals and Energy for a set of 25 permits in Virginia. These permits covered multiple permit types, including coal preparation plants and refuse sites, but consisted predominantly of surface mine permits. We used the median per-acre cost to account for the skew created by several high-liability sites that require extensive backfilling. We determined that the median per-acre cost of sites that required backfilling and/or regrading is \$16,000 per acre. We determined that the median per-acre cost of sites with major backfilling and regrading completed is \$11,000 per acre. We then applied these two estimated costs to the total outstanding unreclaimed and partially reclaimed acreage respectively. Based on these calculations, the total reclamation liability across the five states would be approximately \$6 billion. Our estimate is only preliminary, based on the best publicly available data at this point. Ideally, regulatory agencies will work toward their own estimates of reclamation liability, or make additional relevant data available to the public.

At least 490,000 acres of mined land in Central Appalachia require some reclamation. The cost of that reclamation may amount to \$6 billion, while available bonds only total \$2.5 billion. Coal companies are supposed to finance that reclamation, but the trend of bankruptcies presents the possibility that a large portion of those lands will remain unreclaimed if companies forfeit their bonds.

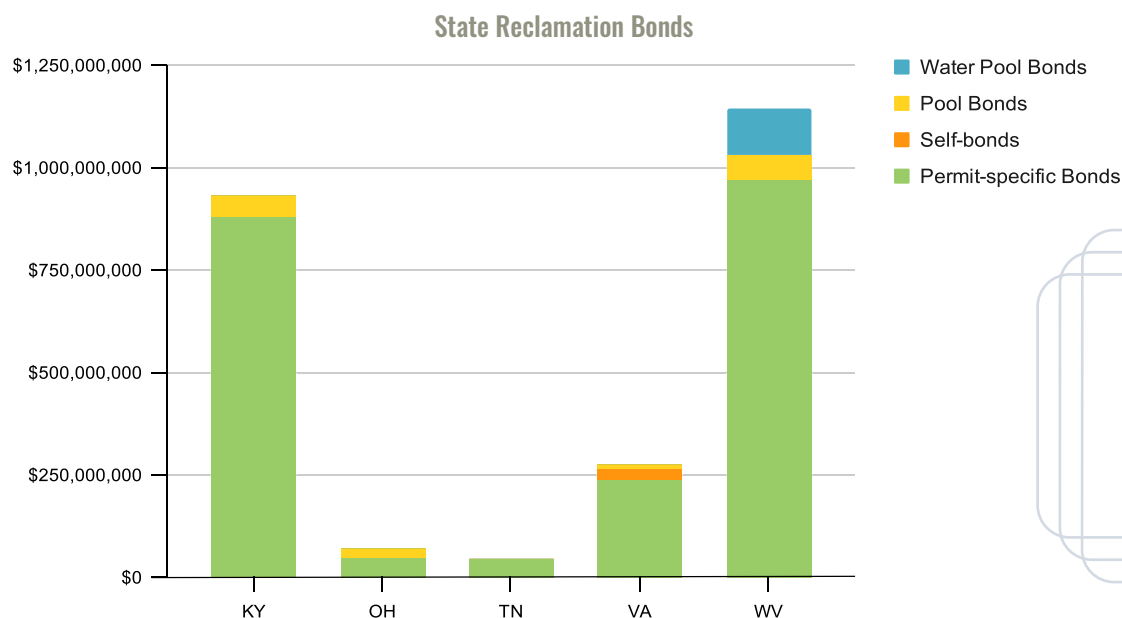


Figure 2: Total bond amounts by state and bond type.

We also collected state and federal data on available reclamation bonds. Available bonds between all five states amount to about \$2.5 billion dollars, or 42% of the estimated liability. However, bonds are not equally available between states or to different permits. The vast majority of bonds are permit-specific bonds that would only be available to the specific permit for which the bond is held. Additionally, state pools are only available for permits participating in the pool. Bonds vary widely between states and may or may not correspond with actual reclamation liability. Further analysis is needed to determine the sufficiency of each state's individual bonding program.

LOOMING CATASTROPHES

While it is uncommon for state regulators to determine total reclamation liability, several states have recently determined reclamation liability for particular companies. The cases summarized demonstrate the risk that bankruptcies can pose to site-specific reclamation bonds, state pool bonds, and even to surety company solvency. How states choose to deal with these scenarios can have serious implications for reclamation and enforcement of environmental laws. In each of these cases, regulators are attempting to shield their bonding programs from the impact of widespread bond forfeiture by allowing companies almost unlimited time to complete reclamation or transfer permits, or by removing access to the pool bonds.

A&G SELF-BONDS IN VIRGINIA

Though Virginia stopped approving self-bonds in 2014, A&G Coal Corporation still has self-bonds in place for 20 mining permits that were issued prior to 2014. Almost all of these permits also participate in Virginia's pool bond.

In 2016, the Virginia Department of Mines, Minerals and Energy estimated the reclamation liability at A&G's mines to be \$134 million. A review of the three largest mines, responsible for \$95 million of the total liability, shows little reclamation progress in the last four years.

A&G holds about \$24 million in self-bonds. The state pool bond currently holds just over \$10 million and covers a portion of 151 permits held by 33 companies. If A&G were to forfeit its permits, the cost of reclamation may far exceed the total pool bond, the available surety bonds, and the self-bonds. If the state were unable to collect the self-bonds from the company, an even greater reclamation liability could fall to taxpayers.

BLACKJEWEL BANKRUPTCY IN KENTUCKY

Blackjewel and its affiliates declared bankruptcy in July 2019, and they have yet to finalize a bankruptcy plan. Most of the coal mines involved are in Eastern Kentucky, though the company also holds permits in Wyoming, West Virginia, Virginia, and Tennessee.

The Kentucky Energy and Environment Cabinet reviewed 20% of the Blackjewel mines in Kentucky to determine reclamation liability. The analysis revealed that the reclamation liability at those permits, which would number around 40 based on the total number of permits originally held by Blackjewel, would exceed the available bonds by \$38 million. The Kentucky Reclamation Guaranty Fund, the state pool meant to make up the shortfall, has approximately \$46 million. The pool bond includes roughly 96% of all permits in Kentucky.

Blackjewel has attempted to sell its mines to other companies, but only about 60 permits have been successfully sold and transferred. Around 160 permits have theoretically been sold, but the transfer process has stalled. Over 40 permits have no buyer at all. It is very likely that a large number of these unsold and untransferred permits will be abandoned by Blackjewel. Once abandoned, the surety companies holding the bonds may choose to pursue reclamation, or reclamation will fall to the states to manage, utilizing available bonds.

ERP ENVIRONMENTAL FUND RECEIVERSHIP IN WEST VIRGINIA

In early 2020, the West Virginia Department of Environmental Protection (DEP) filed a lawsuit seeking to place the coal company ERP Environmental Fund into a receivership, where a third party is appointed to manage the company's mines. The DEP issued a number of enforcement actions to compel the company to comply with environmental and safety regulations, including monetary penalties and potential permit revocation. But, according to court documents, ERP conveyed that the company had no cash and already owed \$15 million to various vendors and suppliers.

ERP originally obtained over 100 permits in West Virginia through the bankruptcy of Patriot Coal Company in 2015. At that time, the DEP determined those remaining permits would cost \$230 million to reclaim. Unfortunately, ERP made little progress in reclamation over the next four years.

Typically, a state agency would pursue bond forfeiture proceedings in a case like this. ERP's permits are backed by \$115 million in reclamation bonds, provided by Indemnity National Insurance Company, which would become available upon bond forfeiture. However, according to a motion filed by DEP, neither Indemnity nor the DEP want the permits forfeited, as forfeiture could bankrupt Indemnity National Insurance Company and the remaining reclamation cost could overwhelm the Special Reclamation Fund, West Virginia's pool bond.

CONCLUSION

The coal industry has changed tremendously in recent years, and the string of bankruptcies now underway shows no signs of stopping. The systems designed to provide a backstop against mine abandonment no longer appear capable of meeting that challenge, both because bond requirements have been too lax and enforcement mechanisms, such as fines and permit revocations, mean little to failing companies that can no longer sell coal.

Determining whether bonding programs are sufficient to cover potential reclamation liabilities is difficult because the answer depends on a number of variables: the true cost of reclamation, the number of permits relinquished to regulatory agencies, and available bonds. Ideally, all mines would be fully reclaimed by the responsible coal company. But the examples above show that this will not be the case.

These situations demonstrate that worst-case scenarios are already unfolding in several states. If any of these companies abandon a large number of permits, that could devastate the state pool bond, making it less likely that the state can cover the cost of mine cleanup when the next coal company goes bankrupt. But if the abandoned permits are denied access to the state pools, that will leave reclamation at these mines underfunded. Not only does this put landowners and nearby residents at risk, it extends the amount of time that these permits can damage land and water, and makes it harder for local economies to move forward.

In light of the current instability of the industry, it is imperative that state mining agencies and OSMRE work together to determine reclamation need and liability, the health of state bonding programs, and how to incentivize timely reclamation that leaves former mine sites in safe and productive condition, ready to support a wide range of ecological and economic post-mining land uses.



The Looney Ridge mine in Wise County, VA has remained virtually unchanged for over seven years. Outstanding reclamation at this mine is backed only by self-bonds, which are unlikely to materialize if the mine is abandoned. The Virginia Department of Mines Minerals and Energy evaluated this mine in 2016 and determined the outstanding cost of reclamation to be over \$15 million.

OHIO



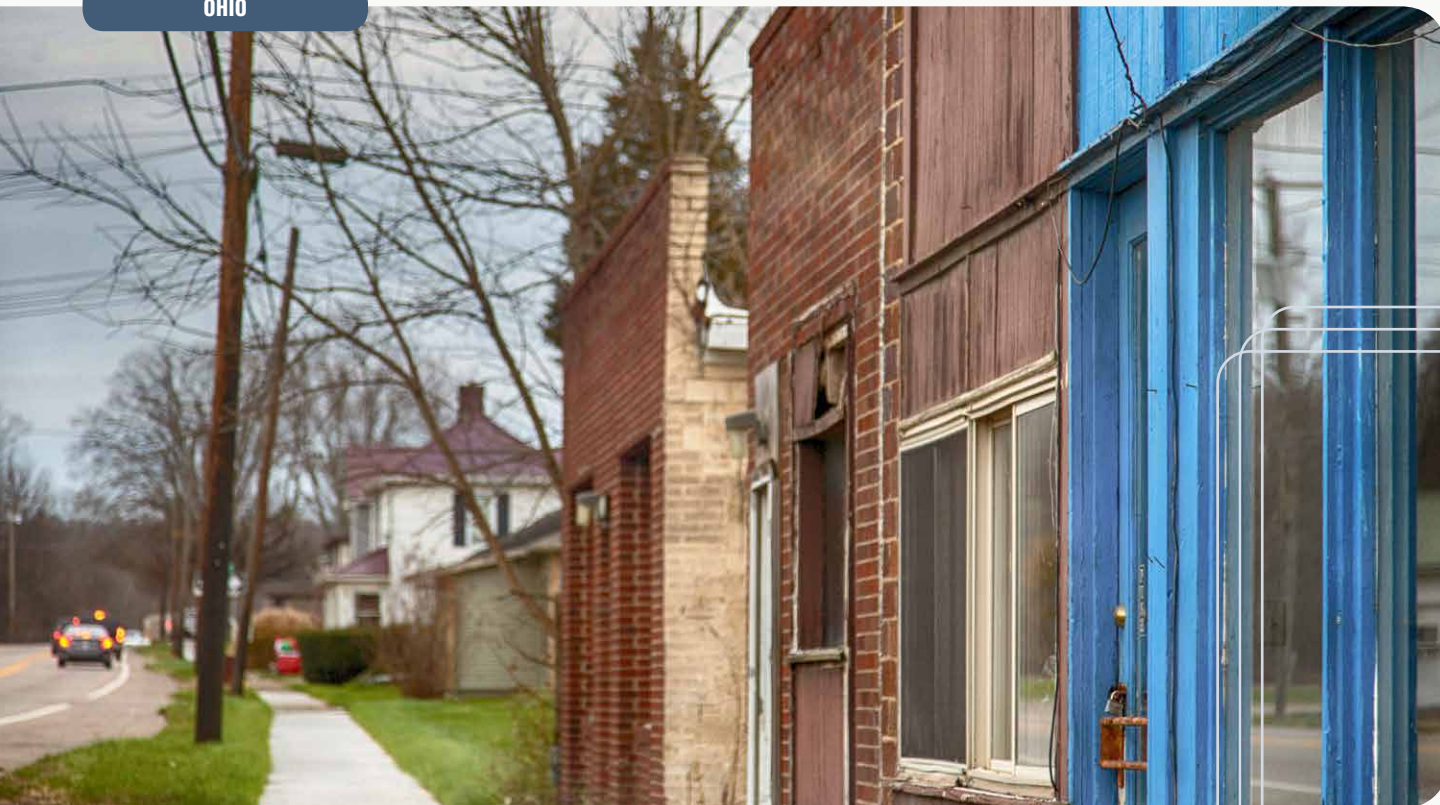
We are now in our fourth year of federal AML Pilot funding in the coal-bearing region of Ohio. We have seen some projects gain momentum and achieve success—moving the needle and making a real impact in the quality of life for nearby communities. Other projects have proven more difficult to accomplish, stumbling on a myriad assortment of challenges and delays, only to be compounded by a global pandemic and the resulting recession. While we have experienced frustrations with some initiatives, time and time again I am astounded with the resilience and ingenuity of my neighbors.

Faced with centuries of exploitive, extractive-based economies, we are rallying to not only embrace new technologies and industries, but create them ourselves. Some of our most renewable—and beautiful—assets are our region’s public lands, rivers, and other outdoor attractions. However, some of the most scenic areas are also the most impacted by unreclaimed abandoned mines. The AML Pilot program is invested in making these public spaces safer to recreate on while simultaneously cleaning up the environment that we all share.

And, we are finally realizing the false narrative that is the dichotomy between livable jobs and a clean environment. Our workforce is here, skilled, and ready to reclaim the scars left from the past decades. Ohio will continue to help lead the way to a more just, equitable, and vibrant future for coalfield communities throughout our nation. I’m excited to see what tomorrow brings, for my township, our state, the Appalachian region, and our nation as a whole.



Marissa Lautzenheiser
Director of Northern Programs
Rural Action



THE BAILEYS TRAILHEADS

Project applicant: Rural Action

Project location: Chauncey & Doanville, Athens County, OH

AML Pilot request: \$1,791,877

Leveraged/matched resources: \$5,420,000

ABOUT THIS PROJECT

The Baileys Trail system will be an 88-mile multi-use trail encompassing over 9,000 acres in southeastern Ohio. With an emphasis on mountain biking access and enhancements, it will be the longest connected trail system east of the Mississippi River. The first two phases of the project include construction of 31 miles of trail and development of two trailheads in northern Athens County. Once the epicenter of coal production in Ohio, the region now boasts a growing ecotourism economy featuring a national forest and multiple state parks.

The villages of Chauncey and Doanville will serve as the first trailheads and regional anchors to the Baileys Trail system. Both villages thrived in the late 1800s and early 1900s with economies based entirely on coal mining. Resulting abandoned mine land features still dot the landscape today, and reclamation of many environmental and human safety features will have to occur in conjunction with the Baileys Trail system development.

The Ohio Department of Natural Resources and the Office of Surface Mining, Reclamation, and Enforcement have approved the construction of two trailheads and additional trail improvements as an AML Pilot project for 2020–2021.

PARTNERSHIPS

Partners include the Wayne National Forest, Athens County and various county departments, Ohio University, City of Athens, City of Nelsonville, Village of Chauncey, York Township, Rural Action, Hocking-Athens-Perry Community Action Program, Appalachian Center for Economic Networks, Applied Trail Research, USDA Rural Development, the National Park Service, and many others.





AML NEXUS

The Chauncey Trailhead will be located at a village park atop an abandoned underground mine, which currently has dilapidated mining company buildings left from the 1950s. The Doanville Trailhead will be on township-owned land that has a dangerous abandoned mine opening dating back to 1900. In the vicinity of both trailheads are numerous mine subsidences, stream captures, vertical mine openings, and collapsed mine shafts, all of which pose extreme danger to the general public and could hamper the economic impact of the Baileys Trail system development.

FUNDING SOURCES

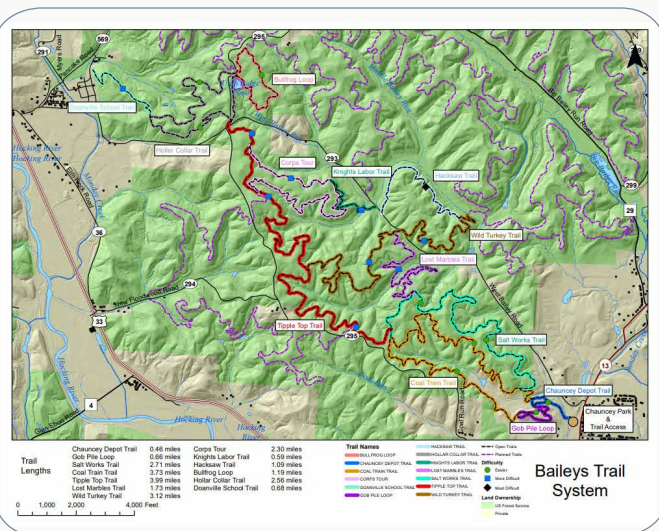
The AML Pilot program has committed approximately \$1.8 million for site restoration and AML reclamation projects, trailhead construction at the Village of Chauncey and Village of Doanville, partial funding for the design and construction of a trail spur to the existing 21-mile Hockhocking Adena Bikeway in the Village of Chauncey, and sidewalk improvements in the Village of Chauncey.

PROJECT IMPACT

The development of the Baileys Trail system will serve to catalyze the ecotourism opportunity in southeastern Ohio. The construction of two trailheads in communities long affected by abandoned mine land issues will invigorate the local businesses that stand to benefit the most from the influx of visitors. In addition to the multi-year, phased construction project and the skilled reclamation jobs that will be supported, the project will also encourage entrepreneurship and boost growing business sectors such as outdoor guiding, gear supply, and alternative lodging. The trail system will be within 250 miles of 35 million people, nearly 15% of the nation's population. This project has already drawn national attention to southeast Ohio and is poised to radically impact the economic development trajectory of an entire region.

As a result of this project, 780 linear feet of stream will be reconstructed and improved, 7,000 square feet of hazardous facilities will be demolished, and multiple dangerous mine subsidences and openings will be safely sealed.

The total project cost is approximately \$7.2 million. A variety of funding sources are contributing to the larger project, and \$5.4 million has been confirmed. Included in that is an Appalachian Regional Commission POWER grant for \$3.5 million. An additional \$754,000 of project work has already been completed by partners. Quantified Ventures, a consulting firm specializing in Environmental Impact Bonds, has conducted a feasibility study of the project in conjunction with the Wayne National Forest. Economic modeling of the project indicates an annual increase of 180,000 visitors to the area in the first decade, resulting in \$24.8 million in local economic spending, \$8.6 million in additional wages, and 65 jobs created or retained.





RUSH CREEK AML ASSESSMENT AND CLEANUP

Project applicant: Rural Action

Project location: Rush Creek Watershed, Perry County, OH

AML Pilot request: N/A

Leveraged/matched resources: \$50,000

ABOUT THIS PROJECT

The Rush Creek watershed has a long history of surface and underground coal mining. There are almost 6,000 acres of AML-affected land in this small watershed, all of which impact the biological health of the stream. With 13 mapped abandoned underground mines and records of mine abandonment dating back to 1912, the communities in this watershed are used to living with the remains of an extractive industry. The Rush Creek itself is lifeless, scoring the worst a stream can rate on Ohio EPA's ranking system for stream health. The Rush Creek flows through major communities in Perry County including New Lexington, the County seat.

Along with looming gob piles and plumes of heavy metal-laden acid mine drainage in the stream, communities like Junction City, Rehoboth, and New Lexington are left to deal with the economic scars of AMLs. The county's poverty rate is nearly six points higher than the national average, and in the Appalachian Ohio region as a whole, nearly one in four children are growing up in poverty. The two incorporated communities that Rush Creek flows through, New Lexington and Junction City, have disproportionately high poverty rates, more than 39% in one case. Perry County is one of only eight counties in Ohio labeled as "distressed" by the Appalachian Regional Commission, a marker of economic instability.

Rural Action has spearheaded a group of organizations invested in restoring and revitalizing Rush Creek and the communities that exist along its banks. The diverse coalition includes local government offices, state agencies, Soil and Water Conservation Districts, county commissioners, and private consulting firms. Together with partners, Rural Action submitted a request to USEPA for a \$300,000 Brownfield Assessment Grant. If funded, the project would be the first of its kind in the eastern United States. While "mine-scarred land" is an eligible hazard to be assessed and remediated with brownfield funding, it is one of the least addressed forms of pollution for the funding source. Rural Action is working to access this alternative source of funding to assess the extent and impact of pollution in Rush Creek, which would lead to many opportunities for leveraged funding by AML Pilot and other state and federal funding programs.

PARTNERSHIPS

Partners include Rural Action; Upper Rush Creek Revitalization Inc.; Ohio University; Rush Creek Conservancy; Perry Soil and Water Conservation District; Perry County Commissioners; the Ohio Department of Natural Resources, Division of Mineral Resources Management (ODNR-DMRM); and Friends of Perry State Forest.

AML NEXUS

There are historical abandoned coal mines throughout the upper Rush Creek watershed. Prior data collection by ODNR-DMRM identified four main target areas with a total of 17 known abandoned mines located within them. These four target areas collectively contribute over 90% of the total metal and acid pollution to the mainstem of Rush Creek. One of the target areas, Rehoboth, also was found to be contributing higher than average levels of radium to surface water, an element linked to human health impacts. AMLIS data reveals there are 40 acres of coal pits, 220 acres of spoil area, almost 1.5 miles of clogged streams, and nine hazardous equipment facilities—just in the Rehoboth target area.



FUNDING SOURCES

Rural Action has requested \$300,000 in assessment support from USEPA. Additionally, an Ohio EPA Clean Water Act Section 319 grant proposal is being developed, with a planned \$100,000 budget. A private investment of \$50,000 has already contributed to the planning and analysis of data from the watershed. There are extensive AML impacts throughout the Upper Rush Creek watershed that make it eligible for AML Pilot and traditional federal and state AML funding programs.

PROJECT IMPACT

The proposed project has great potential to stimulate economic growth in and downstream from the target areas once cleanup of these properties is complete. This project falls within the Perry County Opportunity Zone #39127965900, a federally-designated area that will have additional tax and financial incentives driving private investment. There are two main ways that economic development will be stimulated by this project: 1) Successful cleanup efforts will enable the mine-scarred lands to be utilized for recreational, agricultural, or business opportunities, and 2) 12 miles of Rush Creek will be restored as a result of cleaning up these sites, leading to increased recreational opportunities for visitors and local residents of the region and increased potential for business and community development adjacent to the stream.





WHITACRE GREER PARK AND TRAIL EXPANSION

Project applicant: Rural Action / Stark Parks

Project location: Waynesburg, Stark and Carroll Counties, OH

AML Pilot request: N/A

Leveraged/matched resources: N/A

ABOUT THIS PROJECT

Waynesburg, Ohio is the “Spaghetti Capital of the World,” according to a hand-painted sign on the side of an empty building. Though an unexpected title for a small village in eastern Ohio, the designation points to a long past of industrial development and a proud community of immigrant workers.

The Whitacre-Greer Brick Company can trace its history back to 1892 with a fireproofing plant just one village over. Stark County was once one of the highest producing brick and clay product manufacturing centers in the world—the industry was reliant on high-quality clay and shale availability, and the geology of the area was a perfect match for the need. Along with high-quality clay, the area also had abundant coal reserves, which had to be extracted to access the clay below.

With over 2,000 acres in private ownership, the area of the former Whitacre-Greer brick plants and coal mines now has a new future being discussed. Some of the area is already leased to Stark Parks, the county-wide park district. There is an existing .75 mile trail open to the public and an adjacent equestrian park with more than six miles of trails open for horseback riding. While there are already public amenities, there are still legacy mining traits that present challenges to developing the area. Before being opened for public access and use, the AML features will have to be secured and abated.

While discussions are still occurring with the land-owners, the opportunities for this property are enormous. There is a huge demand for equestrian trails and facilities that help facilitate horseback riding in



the area. And, the multi-use trail that exists could be expanded to connect two of the neighboring communities, potentially reaching thousands of residents and encouraging a healthier lifestyle and improved quality of life.

PARTNERSHIPS

Partners include Rural Action and Stark Parks, in collaboration with private landowners and the Ohio Department of Natural Resources, Division of Mineral Resources Management (ODNR-DMRM).

AML NEXUS

There are historical abandoned coal mines throughout the property. Records indicate that three known and mapped underground mines were abandoned in 1936 and 1938, which have been depleted of coal and clay deposits. There are at least two open mine portals, mine subsidences, and open air shafts, and acid mine drainage is accumulating on-site and discharging into the Sandy Creek. There are mine-related hazardous buildings throughout the property. These include P1, P2, and P3 AML features and will have to be abated before the site can be economically productive.

FUNDING SOURCES

Rural Action is collaborating with Stark Parks on funding mechanisms for the site. Possible extended lease or purchase could be funded with the Clean Ohio grant program. Also, the site can pursue Ohio EPA and USEPA brownfield assessment and clean-up funding once eligibility is established. Finally, there are extensive AML impacts throughout the project site that make it eligible for AML Pilot and traditional federal and state AML funding programs.

PROJECT IMPACT

The proposed project has great potential to stimulate economic growth in the two-county area. Trail and greenspace development has been a proven driver for long-term investment in communities. And, with a proposed trail project that connects at least three villages, there is the potential to attract visitors and tourists to the region who would then make purchases and spend money locally. The creation of such a large park with an equestrian focus would certainly draw visitors from a wide area, who would travel for access to specific amenities. According to the American Horse Council, the horse industry contributes approximately \$39 billion in direct economic impact to the U.S. economy and supports 1.4 million jobs on a full-time basis. When indirect and induced spending are included, the industry's economic impact reaches \$102 billion. Ohio has a robust population of active and engaged horse owners. This project would revitalize a community and add unique recreational amenities that would benefit an entire region.





THE WILDS / TROUT LAKE DANGEROUS IMPOUNDMENT

Project applicant: The Wilds (International Center for the Preservation of Wild Animals, Inc.)

Project location: Muskingum County, OH

AML Pilot request: \$349,739

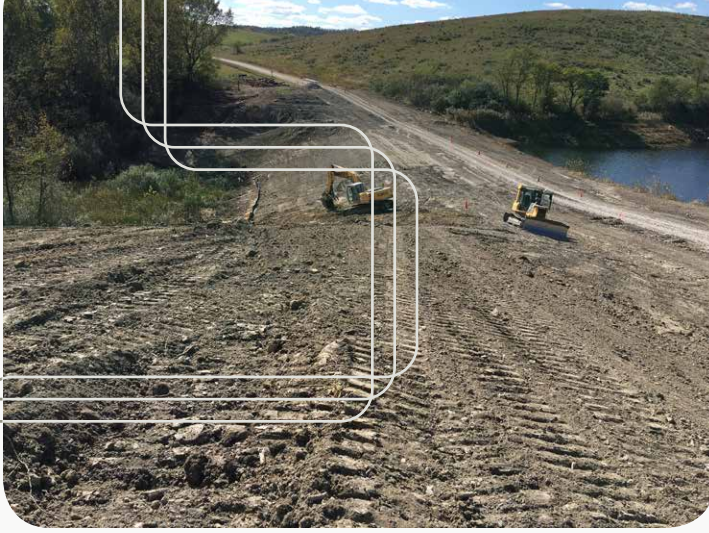
Leveraged/matched resources: \$75,000

ABOUT THIS PROJECT

You don't expect to see a zebra or giraffe wandering around eastern Ohio, but you might just run into one. The Wilds, a nonprofit organization dedicated to connecting people and wildlife, is located on 10,000 previously mined acres in a three-county area in eastern Ohio. The result of a collaboration between zoos, federal and state mining regulators, and private industry, The Wilds began in 1984 after the area was extensively surface mined by the "Big Muskie"—the largest single-bucket excavator ever made—and other dragline machinery. Now managed by the Columbus Zoo, the site provides restored grassland habitat perfectly situated for the research, conservation, and breeding for the protection of exotic animals. More than 25 species of endangered and threatened animals are managed at The Wilds, including giraffes, zebras, cheetahs, rhinoceroses, oryxes, ostriches, antelopes, and native eastern hellbender salamanders.

An integral aspect of The Wilds is education for children and members of the public. More than 120,000 visitors toured The Wilds property in 2018. Tours are mainly conducted by open safari buses to protect animals and limit direct human-animal engagement. In order to access the grasslands where the animals roam, the buses must drive across a haul road atop an embankment holding back an estimated 33 million gallons of water in a 13.4-acre lake. The lake is recorded as a P1 dangerous impoundment left from mining operations. The embankment was failing,





compromising the haul road and potentially limiting access for public tours and making animal maintenance and care difficult or impossible.

The Ohio Department of Natural Resources, Division of Mineral Resources Management (ODNR-DMRM) worked with The Wilds to design a reinforced embankment and stabilized access road, while also protecting three privately-owned structures located below the lake from potential flooding damage.

PARTNERSHIPS

Partners include The Wilds/Columbus Zoo and the Ohio Department of Natural Resources, Division of Mineral Resources Management (ODNR-DMRM).

AML NEXUS

The Wilds is located on 10,000 acres of previously mined land in three Ohio counties. There are four main AML challenges that are continuously addressed in order to operate a successful conservation program: nonnative plants, acid mine drainage, soil degradation, and loss of native seed banks. The project is focused on restoring and stabilizing a P1 dangerous impoundment with an important access road located on the embankment.

FUNDING SOURCES

The Wilds contributed \$75,000 of project preparation including site clearing, fence relocation, and the initial dewatering required. ODNR-DMRM requested and received \$349,739 in federal AML Pilot program funding.

PROJECT IMPACT

The project reinforced and stabilized an embankment and road necessary for public tours at The Wilds. An estimated 220 jobs will be secured in the long term with the completion of this project, with 179 full-time employees directly employed on The Wilds property. The Wilds contributes almost \$15 million to the regional economy, with employees residing in seven surrounding counties. More than \$9.5 million are spent in the region directly by staff wages and location operations and maintenance.



VIRGINIA



Southwest Virginia has demonstrated resilience as it has weathered the past year. In the wake of the COVID-19 pandemic and financial recession, Southwest Virginia's Abandoned Mine Land Pilot program experienced delays in 2020, with the Virginia Department of Mines, Minerals, and Energy (DMME) holding off the release of the fourth Pilot request for applications until spring of 2021. DMME's focus in 2020 was on continuing to shepherd through the projects funded in the previous rounds of Pilot, as communities are still in need of support through the implementation process.

The difficulties of 2020 have exacerbated the capacity issues faced by local governments as COVID response, declining budgets, and virtual school plans have occupied most officials' attention. Appalachian Voices continues to seek partnership solutions and funding sources to help bridge the gap for communities in need of administrative assistance to access and implement reclamation and economic development funding.

Even through this challenging time, Virginia's program is a great example of how the AML Pilot program can be implemented effectively and efficiently. Norton residents have watched the infamous highwall slowly but surely come down, remediating a long-time safety hazard alongside the highway. Projects funded in the 2019 program, announced in September 2020, show variety both in the types of development they support and the geographic areas they will benefit. While outdoor recreation and industrial sites continue to be common, this round of funded projects also included a commercial greenhouse, small town revitalization, a co-working space, and a project to utilize hemp both for commercial use and for acid mine drainage remediation. This array of projects demonstrates the broad interest and need for the AML Pilot program and other funding sources to boost reclamation and economic development in Southwest Virginia and other coal-impacted regions.

This diversity in Southwest Virginia's economic pursuits is crucial to making the region stronger as the recession and electricity market forces push the coal economy further into decline, which even raises fears of closing the tax revenue-generating Virginia City Hybrid Energy Center power plant in Wise County. As we look toward the future, Appalachian Voices is hopeful that new funding opportunities and partnerships will bring more relief to Southwest Virginians.



Chelsea Barnes
New Economy Program Manager
Appalachian Voices



UPDATE: DANTE COMMUNITY REDEVELOPMENT PROJECT

Project applicant: Dante Community Association

Project location: Dante, Virginia

AML Pilot request: To be determined (approximately \$1 million)

Leveraged/matched resources: \$479,450

ABOUT THIS PROJECT

The community of Dante, Virginia, the former headquarters of Clinchfield Coal Corporation, received \$269,000 in funding as part of the the Virginia Department of Mines, Minerals, and Energy's 2018 AML Pilot program after revising their 2017 application to reflect the updated needs and vision of the community. Now, the community leaders of the Dante Community Association (DCA) are preparing to submit a Phase 2 application for the coming round of Virginia AML Pilot funding.

The funded Phase 1 project features a series of ATV, biking, and walking trails and the reclamation of two abandoned mine portals in the community. Additionally, the Virginia Department of Environmental Quality awarded a \$215,000 brownfields assistance grant for the redevelopment at the Arty Lee School site, an important part of the Dante community's Black history.



Phase 2 will include the development of mountain bike trails within the Laurel Branch Watershed that will connect to the existing trail system. Additionally, an old steam building will be converted into office space and a work training center run by Southwest Virginia Workforce Development, and new fiber optic cable infrastructure will be developed.

The Nature Conservancy, as part of the Cumberland Forest Project, now owns the land

on which the mountain bike trails are proposed to be developed. The mountain bike trail routes may utilize existing mining and logging roads. If used, these roadbeds need drainage work and other improvements in order to convert them into sustainable mountain biking trails capable of handling increased and prolonged usage.

The site of the steam plant is owned by the construction company B. Williams Resources and is adjacent to a parcel currently owned by Contura Energy. Both sites will be donated to the Dante Community Association for the purposes of this revitalization project. The Southwest Virginia Workforce Development Board is interested in developing programming at the steam plant site after redevelopment, including adult education courses, General Educational Development (GED) and National Career Readiness Certificate (NCRC) testing, and potential for the site as a Pearson Vue testing center. The Board has also secured licensing for LinkedIn virtual learning opportunities and is expecting access to 180 Skills, which will both be made available to participants at the proposed center.

AML NEXUS

The steam building site is located adjacent to the previous Dante Lick Creek Watershed Project, a stream restoration project which remediated issues of clogged stream land. This past AML project serves as the nexus between previously remediated AML features and the existing steam building.

The proposed trail system is close to multiple open mine portals, which are partially collapsed and pose potential risks. The mine portals are currently Priority 3 sites, however, they would become Priority 2 sites if the trail system is expanded to be in closer proximity to them. Some of the open mine portals have partially reclaimed themselves, meaning that the portals have collapsed or otherwise closed to a point that they no longer pose significant danger.

The proposed trails will also intersect an existing trail system that was previously constructed using AML Pilot Program funding. Additionally, the proposed trailhead is located at the previous Arty Lee School site, at which gob pile removal processes occurred.

PARTNERSHIPS

Given their recently acquired land in Dante, The Nature Conservancy is a key partner in developing and maintaining new trails. Virginia Tech's Community Design Assistance Center continues to play a role in implementing and updating their original designs for the community. The Southwest Virginia Workforce Development Board, the Cumberland Plateau Planning District, Virginia Coalfield Economic Development Authority (VCE-DA), GO Virginia, and Dickenson and Russell Counties will be important partners in ensuring the success of the office space and training center, connecting employers and workers with the new facility. Applied Trail Research, Spearhead Trails, and Appalachian Conservation Corps are important partners for maintaining existing trails and building new trails. Local outdoor recreation vendors will be important partners for promoting the new trails and providing equipment for their safe use.

FUNDING SOURCES

In addition to AML Pilot funding, other potential sources of funding for new trails include the Virginia Outdoors Foundation or the Virginia Department of Conservation and Recreation. For the steam building and fiber optic cable, additional funding could come from Appalachian Regional Commission, GO Virginia, Department of Housing and Community Development, the VCEDA, or the Virginia Department of Game and Inland Fisheries.





SNAPSHOT: INDOOR RECREATION CENTER

ABOUT THIS PROJECT

Southwest Virginia has a wealth of natural beauty, and the recreation economy in the region centers on outdoor options including hiking, biking trails, all-terrain vehicles, kayaking, canoeing, and fishing. However, these options are less attractive during the colder months of the year, and indoor recreation opportunities for sports such as basketball, volleyball, soccer, tennis, swimming, or rock climbing in Southwest Virginia are less abundant. Providing plentiful recreation options year-round is vital to attracting new residents to the region and is important for the health of existing residents, especially in an area where adults have a higher obesity rate and a higher death rate from cardiovascular disease, compared to state averages, according to CDC data.

Currently, community members rely on accommodating public school officials for access to maintained indoor facilities or private gyms for weightlifting and cardiovascular exercise equipment. Schools that allow public access to their sports facilities carry the burden of additional wear and tear on equipment and operation costs. These facilities are often inconsistently available and are only available to select groups in the community. A new, public indoor recreation center would be a significant step in making recreation in these counties accessible to more people and throughout the entire year. Such a facility would be maintained by the local governments or by a not-for-profit entity.

A publicly-accessible indoor recreation center would increase access to maintained courts, sports equipment, and safety instruction. Investments to create space for indoor sports recreation would benefit regional health, increase business for local businesses selling sports equipment, provide job opportunities, and act as a hub for community events.

The facility can also support the outdoor recreation economy by providing indoor training and education facilities for bouldering, rock climbing, biking, and others. Instructors at the facility can provide safety and how-to instruction to better prepare people for outdoor attractions across the region, mitigating injuries and hazards that are present in any recreation-based economy.

With a total estimated cost of \$604,100, the project would result in total local economic activity valued at over \$1.42 million. This project has the potential to support 10.5 construction jobs and employee earnings of \$488,832 while improving regional GDP by close to \$779,654.

Recreation facilities have also been linked to a variety of health benefits for their surrounding communities. This includes helping to prevent heart disease and type 2 diabetes, controlling blood pressure, cholesterol, obesity, and reducing stress and the likelihood of depression. The facility would contribute to a better quality of life for the surrounding community, while having the potential to spark new community-building and economic opportunities.

PARTNERSHIPS

Potential partnerships for this project include the local governments where the facility is located to maintain the facility and provide staffing. Initial efforts are focused in Norton, where the City of Norton and Wise County are potential partners for this project. As both localities focus on recreation as a piece of the region's appeal to visitors and residents, an indoor recreation center that promotes outdoor recreation during colder parts of the year would be a uniquely beneficial opportunity for the region. Other potential partnerships include the Wise County Health Department, Ballad Health, and UVA-Wise. Where community health and well-being is concerned, a recreation facility provides a multitude of health benefits for all ages in the communities. Access to exercise facilities helps to prevent heart disease and type 2 diabetes, controlling blood pressure, cholesterol, obesity, and can reduce stress and the likelihood of depression. The facility would contribute to a better quality of life for the surrounding community, while having the potential to spark new community-building and economic opportunities.

AML NEXUS

There are numerous AML sites throughout Southwest Virginia that could be repurposed for a recreation facility after reclamation is completed. One possible site considered for the facility is in Norton, located adjacent to Project Intersection, a multi-million dollar project that involves the reclamation of a large high wall and preparation of the site for new industrial activity.

FUNDING SOURCES

Numerous private foundations support healthy lifestyles and access to physical fitness activities, especially in disadvantaged communities. Project developers could pursue funding from following foundations and organizations: W.K. Kellogg Foundation, Wells Fargo, Ballad Health, AARP Foundation, and the Annie E. Casey Foundation, among others.





POUND LANDSLIDE AND COMMUNITY DEVELOPMENT

Project applicant: Town of Pound, Virginia and Wise County, Virginia

Brownfield request: \$554,700

Leveraged/matched resources: \$304,000

ABOUT THIS PROJECT

Pound, Virginia is the oldest town in Wise County and stretches for two miles alongside the Pound River. The small town of less than 1,000 residents has been on the front lines of coal's decline both in terms of budget losses and in terms of reclamation need, as a significant portion of the town's acreage outside of the downtown area has been affected by coal mining.

One immediate need facing the town is the mitigation of a dangerous landslide in the downtown area, with the traffic on US-23 Business/Main Street running through the middle of town under threat from the landslide. The road above the landslide provides access to a church and homes and is crumbling away at the edge. Below the landslide, an abandoned building and underground gas tanks need to be removed.

Community members developed a plan for the downtown in 2007, envisioning a Pound Riverwork with revitalized sidewalks, crosswalks, lighting, bridges across the Pound River, and a new town square. The project aims to remove the immediate safety risk of the landslide on residents and traffic through the community, improve walkability for both residents and visitors, increase traffic to downtown businesses, improve access to the river for recreation, and create a space for events or casual gatherings.

PARTNERSHIPS

Opportunity SWVA, the Historical Society of Pound, and Appalshop have facilitated many of the community discussions around the vision for the downtown space. The Historical Society and the Pound Lions Club are both important partners for fundraising and



supporting small projects such as benches and signage. The Virginia Tech Community Design Assistance Center will help update the initial design developed in 2007. Spearhead Trails has developed some of the river access points; continued coordination with Spearhead Trails will ensure connectivity and optimal access for the outdoor spaces.

AML NEXUS

An inspection conducted by the Virginia Department of Mines, Minerals, and Energy concluded that despite the fact that the landslide is located adjacent to a coal mine permit area, the landslide is not caused by the coal mining, and thus is not eligible for AML Pilot funding. However, roughly 20% of the land area in Pound has been mined, leaving the town with significant reclamation needs. As the Riverwalk and other infrastructure are expanded throughout the community, it is likely that they will be near other AML features eligible for Pilot funding.



FUNDING SOURCES

Virginia Brownfields funding will be essential for stabilizing the landslide and removing underground gas tanks. Though the landslide itself is not eligible for AML Pilot funding, AML Pilot funding may be used for future phases of the project as it expands into other parts of the town. Additionally, community development and downtown revitalization funding from the Virginia Department of Housing and Community Development could be used to support the project. Funding from the Virginia Outdoors Foundation, the Virginia Department of Game and Inland Fisheries, or the Virginia Department of Conservation and Recreation could support trail or river access development in future phases. The Virginia Tech Community Design Assistance Center is providing in-kind support through their design assistance.

PROJECT IMPACT

Most urgently, the project will remediate the landslide which, if not stabilized soon, will result in the loss of road access to homes and a church, block traffic in the center of town, and possibly cause injury or even death to people near the landslide when it collapses further. Beyond this immediate need, the project will create infrastructure for use by the community members and visitors, and serve businesses by improving access for downtown stores. Increased access to businesses will also improve the town's ability to attract new businesses to the downtown area. These improvements will result in increased tax revenue for the town and county. The project would also attract more visitors to the town to utilize the Riverwalk and river access points and allow them to visit the stores more safely. Economic modeling of the project suggests project spending will result in a total economic output of nearly \$2 million, nearly \$700,000 in employee earnings, and a total of 15 jobs on- and off-site.





CULTIVATING WISE COUNTY AGRICULTURE

Project applicant: Wise County Schools, Virginia Cooperative Extension

Project location: Wise County, Virginia

ABOUT THIS PROJECT

Farmland in Appalachia has declined in recent decades, with the Appalachian Regional Commission reporting that nearly all Appalachian counties and subregions saw a reduction in the total number of farmland acres between 2007 and 2012. The region lost 858,858 acres during this time. However, agriculture presents a significant economic opportunity in Virginia. According to the Virginia Department of Agriculture and Consumer Services, agriculture is Virginia's largest private industry, with an annual economic impact of \$70 billion generated and more than 334,000 jobs supported. Every job in agriculture and forestry supports 1.7 jobs elsewhere in Virginia's economy.

The most recent Agriculture Census identified 2,411 farms in the LENOWISCO Planning District Commission (PDC) region, which includes Wise, Lee, and Scott counties—down from 2,643 in 1997. The LENOWISCO PDC published a Regional Agricultural Development Strategic Plan in 2017 that detailed recommendations for supporting regional agricultural development and to leverage the area's agricultural and forestry assets to advance economic development, including recommendations to:

- Enhance support for existing farmers and agriculture-related enterprises;
- Develop incubation activities for beginning or transitioning farmers;
- Introduce youth to agriculture-related opportunities;
- Nurture a regional culture of “agri-preneurship,” by providing mentoring, training, funding and related ecosystem support systems.

Agricultural industry workers and proponents have identified two projects that would advance agricultural and forest economic development in the region and help agriculture-related businesses adapt to the unique coal-impacted landscape in Southwest Virginia.

WISE COUNTY EXTENSION LEARNING CENTER

The Virginia Cooperative Extension is an educational outreach program of Virginia Tech and Virginia State University and part of the National Institute for Food and Agriculture. A network of universities, county

and city offices, and research and education centers delivers various programs across the Commonwealth, including the Wise County Extension Office. The Wise County office is in need of a new facility to support its educational programs to farmers, gardeners, and ranchers in the region, as the current office does not have larger meeting room space, volunteer workspace, or a commercial kitchen. Siting the new facility on an abandoned coal mine site will allow the programs to incorporate the challenges associated with agriculture and forestry in the coalfield region.

The Extension Learning Center will include five offices, a reception area, a large meeting space for public educational programs, a volunteer workspace for programs such as the Master Naturalist or Master Gardeners, and a commercial kitchen set up for instruction and demonstration for cooking and canning classes. The kitchen could also provide space for new, small food-based businesses to process foods that require a commercial kitchen when the businesses are in the development stage. The facility would also include two to five dorm rooms for hosting visiting specialists or professors. A comparable facility in Greeneville, Tennessee is approximately 3,900 square feet and cost approximately \$900,000 for initial construction.

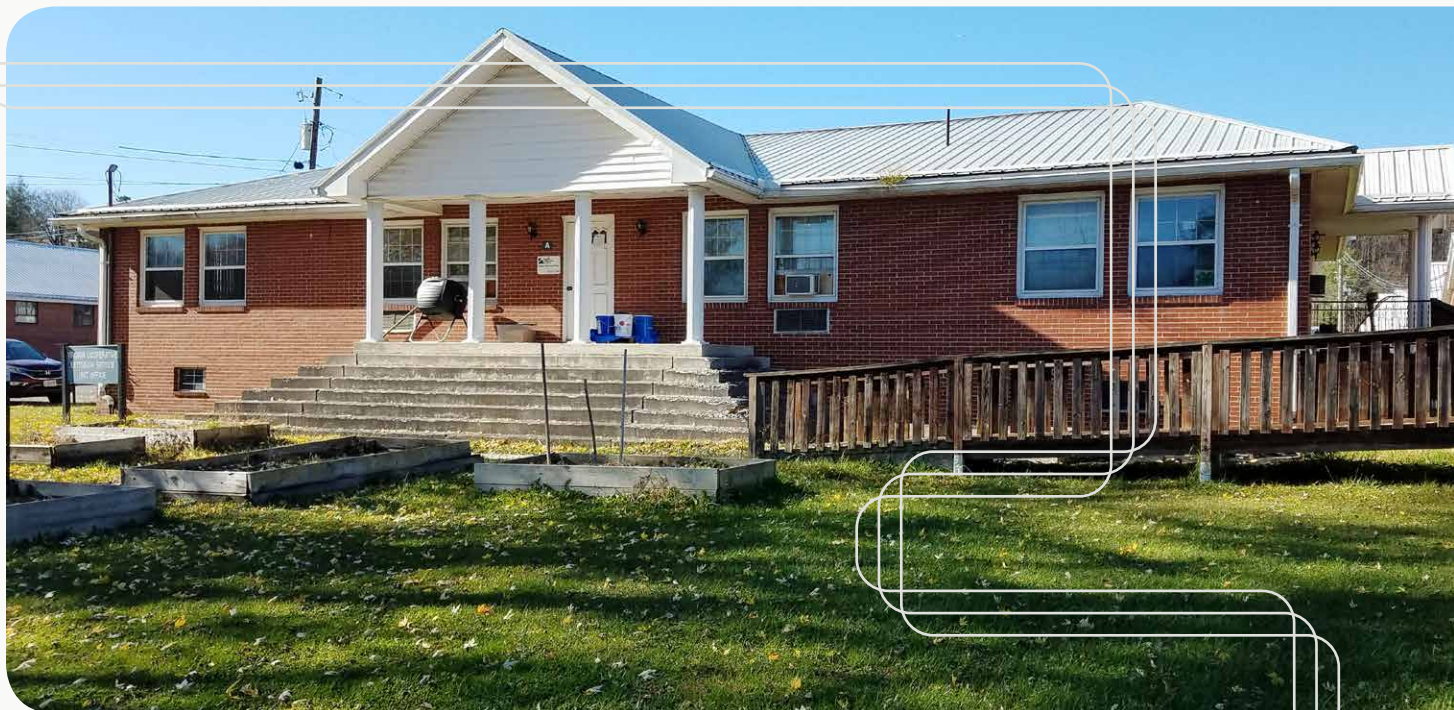
The outdoor grounds include five acres to be used for community gardening, livestock, pollinator habitat demonstration, beekeeping, invasive species control demonstration, native warm-season grass demonstration, crop demonstrations, and plant variety trials.

The new facility will allow the Extension to better serve more local farmers and support a growing agricultural economy in the region. Solar, wind, geothermal, and energy efficiency technologies will be incorporated where possible to grow farmer familiarity with these important technologies and to ensure the facility operations are as low-cost and sustainable as possible.

WISE COUNTY SCHOOLS AGRICULTURAL PROGRAMS

New agricultural courses offered by Wise County Schools would support the growth of a new generation of farmers in the region. Offering a new “career cluster” of courses for Wise County students will also allow the school system to create a new Future Farmers of America (FFA) chapter, allowing students to access numerous agricultural and leadership resources, grants, conferences, and other events, growing their learning and job opportunities.

New agricultural educational programs will require the construction of a facility that can house student programs. A comparable facility in Rural Retreat, Virginia is 10,000 square feet and cost \$1.77 million. Such a facility would include a workshop, classroom space, hoop houses for crops, livestock working rooms, and land for crops. The agricultural program will require a new teacher for the new courses, provid-



CULTIVATING WISE COUNTY AGRICULTURE (CONTINUED)

ing at least one new job. Training a new generation of farmers, foresters, and other agricultural professionals will prepare young people for jobs in a growing industry, and also provide the training necessary for young people to help grow the agricultural industry locally, making food production more sustainable and keeping money in the local communities.

PARTNERSHIPS

Numerous partners will boost the success of these important agricultural programs, including the Wise County Extension 4-H, Virginia Farm Bureau, FFA, Appalachian Sustainable Development, and local farmers will all be important to help with outreach to expand the reach of the programs provided by both facilities and to boost the educational offerings provided. FFA programs in nearby Dickenson County, Russell County and Lee County will also be important partners to learn from their experiences and to connect student programs.

AML NEXUS

There are numerous AML sites throughout Wise County that could be used for either or both projects. Both facilities' programs will benefit from being sited on coal-impacted land in order to highlight the unique challenges and solutions associated with agriculture and forestry in Southwest Virginia, such as invasive species management, and to conduct variety trials for berries, vegetables, and ornamentals on mined land. Additionally, roughly 3,000 acres of reclaimed land are currently being used for livestock forage production in Wise County, but many ranchers typically use fescue for feed; an AML-sited facility would facilitate demonstrations of more productive and native grasses for local ranchers. Initial assessments found at least 13 AML-Pilot-eligible sites throughout Wise County that could be considered for both the extension office and the school facilities.

FUNDING SOURCES

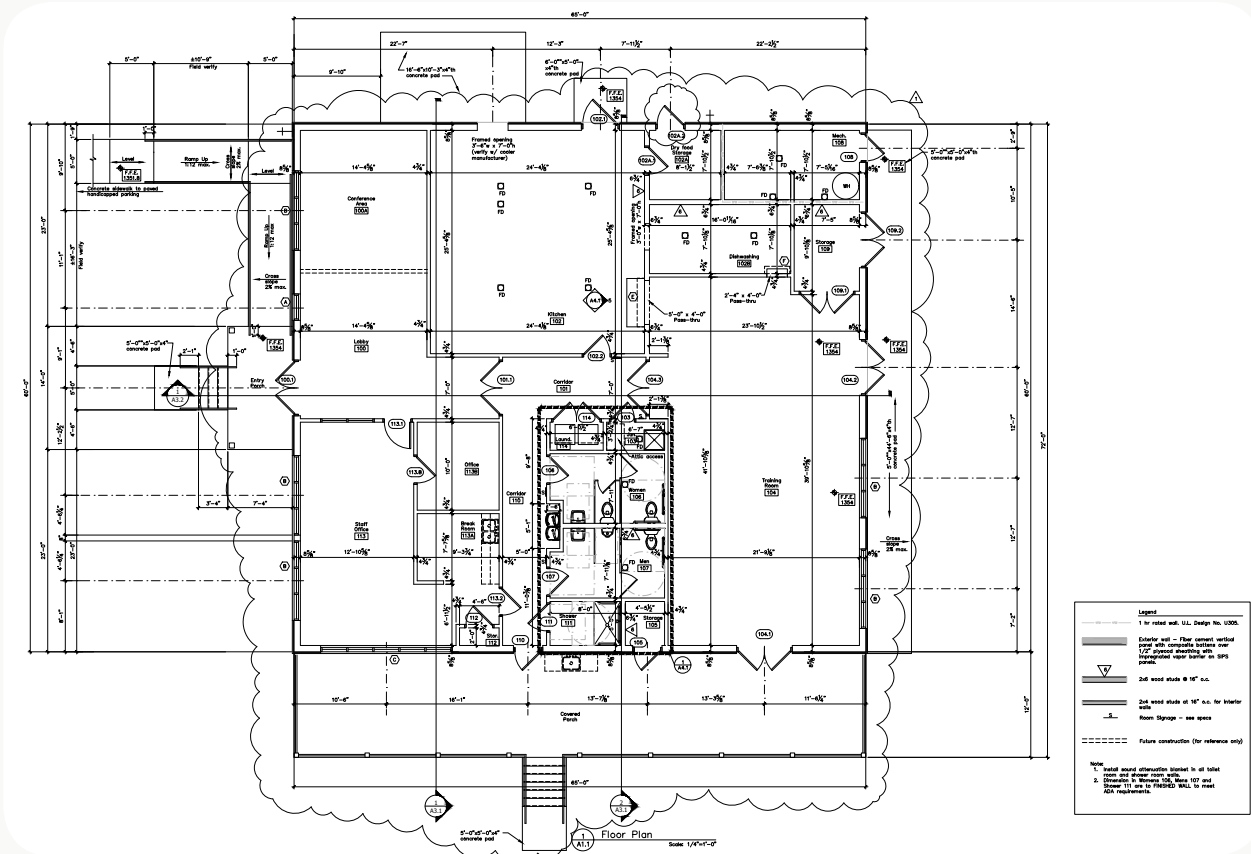
Numerous potential funding sources exist for both facilities and programs. The USDA offers numerous community facilities, community food projects, and rural development grants; FFA grants can support school programs, and the Virginia Tobacco Region Revitalization Commission funds investments in the region's agribusiness economy. Additional funding may be available from the Virginia Department of Agriculture and Consumer Services or the Virginia Department of Education.

PROJECT IMPACT

The preliminary construction cost estimate for the two facilities is \$2.67 million, excluding any potential reclamation costs. Economic modeling illustrates that construction of the facilities would support nearly \$6.3 million in regional economic activity, support nearly 50 jobs during construction, and provide over \$2.2 million in wages to employees. The construction is expected to improve regional GDP by over \$3.5 million. At least one



teacher position would also be created as part of the school agriculture program. Local farmers, beekeepers, ranchers, and others in the farming industry will benefit from additional resources provided by the new learning center and new, young people entering the industry and helping to continue the operation of farms as older farmers retire. Local community members will see health benefits from the increase in availability of more local, fresh produce and the ability to grow their own food.





SNAPSHOT: SOUTHWEST VIRGINIA RECYCLING AND REUSE

ABOUT THIS PROJECT

Until recent years, many Southwest Virginia counties operated popular recyclables collection programs through which citizens could reduce waste bound for landfills by recycling paper, cardboard, plastic, aluminum, steel cans, electronics, batteries, automobile tires, and white goods (stoves, refrigerators, etc.) at curbside and local convenience centers. These programs increased citizen involvement in solid waste management, conserved landfill space, and diverted trash from local streams and rivers in the Clinch-Powell (Upper Tennessee River) watershed, one of the most biodiverse headwaters regions in the nation.

However, these programs were shut down as so many local recycling programs have been across the country as markets for post-consumer recyclable materials have disappeared. Virginia's solid waste regulations still mandate that municipalities recycle a portion of their waste streams, but for Southwest Virginia, those requirements are mostly being met through commercial recycling initiatives. Local governments in Southwest Virginia have formed an informal "Southwest Virginia Solid Waste Authority," with leadership from Wise County, whose landfill operation currently costs the county between \$2-\$3 million annually. The Authority is seeking opportunities to find new markets for post-consumer materials.

Plastic Recycling

One opportunity for localities in Southwest Virginia to divert plastic waste from landfills and save money on landfilling is to sell post-consumer plastic to a plastics recycling company in nearby Eastern Tennessee. However, the purchasing company requires the plastic to be processed into smaller pieces prior to its sale, using a commercial plastic chipper. Such an investment is not worthwhile for a small locality that doesn't create enough plastic waste to interest the purchasing company, but a collaboration of localities in the region could purchase a larger chipper and aggregate their plastic waste, creating enough product to be able to sell it to the recycling company. Such an investment would likely cost between \$200,000-\$300,000, depending on the size. The Wise County landfill is located on a former coal mine, and numerous AML-Pilot eligible sites exist across the region that could house such a facility.

Digesters and Composting

Nearby localities in Eastern Tennessee have inspired local officials in Southwest Virginia with large digesters used to break down a large portion of their waste stream into compost. Southwest Virginia communities could share the costs of these facilities to reduce the amount of waste that goes into their landfills, while creating a compost product that can be used as an additional revenue generator for the localities, and possible in coal-mined land soil remediation. With collaboration from local colleges, such a facility could also serve as an educational tool for students studying soil sciences and land restoration, and provide compost to local farmers and gardeners, and for soil remediation of coal-mined land in reclamation projects.

ADDITIONAL REUSE OPPORTUNITIES

As the Southwest Virginia Solid Waste Authority takes shape, additional opportunities may arise for collaborations with the Coalfield Development Corporations ReUse Corridor, which is a multi-state upcycling coalition in central Appalachia using US-23 as its backbone. The Authority can provide a structure for Southwest Virginia companies and localities to find new buyers for their waste products and new sources of materials for companies that recycle or upcycle.



PARTNERSHIPS

Due to the need to aggregate waste in order to have enough product for sale, collaboration from all of the local governments in Southwest Virginia is critical to project success. Additional partners could include the ReUse Corridor and Coalfield Development Corporation, the Wise County Extension Office Master Gardeners program, Wise County/Keep Wise County Beautiful and other similar county initiatives, the Lonesome Pine Soil and Water Conservation District, Mountain Empire Community College, Southwest Community College, and the University of Virginia College at Wise.

AML NEXUS

The Wise County landfill is located on a reclaimed coal mine, and may be a good site for a digester or chipper facility. Additionally, numerous other AML-Pilot sites near US-23 would also be possible for new recycling centers, providing easy access to the freeway for transporting materials across Southwest Virginia and Central Appalachia. Lastly, composted material can be used for soil remediation on previously-mined sites, especially as more of this land is considered for eventual agricultural use.

PROJECT IMPACT

The most immediate impact for this project would be cost-savings for localities that save money on landfilling their solid waste. Landfills are a significant portion of a local government's budget. Composted materials produced by the localities could also be used as a revenue generator for local governments. Having recycling and reuse infrastructure in place in the region also presents an opportunity for entrepreneurs to find new uses for post-consumer materials, especially if Southwest Virginia connects with the partners in the ReUse Corridor, expanding the network of potential source materials and potential buyers for post-consumer materials.



WEST VIRGINIA



West Virginia: Introduction

West Virginia has faced some incredible challenges in 2020. COVID-19 has expounded many of our state's weaknesses and pains—primarily in infrastructure, connectivity, and logistic systems for recycling. Despite all of this, Coalfield Development Corporation (Coalfield) has taken on many of these challenges through regional collaborations, strategically analyzing and implementing truly innovative strategies to not only address these issues at hand, but to also complement and accentuate the pre-existing strengths that our state has been a leader in during the economic shutdowns. The projects in this report reflect that region-wide mindset and lay the roadmap for multi-state collaborations toward a resilient future in Central Appalachia.

A negative with a negative makes a positive. This has been the unofficial motto for the ReUse Corridor, a multi-state coalition of practice spanning West Virginia, Ohio, and Kentucky, with potential for expansion into Virginia and Pennsylvania, as well. These collaborations are among over a dozen Appalachian organizations, all working to localize and enhance the opportunities for green-collar manufacturing via reuse, recycling, and creative sustainable development in Central Appalachia. When the recent National Sword Act halted 80% of the world's recyclables from going to China for processing, the whole world felt the blow, including many Appalachian regions that have had to shut down their recycling centers. Today, our ReUse Corridor, a logistical central nervous system for reuse materials, is localizing these market systems by catalyzing former AML sites into much needed sorting and processing centers for these resources. Instead of going into landfills or being illegally dumped in rivers, these richly valuable resources are now being plugged into the already existing supply chains of our local maker spaces, businesses, and innovators in upcycling—creating new jobs and training opportunities for CDL drivers and processors, increasing the value-added economy for our region, and beautifying the landscape to complement the rapidly growing tourism economy!

In all, 2020 has provided our state with clear indicators of where perceived liabilities can be transformed into innovative opportunities. When the residents of the metropoli surrounding our state wanted to safely stay active during the shutdowns, they found refuge in the social distance–primed forests and mountains of our state, contributing to a 227% increase in park visitation statewide. Together, these market indicators lay a clear blueprint for our focuses toward trail expansion and outdoor recreation, with regional beautification in conjunction with innovative job-generating opportunities for reuse and recycling in the state..



Jacob Hannah
Conservation Coordinator
Coalfield Development



SNAPSHOT: APPALACHIAN REUSE CORRIDOR—BLACK DIAMOND FACILITY

Throughout central Appalachia, a growing number of makers and upcyclers are defying the modern “throw-away” consumer culture by reintegrating the traditional values of reuse into their business models. The Appalachian ReUse Corridor emerged as a logistics system and network to connect such organizations in Kentucky, West Virginia, and Ohio. Linking supply and demand for reusable materials across three states, the Corridor is building efficiencies in the aggregation, transportation, storage, and processing of materials—such as e-waste, cardboard, plastics, compostables, mattresses, construction materials, batteries, and medical equipment.





Over the last year, partnering organizations have made headway in preparing key facilities that will serve the Corridor. Cleanup is currently underway at the Black Diamond facility in Huntington, West Virginia, a former manufacturing plant that will serve as the Corridor's first major transportation and storage hub. Project leaders are currently leveraging additional funds to enhance the facility once the site's soil and lead remediation is completed in 2021. The ReUse Corridor team also plans to develop two additional aggregation sites in West Virginia, pending funding approval. In addition to facility development, the team hosted multiple events in 2020 that collected over 70,000 pounds of materials for reuse, while also developing market analyses and business planning to enhance the Corridor's operations.





H2O LEARNING PARK

Project applicant: Save the Tygart Watershed Association

Project location: Grafton, West Virginia

AML Pilot request: \$2.9 million

Leveraged/matched resources: \$56,500

ABOUT THIS PROJECT

The once prosperous Carr China manufacturing factory in the Parkview neighborhood of Grafton, West Virginia is now an unproductive brownfield and source of blight to the community. Save the Tygart Watershed Association (STTWA) is transforming the 7-acre riverfront industrial eyesore into a multi-use complex that will promote environmental quality, community gatherings and education, and recreational tourism. The Water Testing and Reclamation Headquarters and Outdoor Learning Laboratory, or Headquarters to Outdoor (H2O) Learning Park, will support STTWA's water quality testing and restoration program, which spans the entire 1,374-square-mile-watershed.

Redeveloping the former factory into the H2O Learning Park will not only add office and laboratory space for research endeavors in the watershed, but an event center and green space with several recreational features.



PARTNERSHIPS

Save the Tygart Watershed Association has partnered with Taylor County Commission, Taylor County Economic Develop Authority and the City of Grafton, U.S. EPA, the West Virginia Water Research Institute, and the Northern Brownfields Assistance Center.

FUNDING SOURCES

The project has secured in-kind funds and a federal Brownfields Cleanup Grant.

AML NEXUS

Various AML features lie within the watershed of the Tygart River, and while the H2O Learning Park will not directly remediate AML features, it will serve as a springboard for supporting future monitoring and remediation efforts of affected waters and continuing STTWA's commitment to improve the watershed.

PROJECT IMPACTS

The H2O Learning Park will be an asset to the community through the development of educational opportunities, social activities, recreation and tourism, and natural resources enhancement. Grafton is consistently ranked as one of the poorest cities in West Virginia, with a median annual income of \$31,627 and unemployment rate of 21.9 percent. With the Brownfields Cleanup Grant in place to recover the Carr China factory, the AML Pilot program will continue the revitalization of the site and advance its economic development potential.

Two buildings will be constructed with green design elements: a 4,000-square-foot building will house a laboratory, offices, and an education space, and a second building will house a community space for non-profits, meetings, classes, and other events. Both buildings will support the STTWA's expansion of its water monitoring and remediation programs and the development of STEM-based programmatic activities for local students.

The remaining green space will feature an amphitheater, playground, a canoe and kayak launch, a fishing and birding river pier, and upland and wetland educational nature trails for community engagement. The improved recreational facilities and enhanced river access will not only make community assets more available and utilized by residents but will attract additional visitors to Grafton and Taylor County and produce new tourism spending.

The project will cost approximately \$3 million, but will generate over \$6.6 million in local economic impacts, over \$2.3 million in wages, and support over 50 on- and off-site jobs with STTWA, partnering organizations, new businesses, and in seasonal maintenance.





MINGO COUNTY REUSE CENTER

Project applicant: Coalfield Development Corporation

Project location: Mingo County, West Virginia

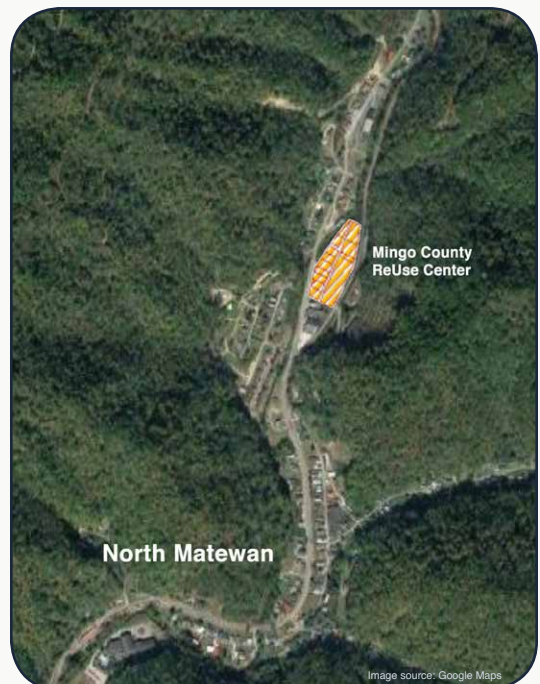
AML Pilot request: \$1.6 million

Leveraged/matched resources: \$195,000

ABOUT THIS PROJECT

As the materials upcycling and composting industries continue to be pillars of a sustainable, circular economy, the Mingo County ReUse Center is looking to diversify and sustain the economies of Mingo County and the surrounding area. The ReUse Center will serve as a regional aggregation and processing hub for repurposing landfill-destined waste and plugging into the supply chain of the ReUse Corridor, a multi-state upcycling coalition in central Appalachia that the ReUse Center is strategically located within, along with several other prospective ReUse Centers in other areas.

The two primary functions of the facility will be to compost biodegradable materials and collect and process conventional recyclables, both of which create marketable products for sale in the ReUse Corridor. Additionally, the ReUse Center will provide workforce development and desirable jobs and, being at the heart of a robust tourism market supported by the exceedingly popular Hatfield-McCoy trail systems, it can tap into and enhance tourism-based economies.



PARTNERSHIPS

The project is spearheaded by Coalfield Development Corporation and supported by the Mingo County Re-development Authority, Tug Valley Area Convention and Visitors Bureau, Williamson Health and Wellness Center, the ReUse Corridor, and the Tug Valley Chamber of Commerce.

AML NEXUS

The project area is both within and immediately adjacent to several remediated AML features. However, this project will reach the end goal of AML remediation by reviving productive use of the land through the construction and long-term operation of the ReUse Center.

FUNDING SOURCES

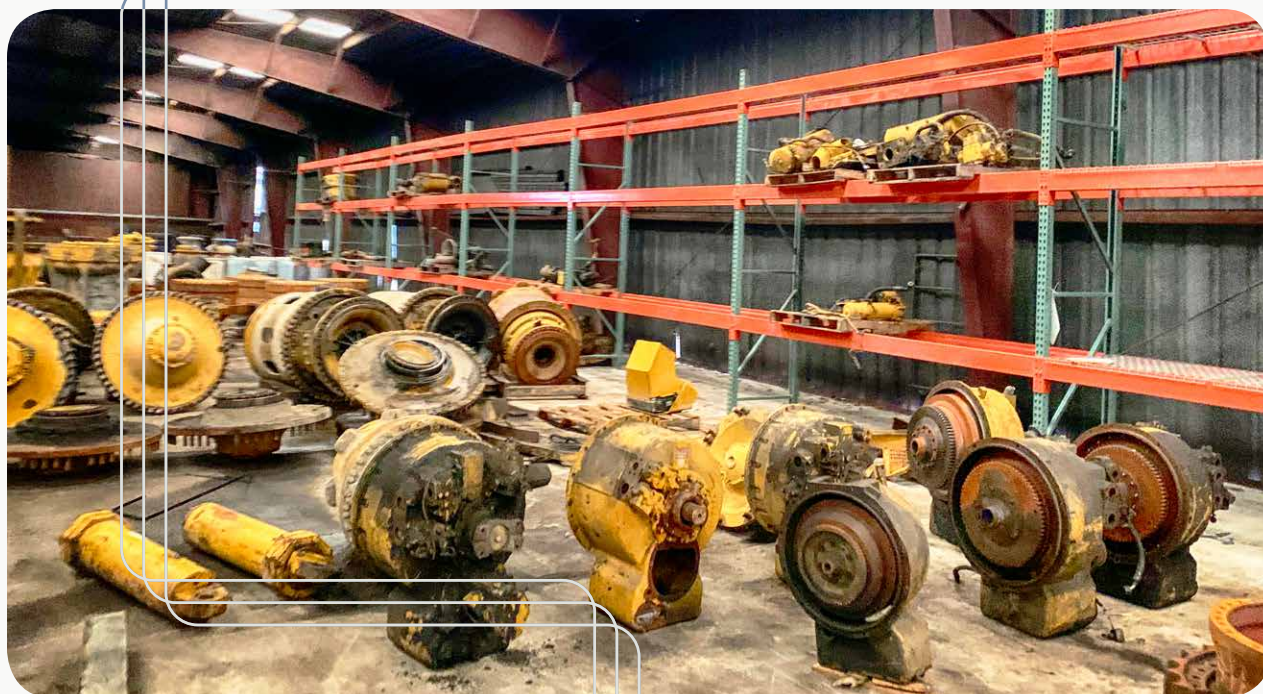
The project has secured in-kind funding for equipment, Bloomberg Philanthropies funds for construction, and a grant from the USDA is helping with logistics planning.

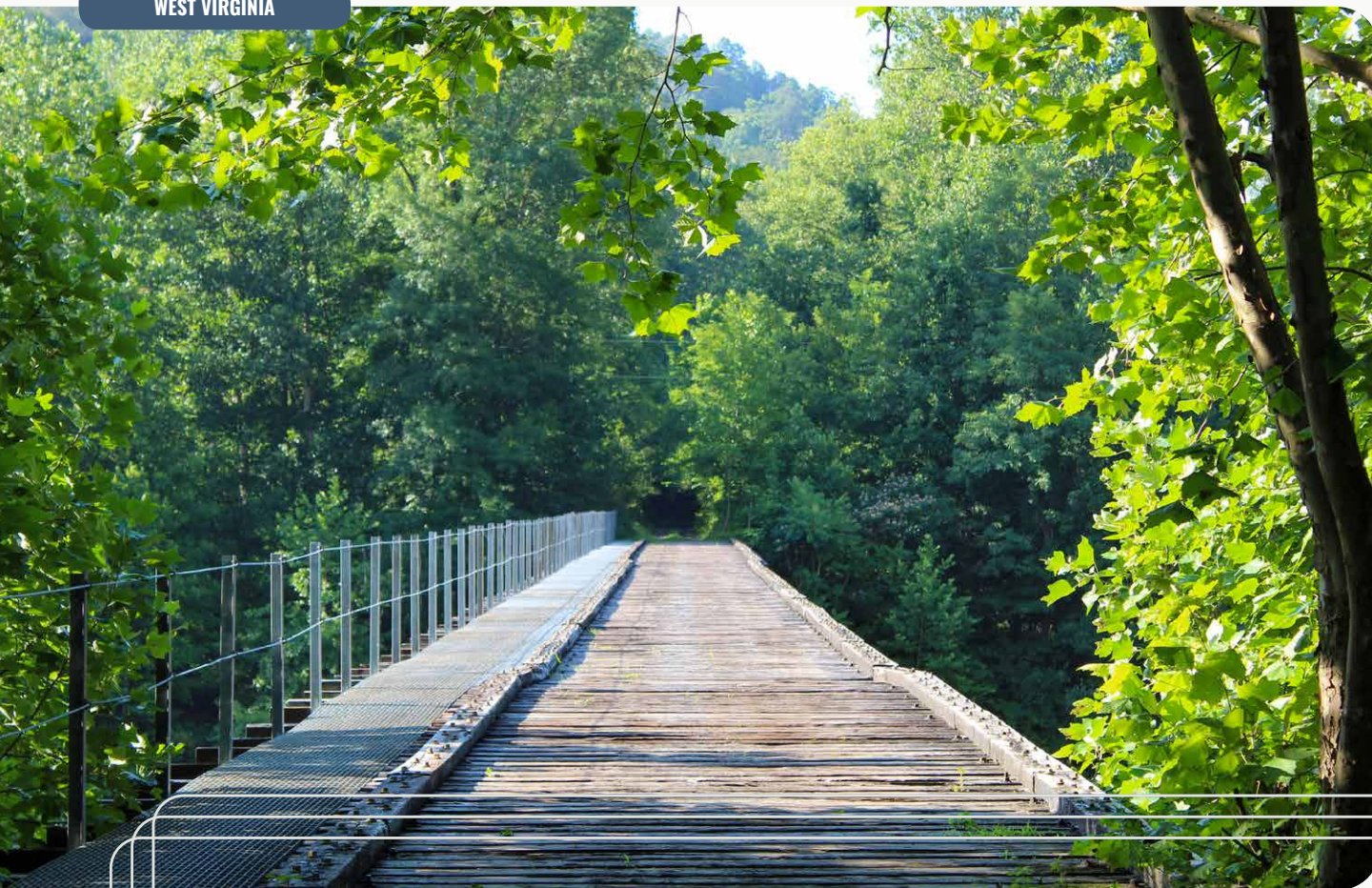
PROJECT IMPACT

The Mingo County ReUse Center will support an array of industry sectors and advance community welfare by directly introducing new opportunities for individuals or businesses that use collected materials and upcycled commodities or need to responsibly dispose of recyclable waste. Expanding recycling access will also help to beautify the Tug Fork and other natural features, which will enhance the budding outdoor recreation and tourism economy in the region.

The project area is just outside of Matewan in Mingo County and near Pike County, Kentucky, both of which are still heavily dependent on the dwindling coal industry and are two of only 83 counties in Appalachia designated as economically depressed, meaning they mark one of the most distressed areas in the nation. The ReUse Center will provide local employment to un- and underemployed residents, help recovering addicts rejoin the labor force, and build capacity through Reintegrate Appalachia, a reemployment initiative that uses Coalfield's 33-6-3 workforce development model to provide stable careers and healthy life management skills for participants.

While the project is expected to cost nearly \$1.8 million, the immediate economic activity generated during construction alone will be much greater at an estimated \$4.2 million. The project is expected to provide wages in the ballpark of \$1.4 million to employees and support more than 30 jobs through the construction phase.





SNAPSHOT UPDATE: RE-CREATE

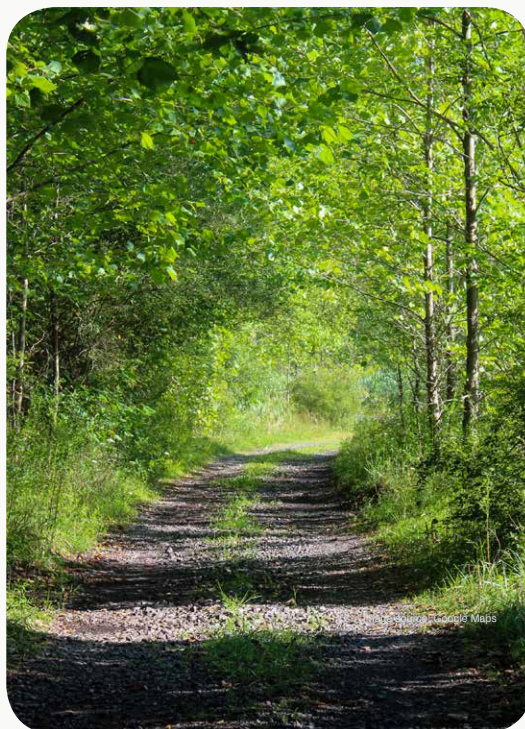
Project applicant: Friends of the Cheat
Award year: 2018 and 2019

ABOUT THIS PROJECT

Big changes are underway along the Cheat River in northern West Virginia. Since being featured in our 2018 report, Friends of the Cheat has secured more than \$4.2 million (including two grants from the AML Pilot Program) to reclaim the Cheat River as a recreation and tourism asset.

Work is underway for the Cheat River Rail-Trail, which will span nearly nine miles along one of the Cheat River's most iconic sections. The project has enrolled in the West Virginia Voluntary Remediation Program to remediate any environmental contamination from past railroad operations, and the rail-trail is expected to be completed by 2022.

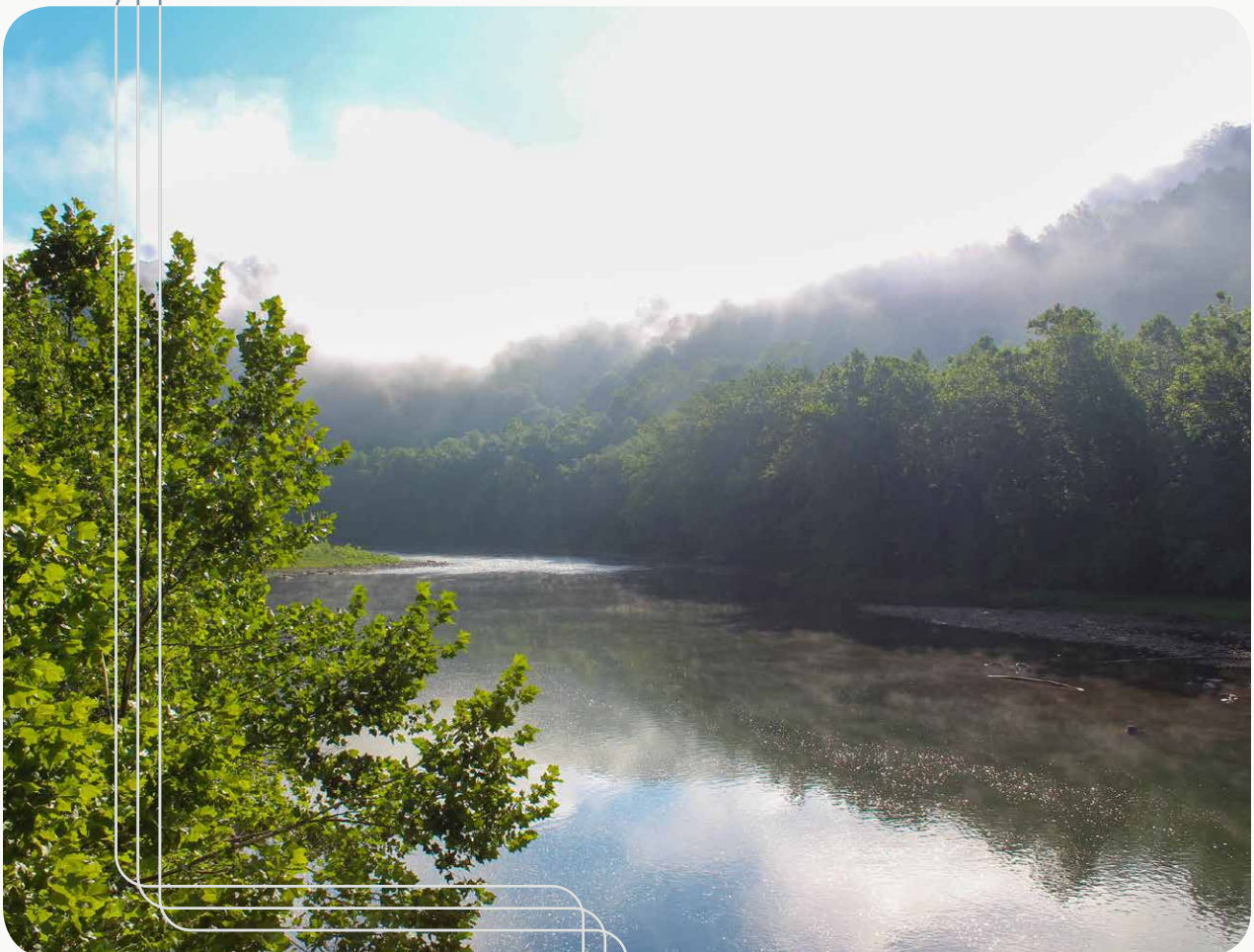
Additional planning is underway to link the trail to downtown Rowlesburg and, eventually, downtown Kingwood. Friends of the Cheat is also beginning the process of designing the Cheat





River Education Center. The center will serve as a trailhead destination for the new rail-trail and river recreation area and will feature a 430-foot-long trestle bridge spanning the Cheat River.

In addition to construction, Friends of the Cheat is utilizing its AML Pilot funding for targeted community capacity building through the new Preston Trail Towns Program. Friends of the Cheat hired a full-time Trail Towns Manager in 2019 to work with communities located along the new rail-trail.





UPDATE: WEST VIRGINIA REUSE CENTER

Project applicant: Coalfield Development Corporation

Project location: Monongalia County, West Virginia

ABOUT THIS PROJECT

The West Run watershed of Monongalia County in North Central West Virginia, a tributary to the Monongahela River, is home to West Virginia University (WVU) and its organic and husbandry farms and woodlot. These properties, while extensively utilized by WVU and citizens of the community, are riddled with AML features. In 2019, Coalfield Development Corporation submitted a proposal to the WVDEP to develop a commercial composting facility adjacent to the most dangerous of these features. The project was not funded.

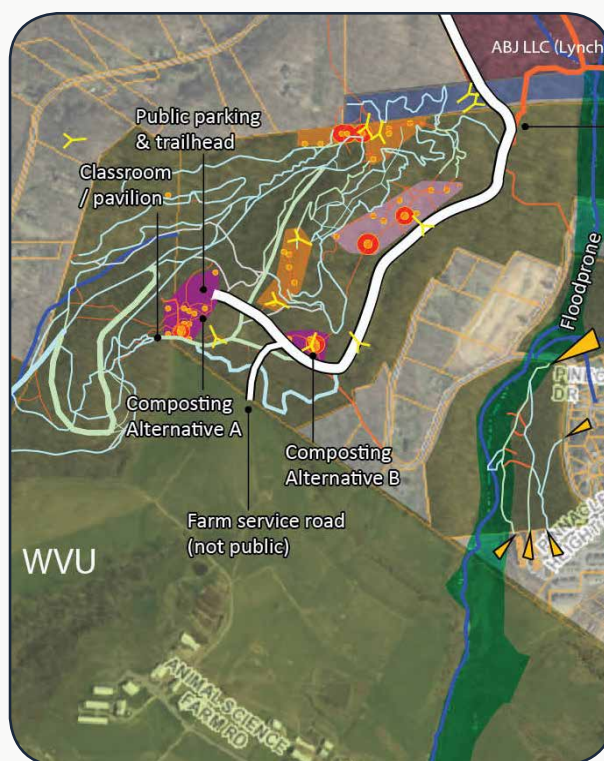
Now, in 2020, Coalfield has bolstered the project idea to not only develop the commercial composting facility, but also improve the adjacent woodlot property by remediating a dangerous AML feature that poses great risk to students and other visitors to the woodlot.

PARTNERSHIPS

Coalfield Development Corporation developed this project in close collaboration with the WVU Davis College of Agriculture, Natural Resources, and Design, the West Virginia Experiment Station, and the WVU Outdoor Economic Development Collaborative. The project has received written support from the highest offices at WVU, local farmers, businesses, and individuals.

FUNDING SOURCES

WVU is waiving the customary fee for the site and is also permitting the use of the existing wastewater infrastructure on-site, which amounts to a significant donation. Additionally, the WVU Outdoor Economic Development Collaborative has dedicated \$350,000 to the project.



AML NEXUS

As mentioned above, the area is riddled with dangerous AML features, which is especially concerning as the property is heavily used by the public as an urban woodland park with up to 100 daily users and by WVU for research and education. The main feature to be addressed is a large, tiered structure on the west edge of the project area. The remediation area is littered with dangerous sinkholes and surface collapses from extensive undermining, and its soil is contaminated from these legacy mining activities.

PROJECT IMPACT

The benefits of the ReUse Center will be manifold: economic, agricultural, personal, educational, and environmental. Because no commercial composting facility exists in the area, the project will establish an entirely new revenue stream that connects to many existing industries, contributing to a diversified, sustainable, and circular economy.

The project is anticipated to serve nearly 8,000 individuals, 6 major institutions, and 50 small businesses per year, including WVU, the City of Morgantown, landscaping services, restaurants, and local residents. The seven-county area is highly dependent on the waning coal industry, and reduced prospects reflect in its average unemployment and poverty rates, which are 6.6 percent and 18 percent, respectively. The ReUse Center will provide local employment to un- and underemployed residents and help recovering addicts rejoin the labor force and build capacity through Reintegrate Appalachia, a reemployment initiative that uses Coalfield's 33-6-3 workforce development model to provide stable careers and healthy life management skills for participants.

All totaled, the project is expected to cost nearly \$5.2 million; however, that number is dwarfed by the potential economic impact a project of this order and magnitude could have on the economy of North Central West Virginia. During construction alone, the project is expected to produce an economic impact valued at over \$13.6 million, support nearly 90 jobs across various sectors of the economy, and provide over \$4 million in wages to employees.

The ReUse Center project would result in total immediate economic activity of nearly \$7.7 million, contribute nearly \$2.4 million in earnings to employees, support over 54 jobs across different sectors of the economy, and provide close to \$4 million in value-added benefits.



2020 MINI GRANTS





2020 Mini-Grant Program: Introduction

Through years of engaging with various groups in Central Appalachia, we recognized that many communities both within and beyond our immediate working area conceived inventive and vibrant project ideas for reinvigorating AML areas; however, no matter how promising, without the proper capacity onboard, many of these plans are destined to remain undiscovered and unfilled. Our coalition was prompted to develop fresh avenues for groups of all kinds to access the resources and support needed to turn viable land reuse concepts into fundable projects.

To expand our community of practice into additional states, reaffirm our investment in current states, further our commitment to innovative mine reclamation projects, and build capacity in new partners, we introduced the Innovative Mine Land Reclamation and Economic Development Project Mini-Grant program in 2020. The mini-grant offered start-up funds and technical and planning assistance for interested businesses, organizations, government agencies, and individuals in Alabama, Kentucky, Virginia, West Virginia, Pennsylvania, and Ohio. We were excited by the number and substance of the responses, which were from a range of entities located throughout eligible states and covered an array of topics. In fact, we received so many proposals that we unfortunately could not fund them all.

The five partners and projects selected were:

- Eastern Pennsylvania Coalition for Abandoned Mine Reclamation (EPCAMR): Large-Scale Solar Development on Historic Mines in Eastern Pennsylvania. Ashley, PA.
- Backroads of Appalachia: Reclaiming Mine Lands and Boosting Economic Development through Motorsports Tourism. Lynch, KY.
- The Nature Conservancy: The Cumberland Forest Project. Middlesboro, KY.
- Bay Point Capital Partners: The Wilds of Emily Creek. Lovely, KY.
- Cawaco Resource Conservation & Development Council, Inc.: Alabama Rivers and Streams Network Runway for Reclamation. Birmingham, AL.

We are encouraged by the diversity of the projects and the enthusiasm of the partners, which are surely representative of the greater Appalachian community pursuing a restoration economy. The projects selected for the mini-grant program include community-driven, place-appropriate forms of economic development that embrace the rapidly evolving economic and social conditions of our region. Inspired by 2020's trial run of the program, we look forward to growing it in the future.



THE NORTH FORK CREEK PROJECT

Project applicant: Cawaco Resource Conservation & Development Council

Project location: Tuscaloosa County, Alabama

AML Pilot request: \$1.8 million

ABOUT THIS PROJECT

The North Fork Creek project will remediate several AML features, including one that is polluting the North Fork Creek in the Brookwood area of Tuscaloosa County. Reclaiming this site will improve water quality in North Fork Creek and downstream in Hurricane Creek, which are used heavily by the public.

Despite the pollution discharged into North Fork Creek, Hurricane Creek supports diverse aquatic life such as largemouth and smallmouth bass, sunfish, and catfish. Local residents fish, canoe, and swim in Hurricane Creek and ride four-wheelers along the creek. A University of Alabama class uses Hurricane Creek for field trips because it is close to campus and an accessible field teaching location. Approximately five years ago, Tuscaloosa Parks and Recreation took responsibility for the maintenance of a parking area on Hurricane Creek, ensuring access for recreation. Hurricane Creek is used primarily by local residents and is not currently a tourist destination.

PARTNERSHIPS:

The project is the product of a collaboration between Cawaco Resource Conservation and Development Council and the Alabama Geological Survey, with support from the Reclaiming Appalachia Coalition.

AML NEXUS:

The project area will address Problem Area Number AL000711, which includes 700 feet of a dangerous



highwall that averages 40 feet in height, 68 acres of spoil, and more than 500 gallons per minute of water polluted with AMD that now flows into North Fork Creek in the Brookwood area of Tuscaloosa County. The remediation process will improve water quality in North Fork Creek and downstream in Hurricane Creek.

FUNDING SOURCES:

The project will be funded entirely through the AML Pilot Program.

PROJECT IMPACT:

Reclaiming the North Fork Creek AML will not just provide environmental benefits; it will also provide economic benefits to the local area. The most immediate local benefits will result from designing, building, and maintaining the treatment system, which is estimated to cost between \$2 million and \$2.25 million.

If funded by a successful AML Pilot program grant, money spent on this reclamation project would come from a federal source outside of the local area. As long as Alabama businesses are used to provide the goods and services required to reclaim the site, jobs will be created and wages will circulate through the local economy as workers spend their paychecks on other local goods and services. For example, engineers will be needed to design and oversee construction, a construction firm will be needed to build the treatment system, and environmental consultants will be needed to monitor water quality.

Economic modeling of project costs suggest that the project would result in total economic activity of \$3.7 million to \$4.2 million, support 22 to 25 jobs on- and off-site, and provide over \$1 million in earnings to workers.





CUMBERLAND FOREST ORV TRAIL SYSTEM

Project applicant: The Nature Conservancy

Project location: Bell County, Kentucky

AML Pilot request: \$5.68 million

ABOUT THIS PROJECT

The Nature Conservancy's Cumberland Forest Project spans 253,000 acres in Kentucky, Tennessee, and Virginia in one of the most important geographies for conservation—the Central Appalachian Mountains. This project will focus on the portion of the forest in Bell County, Kentucky, which sees heavy traffic by off-road vehicle (ORV) users in a large network of unsanctioned trails. The estimated 111 miles of user-developed trails are not currently permitted for ORV access despite their frequent use, and they have never undergone maintenance or regulation, which means the network is very likely degrading the surrounding environment. Specifically, over half the trails within stream corridors are adjacent to streams designated as Outstanding State Resource Waters, which feature the highest quality water and contain federally threatened and endangered species.

The Cumberland Forest ORV Trail System will formalize and market the existing trail system while decommissioning routes that compromise the forest's ecological integrity. The trail system will usher in a new and significant stream of revenue into the local communities through outdoor recreation and motorsports tourism, which have become very attractive economic development options for other areas in Central Appalachia and bring in millions in income and tourism spending every year. The trail system will establish



Middlesboro, Kentucky as a destination Trail Town to serve as the hub for regional activity and will also connect to existing out-of-state ORV systems through downtown trail linkages.

PARTNERSHIPS

Partners include Kentucky Mountain Regional Recreation Authority, Cumberland Valley Area Development District, CF-Ataya LLC, Middlesboro City Council, Bell County Tourism, and Bell County Fiscal Court.

FUNDING SOURCES

The project has secured funds from The Nature Conservancy, Bell County Tourism, and Bell County Fiscal Court.

AML NEXUS

The project site has an extensive history of coal mining and contains several AML features, two of which have been previously remediated by the AML Pilot program—a water supply and vertical openings. This project will specifically target areas that have achieved bond release status, and while it will not include direct AML reclamation, it will ensure former AML areas have a productive end use in community and economic development.

PROJECT IMPACTS

The development of the Cumberland Forest ORV Trail System will build a recreation and tourism enterprise that will yield much needed long-term economic gains for Bell County and the surrounding region. Once a top coal-producing county, the county has suffered an 81% decrease in coal production and a 79% decrease in coal employment since 2000, which have contributed to the county's 31% poverty rate and low median household income of \$24,628. Bell County is primed for the opportunities the trail system will launch into the community.

All total, the project is expected to cost approximately \$6 million to complete and begin operations, with about \$1.9 million in direct trail and visitor center construction costs. During the construction phase, this project will generate an economic output of \$3.5 million, provide \$1 million in earnings to employees, support more than 20 jobs, and contribute over \$1.8 to the local GDP. However, the bulk of the benefits will be realized in the long term. Nearby examples of ORV systems boast annual returns in the tens of millions and employ hundreds of full-time equivalent (FTE) employees: The Spearhead Trails in Virginia and Hatfield-McCoy Trails in West Virginia employ 198 and 430 FTE jobs and generate \$16.7 million and \$38 million in economic impacts per year, respectively. Additionally, the trails yield between \$400,000 and \$1.3 million in annual tax revenue increases. Other ORV systems in the region draw an impressive 91% of their visitors from out of state and routinely generate over \$10 million in annual visitor spending.

The Cumberland Forest ORV Trail System will attract approximately 50,000 visitors per year who will spend an average of \$221 per trip, which will produce comparable economic impact numbers as other regional ORV trail systems. Much of the future economic activity will center in and around Middlesboro, which will capitalize on opportunities for expanding its tourism infrastructure and promote new business opportunities by becoming a Trail Town.





EXPANDING AMENITIES TO INCREASE MOTORSPORTS TOURISM

Project applicant: Backroads of Appalachia

Project location: Harlan County, Kentucky

AML Pilot request: \$400,000

ABOUT THIS PROJECT

Many communities throughout Appalachia are finding success in transforming their natural assets into vehicles for recreation and tourism. Backroads of Appalachia is a Kentucky-based nonprofit driving economic development, job training, and new opportunities to the poverty-stricken areas of Appalachia through motorsports tourism. The popularity of their existing Lynch welcome center and three motorsports trails

has spurred Backroads of Appalachia to expand their presence by converting a former bank building into a flagship welcome center and rest stop that will house a photograph shop supporting a new business activity the project will establish.



PARTNERSHIPS

Backroads of Appalachia partners with Fahe, Harlan County, the City of Lynch, and NASA Rally Sport.

AML NEXUS

The project site is a former satellite bank building for coal miners in the historic coal mining community of Lynch, directly adjacent to the Lynch Mine Blowout AML Problem Area (KY004325) and near the coal train depot.

FUNDING SOURCES

This project leverages significant private investment already made in the Backroads organization and its mission.

PROJECT IMPACT

Built in 1917 by the U.S. Coal & Coke Company, a subsidiary of U.S. Steel, Lynch grew into the world's largest coal camp, with a population peaking at about 10,000 people of 38 different nationalities and with 1,000 company-owned structures. Though a popular employer, the company is known for the drastic actions it took to prevent unionization, which earned the county the name "Bloody Harlan." Although the region has a strong history tied to the coal industry, it is now looking to motorsports tourism to build a new economic driver for the community.

Motorsports tourism encompasses motorcycles, sports cars, off-road vehicles, professional racing organizations, and more—and it remains a largely untapped resource with vast economic potential apt for the mountains of Central Appalachia. For example, a 2019 report by the University of Montana states motorcyclists seek mountains with curves and uncrowded areas; Dragon Slayer is a section of Highway 160 that offers ideal conditions such as intense curves, beautiful scenery, and low traffic. It is also located within a day's drive of two-thirds of America's population, making it a huge economic opportunity. Backroads of Appalachia is rapidly gaining traction in eastern Kentucky: their Facebook page reaches one to three million people each month with zero paid advertising, their Dragon Slayer trail was featured in Harley Owner's Guide magazine as the third best destination in 2020, and their event, Ride for Hope, was featured on the AMC series Ride with Norman Reedus.

Eastern Kentucky is already seeing a huge boost in tourism because of these efforts, which have had an insulative effect on regional businesses in the wake of COVID-19. After Backroads of Appalachia's welcome center opened, Emma's Southern Style Restaurant in Lynch sold out of BBQ and continues to prosper. The local T-shirt company, Game Day Designs, was in jeopardy of closing, but instead had to hire two new staff members to keep up with the welcome center's demand for shirts. In early August, economic activity was further stimulated by Kentucky's first rally race, organized by NASA Rally Sport. Economic impact studies of rally races indicate they bring in millions of dollars in tourism spending to local areas during a single weekend race.

Backroads of Appalachia is now working to expand this relationship to help other former coal towns capitalize on natural assets to recruit motorsports tourism. Backroads of Appalachia's work is projected to create six to ten direct jobs and generate an economic impact of \$2.7 million to \$3.7 million in 2020, and more in years to come.





THE WILDS OF EMILY CREEK

Project applicant: Martin County Fiscal Court

Project location: Martin County, Kentucky

AML Pilot request: \$3.5 million

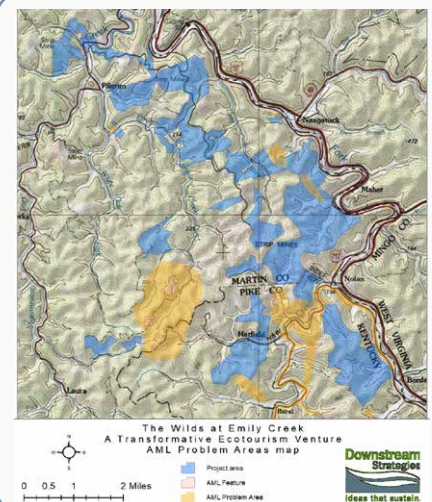
ABOUT THIS PROJECT

The Wilds of Emily Creek (TWEC) is a budding 7,000-acre wilderness-based ecotourism attraction on former mine sites in the eastern Kentucky counties of Martin and Pike that promotes engagement with the outdoors through its rural location, scenic vistas, and proximity to other major points of interest in the region.

The long-term development of TWEC is two-phased: improving the natural habitat and establishing the campground and related amenities. This portion of the project will fulfill the latter and build Caney Shaft, the main campground of TWEC, as well as formalize, improve, and maintain five miles of an existing network of unsanctioned trails and establish a water access area to the Tug Fork River. The trails conveniently connect the Caney Shaft campground to nearby destinations, including wildlife areas, the river, the town of Hatfield, and the hugely popular Hatfield-McCoy Trail System (HMT).

PARTNERSHIPS

Collaborative partners include the Martin County Fiscal Court, The Appalachian Renewal Project, LLC, Boxvana, LLC, Coalfield Development Corporation, and Downstream Strategies.



FUNDING SOURCES

The project is seeking funds from Martin County, The Appalachian Renewal Project, LLC, and Boxvana, LLC.

AML NEXUS

The project site both contains and is surrounded by AML features, including several Priority 2 Portals, two Dangerous Slides, and two Underground Mine Fires. Although the only direct remediation planned is extinguishment of the Stepp Branch Seam mine fire, overall habitat restoration and improvement will also be conducted, paving the ground for additional remediation in the future.

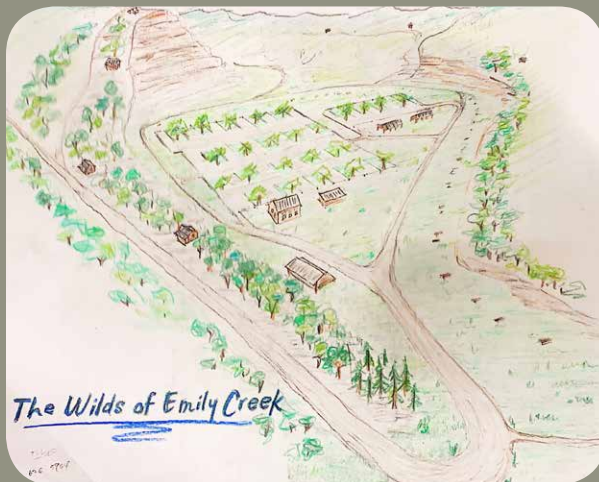
PROJECT IMPACT

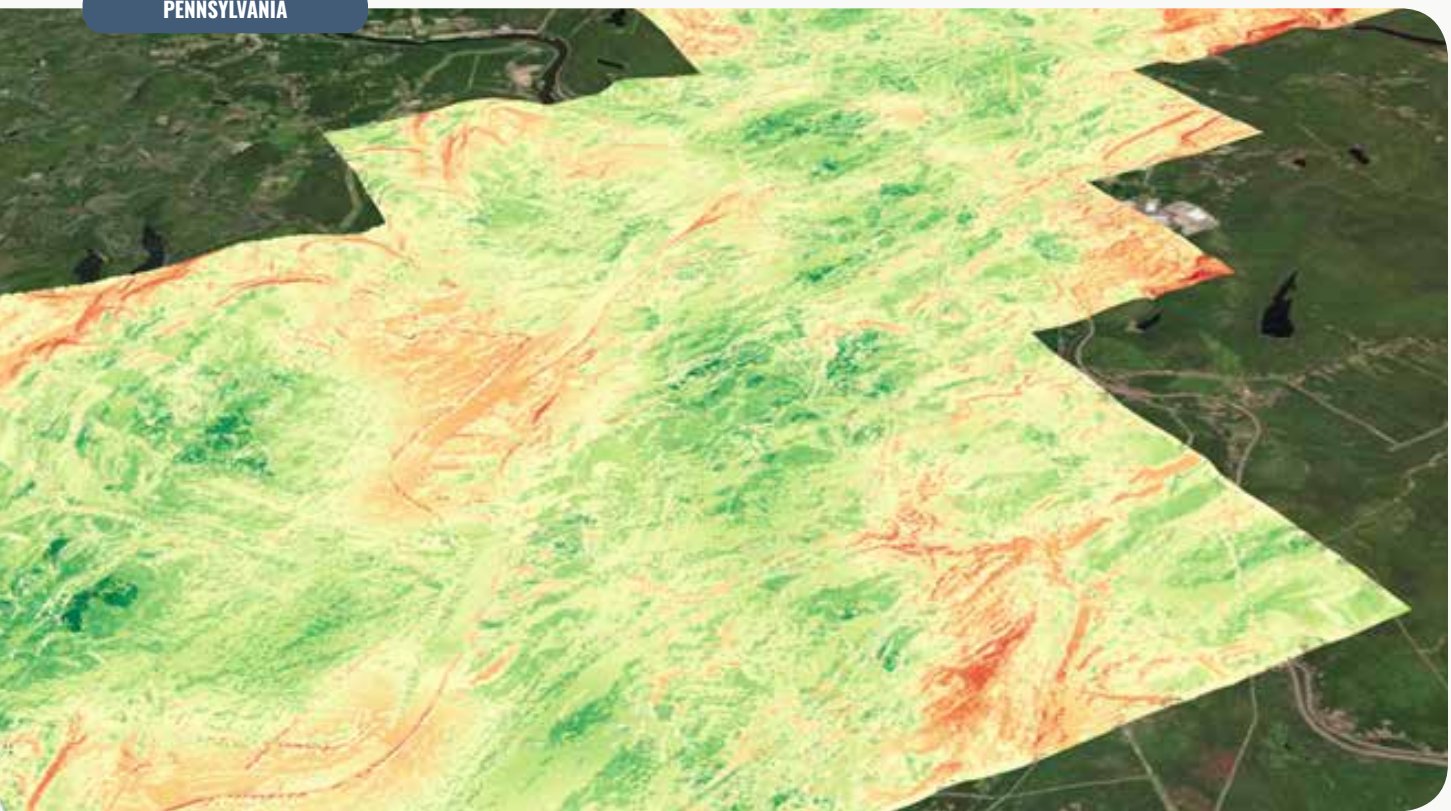
The development of TWEC will serve as an added catalyst for the exponential growth in tourism that eastern Kentucky has experienced in recent years, thanks largely to the nearby HMT and Backroads of Appalachia motorsports trails destinations. In addition to supporting a blossoming recreation economy, TWEC will focus on workforce training, business creation, and land restoration.

As stated, this project will develop the Caney Shaft area of the property, which will be the designated camping area and include 20 rustic cabins, 6 bay bathhouses, a 2,000-square foot general store and manager quarters, and an RV park with space for 50 RVs. The ongoing surface restoration is implementing critical conservation practices to the pastures and forests among the site, creating habitats and food sources to encourage and support the repopulation of native wildlife.

Construction will be fulfilled by local contractors and tradesmen and utilize Coalfield Development Corporation's workforce retraining programs. The construction phase of the project will generate nearly \$10.5 million in economic activity and \$3.5 million in earnings to approximately 100 on- and off-site employees. Overall, the project will create 75 construction jobs, train 50 employees, create three businesses, and support 25 long-term, full-time employees. Even at just a 50% occupancy rate of Caney Shaft, it will still generate \$1 million per year in lodging revenue and an addition \$2 million in services and fees for campground amenities. The local tax revenue will also gain a \$190,000 annual boost through TWEC activity.

Total project costs for the first year of construction and operation are estimated to be \$3.5 million. Projected conservation practices for habitat restoration will cost approximately \$300,00 per year.





A SOLAR SUITABILITY TOOL FOR THE PA COALFIELDS

Project applicant: Eastern Pennsylvania Coalition for Abandoned Mine Reclamation

Project location: Pennsylvania

AML Pilot request: To be determined

ABOUT THIS PROJECT

The Eastern Pennsylvania Coalition for Abandoned Mine Reclamation (EPCAMR) has developed a site selection tool that identifies locations for potential solar energy projects on abandoned mine lands. As of right now, the tool has identified 18 sites across five different counties among the anthracite region of Pennsylvania, totaling over 1,200 acres of AML land for potential solar development. Site sizes range from 19 to 280 acres and qualify for funding through the AML Pilot program.

The selection tool utilizes ArcGIS's Model Builder to synthesize different raster datasets into a suitability model. Digital Elevation Models (DEMs) of AML sites across the four anthracite fields of Pennsylvania were used to determine the slope, aspect, and potential solar radiation. The model also included the National Land Cover Database, distances to substations, powerlines, roads, streams, and wetlands.

EPCAMR will use the information gathered from its modeling exercise to work with public and private partners to investigate further into the history of these sites. The goal of the organization is to serve as a liaison to connect landowners with potential solar developers and expedite the reuse of AML sites in Pennsylvania.

PARTNERSHIPS

EPCAMR has partnered with the Reclaiming Appalachia Coalition, AC Power, the Earth Conservancy, Wilkes University, King's College, and the Office of Surface Mining Reclamation & Enforcement's AmeriCorps Volunteers in Service to America (VISTA) Program through Conservation Stewards, and The Just Transition Fund to develop and complete the first phase of the project.

AML NEXUS

This project analyzes the suitability for solar energy development on all the AMLs in the anthracite regions of Pennsylvania. Many already reclaimed mine lands make ideal sites for converting into solar energy sites. Often these sites are just empty fields being used only for revegetation to stabilize the slopes and the soil. The potential for economic redevelopment of these sites is very promising and can lead to jobs, workforce development training, lower utility pricing, community development, alternative energy options for consumers, and new solar developers and investors coming to Northeastern Pennsylvania.

EPCAMR's model has also identified several sites on lands owned or leased by former cogeneration plants in the anthracite region, which make excellent options for solar energy development because the infrastructure is already on-site and can tie into the existing grid. EPCAMR will reach out to ARIPPA, the trade association that communicates with the remaining few cogeneration plants in the Commonwealth.

PROJECT IMPACT

This project shows that AML sites in Pennsylvania do have great potential for solar energy projects. The framework that EPCAMR has built will allow us to look at rooftops, private and public lands that are not classified as AMLs, and other large impervious surfaces down the road, should funding or professional services be needed by the private sector to investigate the potential for solar development in those areas. As stated, EPCAMR intends to use the information gained from the siting tool to foster partnerships, connect eligible landowners with solar developers, and facilitate the conversion of AML sites to solar energy projects throughout Pennsylvania.

FUNDING SOURCES

The ultimate redevelopment of AML sites for solar could be funded through a mixture of public and private sources.





LOOKING TO OUR FUTURE

The COVID-19 pandemic has further brought to light the region's need for comprehensive, long-term, sustainable economic development solutions. It has laid bare the inadequacy of our region's safety net and debilitated local economies already struggling from the decline of coal and other industries. It has shown us just how close to the edge we are all actually living. It also, however, has served as a testament to the resilience and determination of Appalachia's innovators and entrepreneurs.

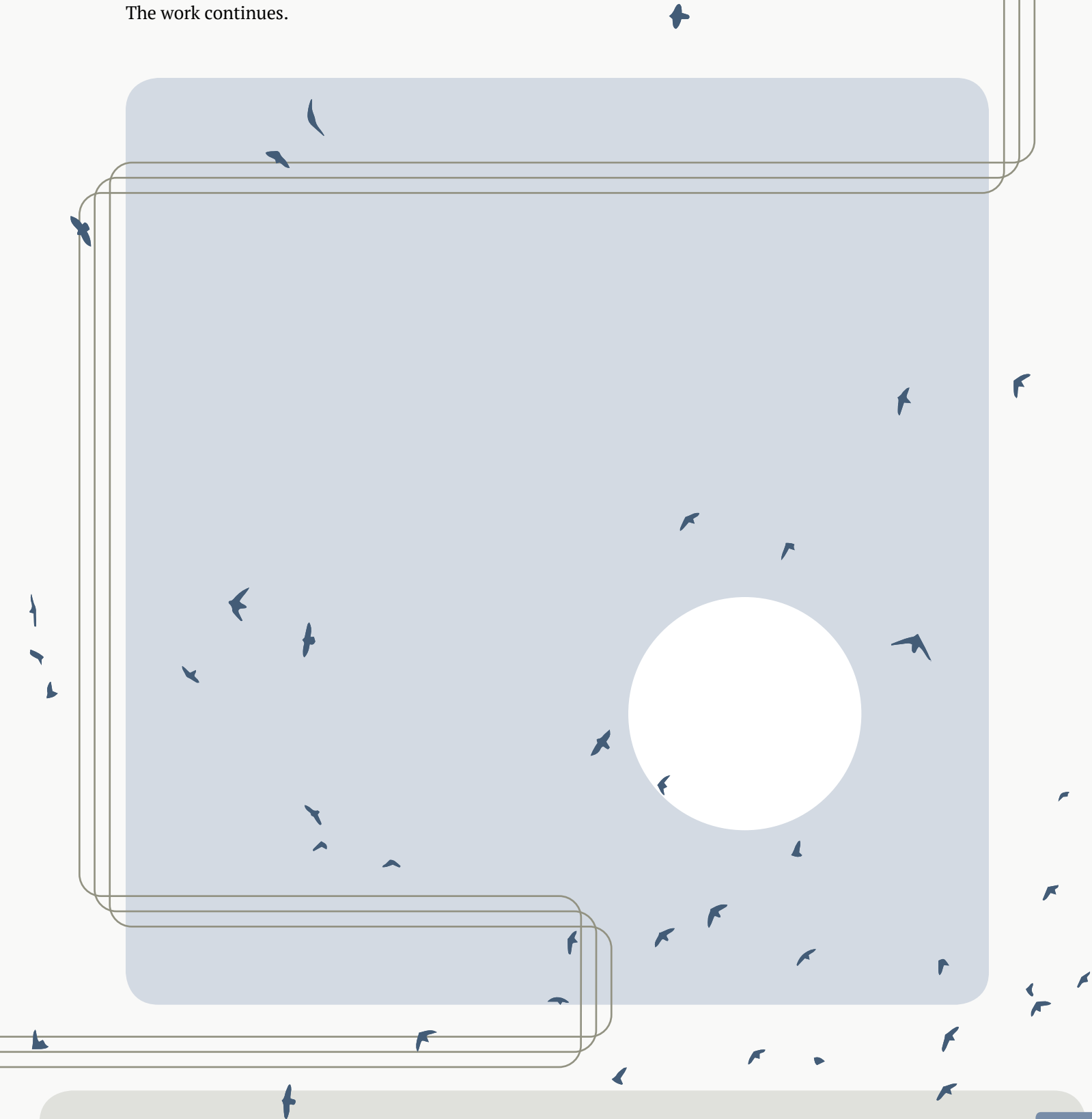
Stretched thin by declining budgets, shifting school formats and schedules, and the immense stress of dealing with a global pandemic, our region's innovators and entrepreneurs still turned out for the 2020 AML Pilot program—further attesting to the program's value to local communities, especially during times of austerity and seemingly insurmountable challenge.

As the Coalition enters its fourth year, we reflect on the victories we've played a role in, the challenges we've overcome, and those challenges we anticipate in the future. In 2021, we will continue assisting Appalachia's leaders and entrepreneurs in pursuing funds for innovative economic development projects on pre-law mining sites. However, in response to our own introspection, we will also be pursuing an expanded focus to better help our communities. This year, we are expanding in three ways:

1. **State of the Pilot.** Congress has appropriated money to the AML Pilot program since 2016—nearly a half billion dollars to states grappling with environmental problems related to pre-law mining features. The program has, no doubt, had many successes. However, no one has dug in on the best practices of implementing the program or potential problems with it. In order to better inform the states and community organizations we work with, the Reclaiming Appalachia Coalition will be releasing our State of the Pilot report in the spring of 2021.

2. **Continued mini-grants.** The first year of our mini-grant program was an absolute success. This program will be continuing in 2021 and the Coalition is actively working to improve on the program design we piloted in 2020.
3. **Post-law mine work.** As outlined in this report, we anticipate increasing challenges related to re-claiming and reusing post-law mining sites across our region. Our work thus far has focused primarily on pre-SMCRA sites; however, in 2021, the Coalition is expanding its purview to engage in innovative economic development solutions on post-law sites.

The work continues.





HOW TO GET INVOLVED

This work is only made possible through partnership and collaboration around Innovative Mine Reclamation. Our coalition maintains several points of entry to join the conversation, obtain resources, or partner on projects:

STATE CONTACTS:

- Virginia: Adam Wells — adam@appvoices.org
- West Virginia: Jacob Hannah — jhannah@coalfield-development.org
- Ohio: Marissa R. Lautzenheiser — marissa@ruralaction.org
- Region-wide: Joey James — jjames@downstreamstrategies.com

The Reclaiming Appalachian Coalition moderates a listserv for the community of practice around innovative mine reclamation. This list is a forum to share project ideas and updates, funding announcements, learning opportunities, and other relevant information. It is moderated, and subscription is by-invitation-only to maintain list integrity, but we encourage anyone interested to email Adam@appvoices.org to request to be added.

POTENTIAL PROJECT PARTNERS

As a coalition we offer the following services free of charge to communities interested in collaborating with us to develop project proposals:

- Mapping and GIS assistance
- Identifying viable project locations and checking eligibility
- Economic impact modeling
- Facilitating introduction with state mining agencies
- Knowledge of other funding sources that can be leveraged
- Community engagement



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