

West Virginia Highlands Conservancy  
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# *The Highlands Voice*

Since 1967, The Monthly Publication of the West Virginia Highlands Conservancy

Volume 55      No. 2      February, 2022

## Question of Nuclear Power back on the Table in West Virginia

By John McFerrin

For over twenty years using nuclear energy to generate electricity in West Virginia has not been a realistic possibility because it was effectively banned by statute. Now there is talk of removing the ban and proceeding with nuclear electricity generation. The statute that most refer to as a ban is not actually an absolute ban. It just prohibits nuclear power in West Virginia until a “functional and effective national facility which safely, successfully and permanently disposes of any and all radioactive wastes associated with operating any such nuclear power plant, nuclear factory or

nuclear electric power generating plant has been developed and that such facility has been proven safe.” West Virginia Code §16-27A-2. This is effectively a ban because the siting of a national waste disposal facility is such a contentious issue. Nationally we have been arguing about it since at least 1982 and are no closer to a permanent disposal facility than we were then. Saying there can be no nuclear power in West Virginia until there is a permanent, national waste disposal site is effectively a ban.

(More on p. 3)

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## Thoughts from our President

By Larry Thomas

Winter is marching through the highlands with freezing temperatures, strong winds (causing temperatures and wind chills to drop below zero on many of occasions) and several snowstorms blanketing the mountains. Temperatures in Canaan Valley plummeted to minus-31 degrees during the morning hours of January 22 setting a record low for the region. You can read an article that explains why temperatures can get so cold at this location at this link [Temperature drops to minus-31 in West Virginia - The Washington Post](#). Even with the frigid weather the Conservancy committees and board have been very busy. It is critically important that we continue our fight to preserve and protect the highlands, focusing on new and exciting opportunities such as the Dolly Sods Stewards Program, but also that we continue to monitor unresolved and new issues that we have been working on or found as reported in each month's issue of *The Highlands Voice*.

### The West Virginia 2022 Legislature in its Full Session

The legislative session has begun, and bills are being introduced at a fast and furious pace. Members of the Highlands Conservancy Legislative Committee as well as the West Virginia Environmental Council (WVEC) Lobby Team are monitoring bill introductions for those of interest, both good and bad, compiling a list of those to be watched as they move through the process. As always you are encouraged to reach out to legislators and voice your opinion on bills. If you are unsure of who your Federal and State representatives are, you can quickly find out here [Find Your State Legislators - Open States](#), which includes contact information. WVEC will send out "Green Legislative Updates" each Friday to keep everyone informed. They can be found here [West Virginia Environmental Council \(wvecouncil.org\)](#). WVEC also expects to

send along action alerts on issues requiring immediate action, which can also be found at the link. Calling and emailing your legislators concerning important issues will be the best way to reach them to state your opinion.

An issue that the Conservancy is keeping an eye out for is legislation to permit the use of Off-Road Vehicles on West Virginia Federal and State public lands. The Public Lands Committee is preparing information concerning the issues involved that must be addressed before deciding to permit the use of Off-Road Vehicles on our public lands and the issues that must be assessed/studied to be sure that the environmental concerns of society are addressed. before such a decision is made. This and the separate article in this issue of *The Highlands Voice* (p. 19) is an example of what the committee has compiled.

### Trails or Roads for Motorized Vehicles

We generally think of trails as benign paths on which people or animals move through a landscape. Motorized trails are a different character, as they require the creation of trails that are wide enough to accommodate the width of today's motorized vehicles. Transformation of a hiking trail into a motorized trail is the difference of both the width and character of the trail.

Standards for the width of a trail's "tread" will vary in accordance with the type of recreational use. Hiking trails are at the narrowest prescription of a 12-inch tread width on "most difficult" trails, up to a 24-inch tread width on the "easiest" trails.

Off-road vehicles on the other hand have a required tread width of from 48 to 64 inches wide.

In addition, the amount of clearing appropriate for each type of trail use differs. A hiking trail requires a total clearing of between 3 and 4 feet while motorized trails must be cleared between 2½ to 3 feet on both sides of the tread. The clearing size added to

the tread size results in a total clearing width of 10 to 13½ feet to accommodate motorized vehicle use of a trail. Add motorized vehicles to this 10-to-13½ -foot trail constructed for motorized vehicle use and what was once a quiet hiking trail becomes a road. That is the reason that we have compiled the Indicators for Studying and Evaluating Potential Off-Road Vehicle (ORV) Effects and Costs on West Virginia Public Lands (see p. 19 of this issue).

West Virginia federal and state public lands budgets do not have the resources to construct or maintain trails or roads designed for motorized vehicle use.

### Objection to the Proposed Greenbrier Southeast Project

The Public Lands Committee continues to monitor the proposed projects on the National Forests. On January 3, 2022, the Conservancy filed the recommended objection to the Draft Decision Notice and Finding of No Significant Impact for the Greenbrier Southeast Project (GSE). The proposed project is located in Pocahontas County, West Virginia, on the Greenbrier Ranger District of the Monongahela National Forest (MNF).

The objection was made because the committee determined that there are significant deficiencies in the Final Environmental Assessment for the project. These deficiencies leave the committee in doubt about whether sensitive resources would be protected adequately, such that—without additional analyses and protections—the impacts of the GSE project are likely to be significant. The deficiencies fell into two broad categories:

(1) Inattention to analysis requirements related to the endangered candy darter and its designated critical habitat. its designated critical habitat.

(More on p. 5)

## More about Nuclear Power (continued from p. 12)

When the statute that imposed the effective ban passed in 1996, the West Virginia Highlands Conservancy supported it. A legislative recap in the April/May issue of *The Highlands Voice* included this item: “Five WVEC supported legislative actions passed both Houses. ...2. A bill banning the construction of nuclear power plants in WV until it is demonstrated that it is economically feasible to state rate payers and that nuclear waste disposal is safe. Our state thus became the third state in the nation to effectively ban nuclear power.”

Since then there has never been any reason to address the ban or nuclear power. There have been scattered informal discussions over the years but it has never been a Board agenda item or subject to a vote.

Now the issue has arisen with a vengeance. There are bills in the Legislature (HB 2882 and SB 4) which simply repeal the ban. There is another bill (HB 4305) which repeals the ban but only in the context of repurposing coal fired power plants when they reach the end of their useful lives. That bill adds some additional consumer protections as well. Some or all of the bills are hurtling along; the smart money is on some version of a repeal of the current ban passing, if it hasn't already by the time this is printed.

A primary source of the enthusiasm is, as often is the case, jobs. The driving idea is that coal is declining. Eventually the coal fired power plants will reach the end of their useful lives. When that happens, it is the Legislature's assumption that those plants will be replaced, at least in part, by nuclear powered plants. Nuclear power plants on the site of a retiring coal fired plant could use at least some of the infrastructure that was originally built to serve the coal fired plant.

The Legislature hopes that the jobs that currently exist at coal fired plants would be replaced by jobs at nuclear power plants.

There is also a climate change aspect to this new enthusiasm for nuclear power. While the West Virginia Legislature has historically shown little enthusiasm for measures to combat climate change, nuclear power does provide electricity with dramatically fewer emissions than coal or natural gas. While nothing could provide electricity with truly zero emissions of carbon dioxide, nuclear power approaches that standard. It certainly produces electricity with much lower carbon dioxide emissions than coal or natural gas.

Nuclear power also provides what is called base load power. The idea is that wind, solar, etc. produce electricity only when conditions are right: sun shining, wind blowing, etc. We need something to do what coal does now: provide electricity all the time, no matter what the conditions. Nuclear power would do that.

Proponents of nuclear power also point out that today's nuclear power plants are not the power plants of old. They are what is called “modular”, meaning that they would be manufactured elsewhere and assembled here. They also would use different technology that would make an accident less likely.

### What's not to love?

If nuclear power provides jobs, base load electricity, very low carbon emissions, and is safe, what's not to love?

Plenty, at least according to the opponents of West Virginia's rush to embrace nuclear power.

Prominent among the objections is that, while the designs for the power plants that are being discussed are new, they are so new that they have not been fully tested. There have not been enough prototypes built to establish a track record. More testing would be needed to determine if they would be safe, reliable, or secure. Those concerned about nuclear power would point out that wind and solar energy is here now and can be deployed now.

There are also concerns about safety. The new designs solve some of the safety problems with the nuclear power plants that we have now. At the same time, they may create new safety concerns.

Opponents also point out that the new designs still produce radioactive waste which must be disposed of.

Many of the objections voiced by the opponents are those articulated by the Union of Concerned Scientists. It did a report assessing the newer designs that are being talked about for West Virginia. To see it, go to <https://www.ucsusa.org/resources/advanced-isnt-always-better#top>. There you will find both an executive summary and, for the very interested (and fully caffeinated) the entire 140 page report.

**Note: For way more information, see the material listed on page 15.**

### Correction

The January, 2022, issue of *The Highlands Voice* said that in 1973 The Nature Conservancy purchased land in Dolly Sods and donated it to the Monongahela National Forest. This was incorrect. The correct date was 1993.

We regret the mistake.



# Doughnut Economics: Linking Environmental and Human Concerns with the Economy

By Jackie Burns

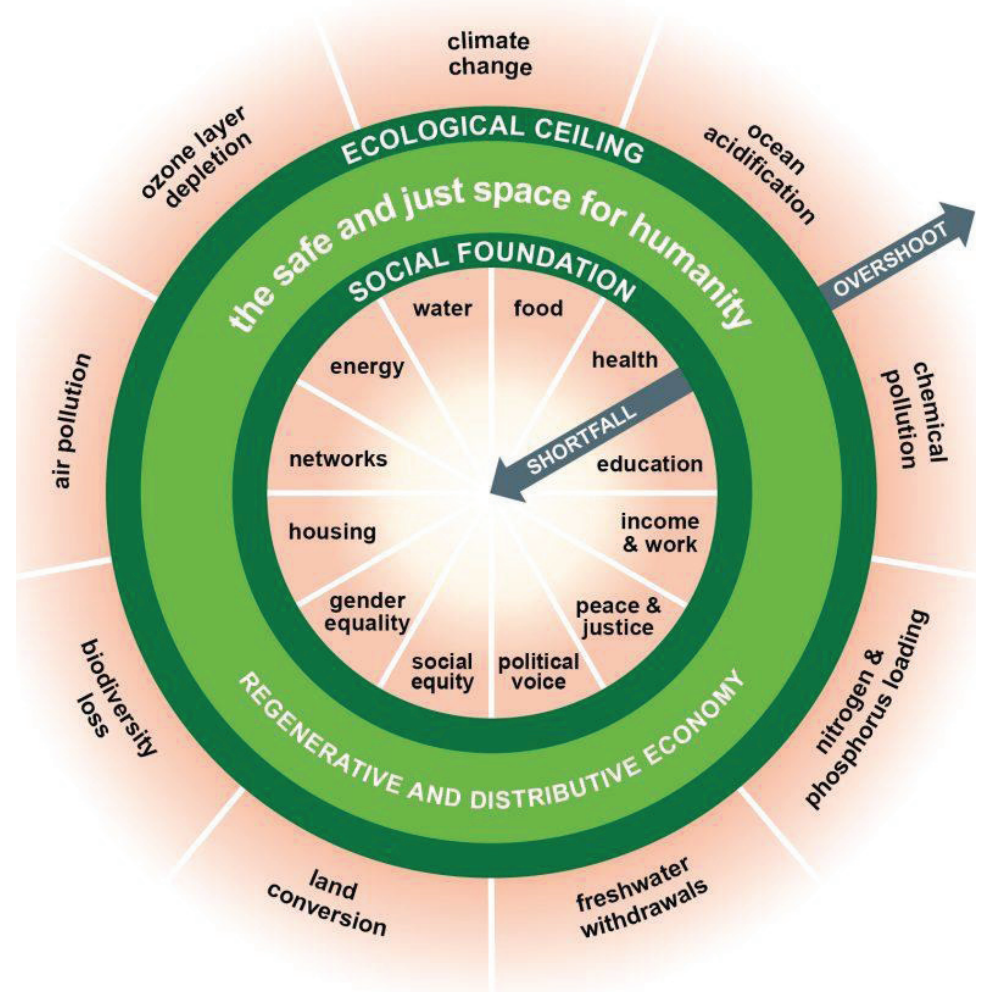
There is a new idea among some modern economists that should be of interest to those of us long concerned about the environment. This idea recognizes that endless growth, using and discarding the earth's resources, not recycling them, is not sustainable on our limited planet. Instead, this new idea proposes that economic growth should stay within the limits of what our planet can sustain, and resources used should be recycled. Imagine an economy growing outward from a center. It reaches the limit of sustainability, that is the outer edge of the doughnut. It doesn't just stop, it changes direction, reusing resources in new, imaginative ways.

But doughnuts have holes in the center too. So, what defines this inner boundary? Well, each of us, each human on earth, has basic needs. We need food, water, shelter, space, etc. The inner boundary defines where these basic needs are met for all of us. If the needs are not met for someone, we might say they have fallen through the hole of the doughnut.

The space between the outer and the inner edge of the doughnut is the space for a safe and just humanity, with an economy that is regenerative and distributive. Resources, like the silicon in our solar panels, are recycled and reused. While some still have more than others, benefits are distributed in ways that ensure everybody has enough.

Components of this concept have been discussed by some in the economics community for some time. Then Economist Kate Raworth put the ideas together with a delectably appealing visual, the doughnut, and wrote a book about it. *Doughnut Economics, 7 Ways to Think Like a 21st Century Economist*, was published in 2017. Since then, the concept has gained steam in some places, and in some circles. This idea that economic growth cannot be endless is a paradigm shift, as are the other 6 ways to think like a 21st century economist described in Ms. Raworth's book. Watch the video, <https://video.search.yahoo.com/yhs/search?fr=yhs-sz-single&ei=UTF-8&hsimp=yhs-single&hspart=sz&param1=72470&param2=eyJJbnN0YWxsX0RhdGUiOiIlLCJVQSI6Ik1vemlsbGEvNS4wIChXaW5kb3dzIE5UIDYuMzsgV2luNjQ7IHg2NCkgQXBwbGVXZWJLaXQvNTM3LjM2IChLSFRNTCwgbGlrZSBHZWNrbyk-gQ2hyb21lLzk2LjAuNDY2NC4xMTAgU2FmYXJpLzUzNy4zNiJ9&param4=A77020&p=Doughnut+Economics+youtube+DIF&type=type7013199-sv7-A55043-fe615ab6418301ee060539dca00ce13c7849b545b98003a163e350fc2212b5ff#id=4&vid=780e4c77841eb05c-c19797faad1baf8&action=click>. Then consider reading **the book**.

It's a simple idea really, this doughnut economics idea, but incredibly complex to accomplish. The question is, should we work towards accomplishing it? Will working towards this help our environment? Can it help us explain to others what we support, what we are for? How do we define and measure the limits? Can and should your WV Highlands Conservancy play a role in this? We can't



answer all these questions today, but let's start by discussing how the limits are defined and measured.

In 2009, an international group of Earth-system scientists, led by Rockstrom and Steffen, identified nine critical processes to define the ecological ceiling that will enable earth to maintain conditions where life like ours will continue and thrive. These are the processes used to describe the outer edge of the doughnut. For each process

(More on the next page)

More about Doughnut Economics (Continued from previous page)

an indicator is measured, and a planetary boundary is defined to determine how we are doing at being sustainable.

For the social foundation inner boundary, the author looked at what the international community seeks to promote. “They are all included in the United Nation’s Sustainable Development Goals – agreed by 193 member countries in 2015 – and the vast majority of these goals are to be achieved by 2030.” (Raworth, 2017).

How are we doing so far? Well, the results are mixed. We have exceeded the planetary boundary on three of the nine processes. We have yet to define the measure of two processes, and we haven’t yet exceeded the planetary boundary on the remaining four processes. Overall, we have work to do to get within the doughnut’s planetary boundaries.

On the social foundation end of things there is also much work to do. There are still many places where sewage is untreated, available water is not clean, health care is far away and/or too expensive and people have little or no political voice.

Let’s get a more specific example. The measurable control variable for climate change is atmospheric carbon dioxide, measured

in parts per million. The planetary boundary is thought to be 350 parts per billion. Currently the measured value is 400 parts per billion and rising. Consequently, we are experiencing more frequent severe storms, sea level rise threatening the existence of island nations, and more. What can we do to get within the planetary boundary? Burn fewer fossil fuels. Find more sustainable forms of energy. We, the people of earth, are working on this, but many still have much to gain from continuing the unsustainable path, and the political will to support the needed change is hard to find.

Climate change is an issue your WV Highland’s Conservancy is and has long been working on. So, what might Doughnut Economics add? Perhaps it as a possible way for us to describe what we are for, the world we would like to see emerge in the future. Perhaps it is a way we might to evaluate future potential projects, that is, does this project move us into the doughnut, or outside it. And when we have concerns about a potential project, the doughnut can be used to help us describe our concerns, not only with details, but also linking those detailed concerns with a big picture view.

Larry Finishes Up (Continued from p. 2)

(2) Unsupported conclusions concerning project effects and incomplete development of proposed mitigations.

The committee recommended not to file additional comments on the Upper Elk Ecological Restoration Project since the Forest Service adopted some acceptable changes in response to comments filed earlier.

The Highlands Conservancy board met on January 23<sup>rd</sup>, highlights of which are reported in this issue of *The Highlands Voice*. I want to thank everyone in attendance as it was a very productive meeting. It is increasingly difficult to keep up as lots of good and potentially concerning information surfaces every day.

Please stay safe and warm during this another increase of the Corona Virus and extremely cold weather.

Tell a Friend!

If you have a friend you would like to invite to join the West Virginia Highlands Conservancy just fill out this form and send it to West Virginia Highlands Conservancy, Box 306, Charleston, WV 25321.

Person you wish to refer: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Email \_\_\_\_\_

Your name: \_\_\_\_\_

Filling out the form, etc. is, of course, the old school way of doing things. If you prefer, just email the information to Dave Saville at WVHC50@gmail.com.

The way it works: Anyone you refer gets *The Highlands Voice* for six months. At the end of the six months, they get a letter asking if they want to join. If they join, we’re happy. If not, then maybe next time.



## Book News

### ***Appalachia's Alternatives to Mainstream America*** by Paul Salstrom (University of Tennessee Press, 2021)

Reviewed by Julian Martin and John McFerrin

This is a blend of personal memoir, scholarship about southern West Virginia (particularly Lincoln County) and an alternative vision of how an economy in rural West Virginia (and the rest of America, for that matter) could work.

Much of it is about where he was and what he did as a young man. Taken together, it is a portrait of the things one could do in the 60s and 70s with curiosity, no money, and no apparent interest in a life of material wealth. It includes a trip in the back of a segregated bus with Black workers, a month as a steel worker, time in a Quaker intentional community, hiking in the Teton Range, and climbing in Yosemite.

The story includes time spent meditating in a cave in New Mexico, opposition to the war in Viet Nam, and a stretch in prison for draft evasion. It includes running the Appalachian Movement Press in Huntington, West Virginia, which printed pamphlets for mine workers to distribute during strikes as well as *MAW: A Magazine of Appalachian Women*.

And that's not the half of it. He was up and down, all around, seeing what the country had to offer. All was done without a car, or at least without a car that would run consistently and in all gears.

Along the way, Dr. Salstrom encountered notable people, including Dorothy Day. She gave him the insight that saying that alternative economies and lifestyles were "a new society growing in the shell of the old."

Dr. Salstrom's ramblings eventually brought him to Lincoln County, West Virginia. There he found cheap land and an economy built upon mutual aid.

As he described the system, it was built upon the idea that any favor done created an unspoken obligation to do another favor for someone else. If someone helped pull your car out of the ditch, you had the obligation to help someone else harvest their tobacco. Or build their barn. Or whatever else

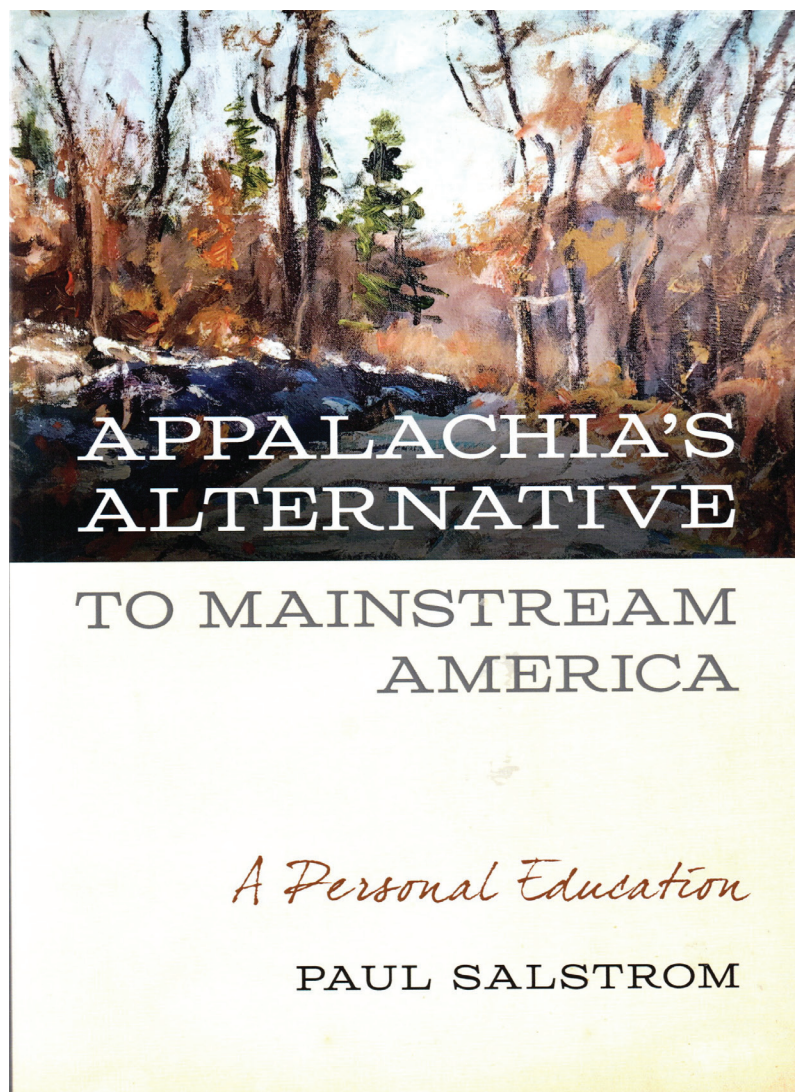
needed to be done. The debt did not have to be paid right away and might not even have to be paid to the same person who did you the favor. The debt was to the community.

The book is also fills in pieces of West Virginia history, particularly that of Lincoln County. While it does not pretend to be a conventional history book, in telling his story Dr. Salstrom does provide a lot of information about people who were going back to the land and those they interacted with. He even includes a section about a controversial strip mine that was proposed for Lincoln County and the public hearing about that mine. That section includes an extensive quotation of testimony that Julian Martin gave at the hearing (spoiler alert: he was agin' it).

Dr. Salstrom eventually left Lincoln County and got a Ph.D.

in history. His experiences back to the land in Lincoln County influenced his scholarship and thinking on intentional communities and how economies are organized. He suggests that the sharing economy he found in Lincoln County is not a relic of an early time in history, appropriately discarded as we move to a modern economic model. Instead, he suggests that the modern economic model threatens destruction of the environment, the food supply, and political life. He would prefer an economy based upon small farms, communities, and sharing.

On the whole, the book is both interesting and thought provoking. It is interesting to read about all that Dr. Salstrom has done in his life, including the up close view he provides of the back to the land era of Lincoln County's history. It is thought provoking in that it offers an alternative way of thinking about how an economy and a society could be organized.



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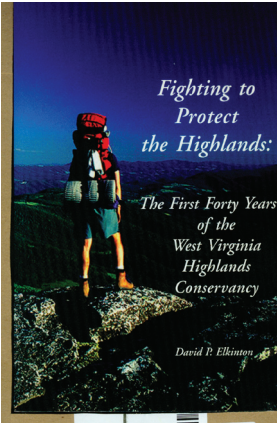
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Student	\$15		
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Other	\$15		
Regular	\$25	\$35	\$50
Associate	\$50	\$75	\$100
Sustaining	\$100	\$150	\$200
Patron	\$250	\$500	\$500
Mountaineer	\$500	\$750	\$1000

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**West Virginia Highlands Conservancy**  
**Working to Keep West Virginia Wild and Wonderful**  
  
**You may also join on-line at [www.wvhighlands.org](http://www.wvhighlands.org)**

GET A GREAT HISTORY BOOK



For the first time, a comprehensive history of West Virginia’s most influential activist environmental organization. Author Dave Elkinton, the Conservancy’s third president, and a twenty-year board member, not only traces the major issues that have occupied the Conservancy’s energy, but profiles more than twenty of its volunteer leaders. From the cover by photographer Jonathan Jessup to the 48-page index, this book will appeal both to Conservancy members and friends and to anyone interested in the story of how West Virginia’s mountains have been protected against the forces of over-development, mismanagement by government, and even greed.

518 pages, 6x9, color cover, published by Pocahontas Press

To order your copy for \$15.95, plus \$3.00 shipping, visit the Conservancy’s website, [wvhighlands.org](http://wvhighlands.org), where payment is accepted by credit card and PayPal. Or write: WVHC, PO Box 306, Charleston, WV 25321. Proceeds support the Conservancy’s ongoing environmental projects.

SUCH A DEAL!

Book Premium With Membership

Although *Fighting to Protect the Highlands, the First 40 Years of the West Virginia Highlands Conservancy* normally sells for \$15.95 plus \$3.00 postage. We are offering it as a premium to new members. New members receive it free with membership. Existing members may have one for \$10.00. Anyone who adds \$10 to the membership dues listed on the How to Join membership or on the renewal form will receive the history book. Just note on the membership form that you wish to take advantage of this offer.



# Conserving Birds in a Changing Climate

By Cynthia Ellis

WVHC, we think, was justifiably proud of the line-up of presenters arranged for our virtual Fall Review in 2021. That pride extends to offering some of that information again, here in *The Highlands Voice*, as a refresher, or for any who may have not happened to have seen the original event.

Katie Fallon shared with us about “Conserving Birds in a Changing Climate.” Ms. Fallon has taught writing at Virginia Tech and WVU and is the author of “Cerulean Blues” and “Vulture: The Private Life of an Unloved Bird,” as well as several books for children. Katie is one of the founders of the Avian Conservation Center of Appalachia in Morgantown and is actively involved in environmental education. A lifelong resident of Appalachia, Katie’s great-great grandfather, great-grandfather, and grandfather were coal miners in West Virginia and Pennsylvania. She lives in Cheat Lake, WV, with her family.

To introduce the need for conservation of birds, Katie reminded us that a great many birds are experiencing population decline:

- According to a 2019 study by the Cornell Lab of Ornithology and collaborators, North America has lost 3 billion birds since 1970
- Groups of birds experiencing losses include grassland birds, migratory birds, boreal forest birds, eastern forest birds, aerial insectivores, and shorebirds
- Groups of birds that *had* been in decline before 1970 but have rebounded include raptors, waterfowl, and woodpeckers

Through a regional aside, she pointed out there are challenges in collecting such data. She noted statistics, published in October 2021 by the American Birding Association, that were an effort to determine the numbers of birders submitting records to Cornell. The data changed daily with each bird list submission, but some remote locations in West Virginia and Kentucky,

usually near coal mining areas, could each be labeled as the “least birded county” in the United States. Katie and other birders here hope to encourage our friends to branch out in their field work and help make the assessments more accurate.

Why the declines? Some suggestions are:

- Habitat loss
- Habitat degradation
- Other anthropogenic threats (free-roaming cats, windows, vehicles)
- Losses due to climate change and pesticide use (direct and indirect) which are more difficult to estimate

Regarding climate change, according to a 2019 report by National Audubon, 389 North American bird species are vulnerable to extinction from climate change; vulnerable groups include Arctic birds, boreal forest birds, western and eastern forest birds, and waterbirds. How does climate change affect avian populations?

- There may be habitat loss or habitat degradation
- Ranges could shift – in North America, ranges shift north latitudinally and to higher elevations
- Changes in food availability
- Increase in drought / fires
- Increase in mosquito-borne diseases
- Changes could be too fast for birds to adapt

Katie suggested three personal and practical things that we can all do to help.

We can provide beneficial and safe habitats. We can do this through such changes as minimizing synthetic fertilizers and pesticides, minimizing the use of weed whackers and leaf blowers, and by minimizing or eliminating lawns. We can plant native species, provide places to nest, and protect from window hazards and from non-native predators.

Secondly, we can patronize local farms and organic farms. These can

decrease “food miles” and mean less fuel to ship. They can provide shorter time from farm to table and can protect water and soil, and sequester carbon. And these farms can maintain green space in a community and supply habitat for birds.

When researching for the book *Cerulean Blues*, Ms. Fallon studied bird issues in South America. She visited and became familiar with Columbian coffee farms that specialize in “shade grown



coffee.” Her first-hand experience has made her knowledgeable and passionate about the benefits of this beverage choice when thinking of one small thing to help birds.

The traditional way to grow coffee was to plant the shrubs in the forest, in the shade of the canopy, but demand for coffee increased around the 1970s and so tropical forests were cut to grow coffee more quickly in the full sun. Full-sun coffee creates a monoculture dependent on fertilizers and pesticides. Shade-grown coffee may

**(Not finished yet; fly to the next page)**



## More about Birds (Continued from previous page)

be more expensive for the consumer than coffee grown in the full sun. But...the technique protects or restores tropical forests and promotes species diversity (plants, birds, mammals, amphibians, and invertebrates). It is beneficial to pollinators and to other crops on the same plots, notably fruit trees.

Shade-grown coffee doesn't require the number of fertilizers and pesticides that full-sun coffee does and it protects soil; improving health and preventing erosion. Shade-grown coffee may help mitigate climate change through carbon sequestration, temperature control, and water retention. Here's more details, and a purchasing source~ [Coffee Produced in Bird-Friendly Habitats | Audubon](#)

So, enjoy that steaming cup of coffee, and, oh yes, Katie Fallon left us with one more tip that could make a difference...

Take a kid birding!

We close with gratitude to Katie Fallon for providing a few more resource notes, and for participating in our Fall Review. [3billionbirds.org](https://3billionbirds.org)

- [www.audubon.org/climate/survivalbydegrees](https://www.audubon.org/climate/survivalbydegrees)
- [www.audubon.org/native-plants](https://www.audubon.org/native-plants)
- <https://ebird.org/checklist/S37014708>

## How to Fix the Unfixable

By Cindy Rank

We've seen it before with coal and now it's happening with gas.

On the coal front we have seen third parties contracted to reclaim forfeited coal mine sites, suggest they must mine more coal to reclaim those sites. 'Mining incidental to reclamation' it's called.

But, what? Solve an existing problem by creating more of the same problems?

While some amount of mining can be legit and necessary to produce enough material to do the reclamation, companies have been known to do more than necessary thereby causing more discharge and more pollution from those mine sites they are hired to 'fix'.

Enter Mountain Valley Pipeline (MVP) developers who apparently think the way to solve the sediment problems they've already created is to dig under or through more streams and wetlands.

(Brings to mind a different version an old saw: If its broken, break it some more?)

### 401 State Certification

Fined hundreds of thousands of dollars both in West Virginia and Virginia for allowing inordinate amounts of sediment to clog and otherwise damage streams, MVP wants to muck around in more streams.

What ???!

First the company proposed to treat all the mucking around as if every stream

crossing is the same and applied for a general nationwide Clean Water Act permit from the Army Corps of Engineers (ACOE).

When successfully challenged by WV Highlands Conservancy and other organizations, the courts said, no, a nationwide permit is not sufficient. You really have to address the impacts of the actions in more detail determined by quality and characteristics of the streams and wetlands to be impacted.

Failing to receive approval for the general permit, MVP applied for an individual permit which requires not only Corps approval, but also state certification that the proposed action will not violate state water quality standards.

Enter WV Department of Environmental Protection (WVDEP).

In December 2021 WVDEP said, OK. No problem... go right ahead. We certify your actions as sufficient to meet state requirements to protect our state water resources - streams, rivers, wetlands.

### 404 Army Corps Permit

With WVDEP's blessing the Corps is now free to act on the 404 Clean Water Act permit which would allow MVP's proposed work in and through those waterbodies.

Having presented reams of documents in opposition to MVPs proposed stream work, WV Highlands Conservancy joined with other

state and regional groups in filing an appeal to the 4<sup>th</sup> Circuit to review (and overturn) WVDEP's actions.

Opponents have also filed for a stay/delay while litigation on the merits proceeds.

### Forest Service and BLM

These Clean Water Act permit actions follow a recent win for the same conservation organizations, where the Fourth Circuit ruled to vacate Forest Service and Bureau of Land Management decisions allowing the pipeline to cross the Jefferson National Forest. The courts determined MVP failed to consider sedimentation and erosion impacts to the Jefferson which is located in both West Virginia and Virginia. The Court put it this way, "In sum, we conclude that the Forest Service and the BLM 1) inadequately considered the actual sedimentation and erosion impacts of the Pipeline; 2) prematurely authorized the use of the conventional bore method to construct stream crossings; and 3) failed to comply with the Forest Service's 2012 Planning Rule. "

### Endangered Species

Still pending are other court decisions about the validity of permits also challenged by plaintiffs including WV Highlands Conservancy, contend have not considered the impact of MVP stream work on Endangered Species, e.g., the Candy Darter.

# Supporting the Wilderness Climate: The First Season of Dolly Sods Wilderness Stewards

## Part 3: The Seeds of Popularity

By Dave Johnston

In the first two parts of this article, which is based on the presentation I made at the WVHC Fall Review, we looked at the provisions of the Wilderness Act of 1964 as they relate to the values of “wilderness character”, how the Dolly Sods Wilderness was officially created under those principles, and at how wilderness designation has protected Dolly Sods. In this installment I want to look at how the success of Dolly Sods has led to new challenges to its wilderness character, in the form of dramatically increased visitation.

In a future article I'll discuss the observed impacts of this popularity, how the Dolly Sods Wilderness Stewards responded to those threats, what we have learned from our first season, and what is planned for the future.

### **What makes Dolly Sods attractive?**

In many ways, Dolly Sods, and the challenges it faces, serves as a model for wilderness areas in the eastern United States. Like most wilderness, Dolly Sods contains areas of exceptional natural beauty. It has been purposely set aside as an area for natural processes to take place, with minimal human interference or evidence of human occupation. It provides an opportunity for a more primitive outdoor experience.

But unlike the vast wilderness areas of the west, Dolly Sods is relatively small, at just 17,776 acres. The average size of western wilderness areas (excluding Alaska) is about 82,000 acres, while the average of eastern wilderness (excluding Florida) is only about 13,000 acres. That means that people who come to appreciate it are likely to be concentrated in a more limited area, and an increase in visitation will have greater impact.

Also unlike many western wilderness, but like many in the east, Dolly Sods is relatively close to large population centers. It has relatively easy access, with four-lane highways approaching the area from both the east and the west, and a good network of state roads. The potholes of FR75 notwithstanding, Dolly Sods is easy to get to for a large number of people. And once here, the road delivers them literally to the edge of the wilderness. Few wilderness areas have a road running along 11 miles of their perimeter, with seven separate trailheads.

So it should not be a surprise that Dolly Sods has become the focus of intense visitor use, as have many other eastern wilderness areas. But it is useful to take a closer look at some of the factors that have affected this for Dolly Sods in particular.

### **Growth**

It is an understatement to say that the Dolly Sods area has experienced explosive growth in visitation during the past few years. Helen McGinnis' observation, in 1971, that “In the last 15 years the area has been discovered by more and more people seeking recreational relief, many of them from out of state urban regions” seems both prescient and quaint.

Unfortunately, we don't have hard data on previous levels of usage in the nearly 50 years since Dolly Sods was designated a wilderness. It is not known whether the Forest Service ever recorded overall levels of visitation to the wilderness or its surrounding areas. They did, for some period, have trailhead registration boxes, but was not able to maintain them, and any data collected from them would be hard to unearth, and may be of suspect quality anyway.

Only now, with the inception of new registration boxes to be maintained by the Wilderness Stewards, will we begin to get a quantitative idea of the levels of visitation. That will no doubt be useful in previous years, but for now the assessment of trends in visitation can only be qualitative and anecdotal.

### **Social Media**

It has become kind of axiomatic that this increased visitation is driven by social media. But that is probably only partly true. This has unquestionably been a long-term trend; people have been noticing (and complaining about) the influx of visitors for at least several decades, long before social media. The first edition of the WVHC's Monongahela National Forest Hiking guide was produced partly to draw attention away from Dolly Sods and the other new wilderness areas, out of concern that the publicity surrounding their creation was drawing too many visitors.

Traditional media, including newspaper and magazine stories, tourist publications and guidebooks, as well as old-fashioned word of mouth have all contributed to a steady rise in visitation levels. Dolly Sods has been on the radar screen for a long time, and would have been increasingly popular even without social media.

Still, there is little question that social media has contributed greatly, and no doubt accelerated existing trends. Individual postings of images and glowing reports of experiences on platforms such as Facebook, Instagram, and Twitter increase awareness and a desire to visit for oneself. So do promotional messages broadcast to newsfeeds, such as those from WVTourism.

**(More on the next page)**

## More about Dolly Sods (Continued from previous page)

One aspect of social media should not be underestimated: it gives casual observers the ability to see what other people like them have done and the opportunity to ask questions. This provides a greater comfort level for people who may otherwise be unsure of “how” to visit a remote area. People who might otherwise be hesitant to visit a “wild” area are reassured and emboldened by the demystification of wilderness. I think that this aspect itself detracts from the sense of adventure and discovery that should be part of the wilderness experience.

### Just Getting Out

The icing on the cake has been the past two years of the Covid-19 pandemic, where people sought a way to get out of the house for a relatively safe outdoor respite. The past two years have seen unprecedented number of visitors, both on the road and in the backcountry.

The proximity of Bear Rocks Preserve and other tourist destinations to Dolly Sods has to be factored in. Bear Rocks has probably outpaced Dolly Sods in popularity, to the point where it has become merged in peoples’ minds as synonymous with Dolly Sods. Often when people refer to Dolly Sods they actually mean Bear Rocks. Unquestionably, much of the major traffic issue on FR 75 is caused by people visiting or driving to Bear Rocks Preserve. Some of those people also stop in for a hike at the actual Dolly Sods, which is one reason that the Bear Rocks trailhead is by far the most popular entry point to the wilderness. Similarly, the presence of many other tourist destinations in the area, from Canaan Valley and the state parks to Seneca Rocks and Spruce Knob, make Dolly Sods one of the must-go stops on a vacation tour. One wonders whether the crush would be so great if Dolly Sods were the only natural area in the region.

### Is Wilderness Its Own Enemy?

It is sometimes suggested that the Wilderness designation itself was a major stimulus for the popularity of Dolly Sods. As with social media, there is no doubt some truth to that. In the 1970s WVHC noted that the publicity surrounding the fight to have Dolly Sods and Otter Creek set aside as wilderness, and the news of their designation by Congress, made them household names, at least in West Virginia. In 2009, when Dolly Sods North was added to the wilderness, the news resulted in a rash of articles in outdoor, nature and photography magazines and websites, with many devoting articles to “first visits” of the new wilderness.

However, the designation did not result in an equivalent surge in visitors at other wilderness areas, including Otter Creek, which was designated at the same time and also expanded in 2009. Other West Virginia wilderness areas, even those that are accessible and close to other tourist attractions, see only a fraction of the visitation

at Dolly Sods. Wilderness designation itself doesn’t lead to obsessive popularity.

Clearly all wildernesses are special places, but it is probably the particular characteristics of the individual places that tend to attract the biggest crowds. As more people visit them and pass along the word, their growth tends to outpace that of less distinctive wilderness areas. Dolly Sods, together with Bear Rocks, probably tend to provoke a stronger reaction than most wilderness, and the enthusiasm gets passed along. Coupled with the accessibility and other factors mentioned above, their popularity skyrockets.

Indeed, I suspect the wilderness designation of Dolly Sods has become secondary; few people come there seeking a wilderness experience. Rather, they want to immerse themselves in the wonders they heard about from their neighbors or social media, and the area may just as well be a theme park as a wilderness.

At the same time, it must be pointed out that designation of an area as a wilderness also provides more tools for managing the area, both administrative and educational. Land managers are supposed to proactively monitor the “wilderness character” status of the areas and take steps to preserve that character. Unlike general forest areas, this is specifically mandated by an Act of Congress.

The status of an area as wilderness can provide a basis for prescriptions, restrictions and limitations on visitation and activities in the wilderness that would not be available, or would be harder to sell, in any other part of the Forest. Activities that would be undesirable in any forest can be preemptively prohibited under the authority of the Wilderness Act. This can include limitations on the volume of visitations itself. Though this is never the first choice for a wilderness manager, it is in the toolkit.

Wilderness designation also provides an opportunity for more proactive education and persuasion of visitors to abide by wilderness-friendly behavior. Leave No Trace principles are applicable and important anywhere, but they take on more weight and urgency in a wilderness. Certain activities, such as standing wood collection and campfires, building of *ad hoc* structures, and flying of drones and other low-flying aircraft, can be more actively discouraged, even if they are not explicitly illegal.

Regardless of the reasons, a large influx of visitors, particularly those who are inexperienced with or underappreciative of the unique nature of wilderness, has impacts which challenge the character of wilderness. We’ll look at how those have affected Dolly Sods in the next installment.

Meanwhile, to learn more about the Dolly Sods Wilderness Stewards and to join up, go to <https://bit.ly/3pBjiyV>.



## The Highlands Voice: It's Not Just for Reading Any More

*The Highlands Voice* is the main way that the West Virginia Highlands Conservancy communicates with its members. But we would like to communicate with more than our members. We have a valuable perspective and information; we would like to communicate with everybody. We still offer electronic delivery. If you would prefer to receive it electronically instead of the paper copy please contact Dave Saville at WVHC50@gmail.com. With electronic delivery, you will receive a link to a pdf of the Voice several days before the paper copy would have arrived.

No matter how you receive it, please pass it along. If electronically, share the link. If paper, hand it off to a friend, leave it around the house, leave it around the workplace. It's not just for reading. It's for reading and passing along.

## BUMPER STICKERS

To get free *I ♥ Mountains* bumper sticker(s), send a SASE to P. O. Box 306, Charleston, WV 25321. Slip a dollar donation (or more) in with the SASE and get 2 bumper stickers. Businesses or organizations wishing to provide bumper stickers to their customers/members may have them free. (Of course if they can afford a donation that will be gratefully accepted.)



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## Mon National Forest Hiking Guide

Celebrating the 50th anniversary of the West Virginia Highlands Conservancy, the new edition of the treasured guide to every trail in the Monongahela National Forest features brand-new topographic maps and Kent Mason's gorgeous photos, all in color.

The Guide has been updated with the cooperation of National Forest District Rangers and Recreation Specialists to reflect changes in the past ten years:

- \* newly designated wilderness areas
- \* new trails near campgrounds and sites of special significance
- \* a new complex of interconnected trails on Cheat Mountain
- \* rerouted and discontinued trails
- \* ratings for difficulty, scenery, access to water, and much else

The definitive guide to the Mon adds a wealth of information about history, wildlife, and botany; safety, preparation, and weather; horseback and mountain bike riding and cross-country skiing; as well as sources of further information on the Forest and its environs.

The Monongahela National Forest has long been known as a 'Special Place'. The hiking, backpacking, and cross-country skiing opportunities it provides are among the best in the eastern U.S. New wilderness and backcountry trails have been added to the outstanding areas we have appreciated for decades – Otter Creek Wilderness, Dolly Sods Wilderness, Flatrock Plains, Roaring Plains, Blackwater Canyon, Spruce Knob, North Fork Mountain, Shaver's Mountain, Laurel Fork Wilderness, Cranberry Wilderness -- and there are lesser-known gems to be found in between.

Profits from the sale of these guides support a wide variety of worthy environmental projects for the West Virginia Highlands Conservancy.

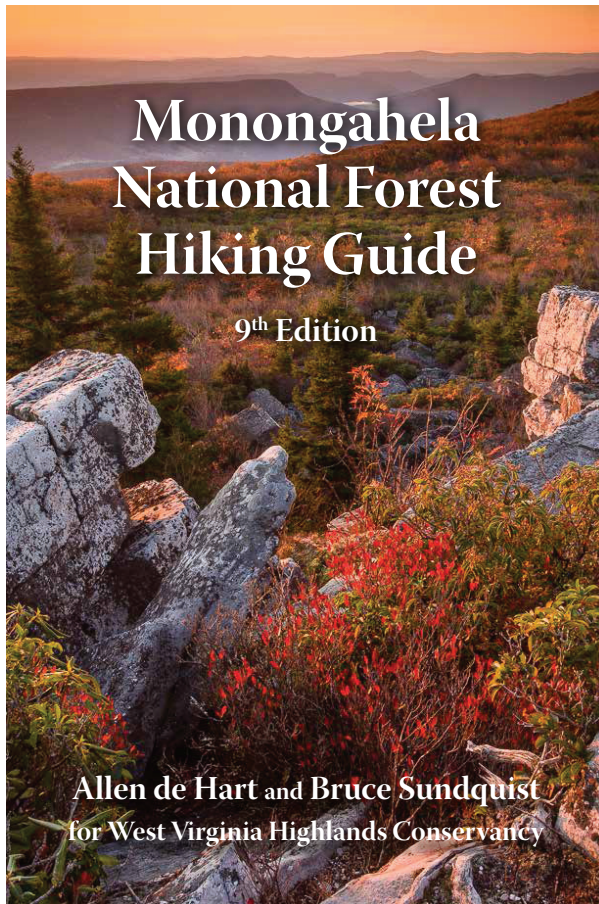
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**Order from our website at  
[www.wvhighlands.org](http://www.wvhighlands.org)**



### HATS FOR SALE

We have West Virginia Highlands Conservancy baseball style caps for sale as well as I ❤️ Mountains caps.

The WVHC cap is beige with green woven into the twill with a pre-curved visor. The front of the cap has West Virginia Highlands Conservancy logo and the words West Virginia Highlands Conservancy on the front and I (heart) Mountains on the back. It is soft twill, unstructured, low profile, sewn eyelets, cloth strap with tri-glide buckle closure.

The I ❤️ Mountains The colors are stone and red.. The front of the cap has I ❤️ MOUNTAINS. The heart is red. The red hats are soft twill, unstructured, low profile, sewn eyelets, cloth strap with tri-glide buckle closure. The stone has a stiff front crown with a velcro strap on the back. All hats have West Virginia Highlands Conservancy printed on the back. Cost is \$20 by mail. West Virginia residents add 6% tax. Make check payable to West Virginia Highlands Conservancy and send to West Virginia Highlands Conservancy, Atten: Online Store, P.O. Box 306, Charleston, WV 25321-0306

## Our Readers Write

Dear Editor,

The January Voice had an essay from Perry Bryant in which he disputed part of Dr. Randi Pokladnik's piece in the December issue on Carbon Capture and Storage, or CCS. Bryant agreed that CCS is not a silver bullet but said we need all solutions to climate change. I wish to take issue with some of his arguments.

His first point was that CCS has been endorsed by the IPCC and the National Academy of Sciences. But the IPCC's reports are produced by consensus; all states including Saudi Arabia, the U.S and Australia, must sign off on them. It isn't just those states that send negotiators committed to pushing their "national interest," which means the interest of large corporations based in their countries. We've had 27 years of COP meetings, and the emissions keep rising. All of their scenarios for keeping climate change below 1.5 degrees (which I think is impossible), or okay two degrees, assume "negative emissions" technologies that don't exist or have not been proven to work at scale.

To capture a significant amount of the CO<sub>2</sub> generated by fossil fuels would require a network of new pipelines to take the captured CO<sub>2</sub> from power plants to the underground places where it is hoped, it will stay forever. This network is estimated to be at least as large as the *entire existing network* of pipelines! The fossil fuel industry is having trouble getting a few new pipelines for its products; how likely is it that they will get away with doubling the size of the current network (at our expense)? If you think CO<sub>2</sub> pipelines are safer than gas or oil pipelines, google Satartia and Huffington Post.

Yes, it is possible to capture some CO<sub>2</sub> (though I don't believe any of the pilot plants have captured as much as they said they would). It just isn't possible to do it economically. The reality is that fossil fuels are struggling to compete with renewables even without adding this major expense (the expense of the capture technology, the pipelines, *and* the extra fuel that must be burned because CCS reduces the efficiency of the plants). However, it can still go forward—by having the public subsidize it. We could use that money to subsidize renewables instead—but that wouldn't accomplish the objective, which is to prolong the fossil fuel industries. Note that this does nothing about methane, the super-potent greenhouse gas generated mostly by gas.

For an amusing take on this, check out this Honest Government Ad from Juice Media (note: contains many naughty words) <https://www.youtube.com/watch?v=MSZgoFyuHC8>

We are seeing a veritable cornucopia of false solutions to climate change because real solutions

- Will not enrich the very rich
- Will require acknowledging unpopular realities about limits.

Climate change is only one facet of an ecological crisis caused by too many humans living in unsustainable ways. The devastation of biodiversity is just as critical, along with the great harm to the oceans. If we were to seriously address this, we would immediately engage in revolutionary changes in our agricultural practices, in our city layout and economies to eliminate most commuting and pointless jobs, in our culture with its obsessive consumption and acceptance of unjust "externalities" as well as in our energy generation practices. This would include a lot of downshifting, something capitalism can't tolerate and the public doesn't want to hear about. But the refusal to countenance limits means we continue to rocket toward the cliff—a civilizational collapse which, sadly, looks like our best chance of averting catastrophic climate change—if it comes *before* we burn all the fossil fuels we can get out of the ground.

It's true that we have already released far too much greenhouse gas. But Direct Air Capture machines are far too expensive and require far too much energy to be a sensible solution—likely the energy to run them would generate as much CO<sub>2</sub> as they ever gather in and send to sequestration sites.

Mr. Bryant also endorses nuclear power—along with Senator Manchin and some in the WV legislature. But nukes take too long and too much money to build—we need to reduce emissions *now*. They are also not carbon free if you consider the construction process and the mining and shipment of fuels. Then there are the matters of terrorist-bait and disposal of radioactive spent fuel which must be kept away from living things for somewhat longer than humanity has existed.

No, Mr. Bryant, we don't need and can't afford "every arrow in the quiver"—we need to focus on arrows capable of hitting the target.

The question is, what is our top priority? To ensure that we don't have to live a lot like our grandparents did, in terms of energy use and rate of consumption? Or to ensure that our grandchildren can live at all?

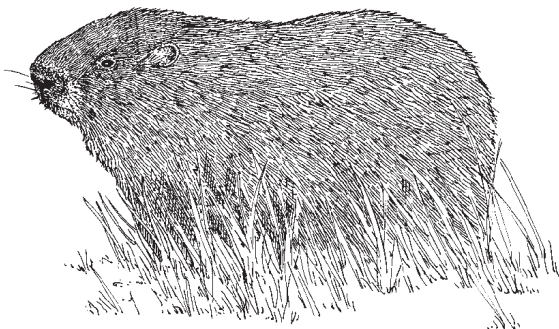
Mary Wildfire



## Keeping up with the Legislature

The West Virginia Legislature is now in full swing and is considering several bills that are of interest to West Virginia Highlands Conservancy members. Here are some resources that would be helpful to anyone following the Legislature:

- Mountain State Spotlight did a series called “Power and Possums” explaining many of this inner workings at the legislature. It is more detailed, though less entertaining, than *I’m Just a Bill (Schoolhouse Rock)*, is specific to the West Virginia Legislature, and goes way beyond anything you ever learned in civics class. Go to [www.mountainstatespotlight.org](http://www.mountainstatespotlight.org).
- Mountain State Spotlight “Capital Tracker” tool tells you about the status of bills and how they are progressing. <https://capitoltracker.mountainstatespotlight.org/>
- West Virginia Environmental Council Legislative Updates are specific to issues that the West Virginia Environmental Council is following. It provides summaries of bills and their status. A new update usually comes out every Friday. Go to [www.wvecouncil.org](http://www.wvecouncil.org)
- WV Legislature Bill Status tells in detail the status of all bills that have been introduced, including any that have passed and gone to the Governor. The site is easiest to use if you already know the number of the bill you are interested in Go to [www.wvlegislature.gov](http://www.wvlegislature.gov)



## Still in Need of Something to Read

In mid-January the West Virginia Climate Alliance, West Virginia Rivers Coalition, the Citizens Climate Lobby, West Virginia Citizens Action Group, the West Virginia Environmental Council, the WVU Law Center for Energy and Sustainable Development, the Ohio River Valley Institute, the state Office of Energy, the West Virginia Manufacturers Association and the Charleston chapter of the NAACP sponsored a webinar on the *Feasibility of Advanced Nuclear in West Virginia*. If you would like to watch it, it is on YouTube. Click [here](#) or go to <https://www.youtube.com/watch?v=7fGrD6aNYmo>

A lot of reports, research, and articles were shared throughout the session. Here they are:

- Policy report by Jackie Toth, Jessica Lovering, and Suzanne Baker - [Opportunities for Coal Communities Through Nuclear Energy: An Early Look](#) (More articles by Jessica Lovering [here](#))
- Report by Edwin Lyman - [“Advanced” Isn’t Always Better: Assessing the Safety, Security, and Environmental Impacts of Non-Light-Water Nuclear Reactors](#)
- Report by M.V. Ramana - [Eyes Wide Shut: Problems with the Utah Associated Municipal Power Systems Proposal to Construct NuScale Small Modular Nuclear Reactors](#)
- Article by [BlackByGod.org](#) Folk Reporter Samuel Moss - [Impression of the presentation regarding the Construction of Nuclear Power Plants In West Virginia](#)
- Academic article by Sovacool et al. - [Balancing safety with sustainability: assessing the risk of accidents for modern low-carbon energy systems](#)
- Climate simulation tool from Climate Interactive and the MIT Sloan Sustainability Initiative - [En-ROADS](#)
- House Bill 2882 - [Relating to repealing a ban on construction of nuclear power plants](#)
- Coverage of the webinar in the Dominion Post and Charleston Gazette-Mail - [Experts, legislators explore allowing advanced nuclear plants to come to West Virginia](#) and [Senate committee advances bill lifting restrictions on nuclear power plant construction](#)

# Lexington Coal Clean-Up Plan for Mingo County Mines

By Mike Toney

A coal company responsible for some of the highest discharges of a pollutant with toxic effects for West Virginia's aquatic life has proposed a cleanup plan under court order to get in compliance with federal water pollution laws.

The Lexington Coal Company filed a remediation plan in federal court for two mine sites in Mingo County earlier this month. The court had ordered the Kentucky-based company to submit a remediation plan and comply with selenium pollution limits within a year of submitting the plan.

The U.S. District Court for the Southern District of West Virginia's order last month had been requested by environmental groups in September after discussions to settle a lawsuit they filed against Lexington Coal in August 2019. The suit alleged the company was discharging pollutants illegally at its Low Gap Surface Mine No. 2 and No. 10 Mine.

Both mine sites are located in the Tug Fork River watershed.

The court had already found Lexington Coal liable for violating the conditions of its permit limiting discharges of selenium.

Selenium accumulation in larval aquatic insects and fish from mine-impacted streams has long eaten away at the biodiversity of central Appalachian waters.

Selenium is an essential mineral that is critical to human health in small amounts. But at high concentrations, it can cause nausea, hair and nail loss, skin rashes, fatigue and nervous system abnormalities.

There's only a "modest difference" between selenium consumption levels thought to promote human health and those linked to acute or chronic effects, according to a 2020 International Joint Commission [report](#).

Toxic human exposure may occur when selenium levels build up in ecosystems via leaching from mining waste into aquatic

systems and emissions from burning coal or other industrial activities, the report observed.

West Virginia is home to the highest industrial selenium pollution levels in the country.

A Gazette-Mail [review](#) of U.S. Environmental Protection Agency data found in November that 41 of the 50 industrial point sources with effluent limit exceedances that discharged the most selenium in 2021 were in West Virginia.

One of the highest selenium-discharging industrial point sources was the No. 10 Mine.

In his decision last month [December 2021], U.S. District Court Judge Robert Chambers found that the environmental group plaintiffs—the West Virginia Highlands Conservancy, Appalachian Voices and the Sierra Club—had adequately demonstrated Lexington Coal was still violating selenium fish-tissue limits.

...

Chambers also noted expert reports from the environmental groups showed the streams below Lexington Coal's mines are still biologically impaired, and that the degradation is "causally related" to the company's discharges of ionic pollutants. The judge cited conductivity and sulfate reports from the spring of 2021 in his order showing high pollutant levels.

Chambers ordered Lexington Coal to submit a plan to comply with federal Clean Water Act and Surface Mining Reclamation and Enforcement Act regulations within 30 days, and comply with selenium limits within one year of submitting the plan.

The plan was filed with the court on Lexington Coal's behalf by Danville-based Range Environmental Resources.

Lexington Coal could not be reached for comment. The company's attorney did not respond to a request for comment.

The plan calls for using naturally occurring groundwater containing increased iron concentration to induce a reaction between iron and selenium. The reaction yields iron oxide selenium complexes which result in a reduction of selenium in the discharge and a complex that renders the selenium "somewhat biologically inert," according to the filing.

The two sites will use pumps that inject iron-containing source water like groundwater from a well into a mixing zone, where the source water is mixed with raw discharge water from the discharge source to facilitate water treatment, according to the plan.

But Sierra Club Senior Attorney Peter Morgan questions the plan's soundness. "We've been bringing selenium enforcement cases against coal mines for at least 15 years now in West Virginia, and we've never before seen such a simplistic treatment system proposed," Morgan said.

The environmental groups have not yet filed a response to the plan.

Morgan said reducing selenium isn't as easy as just pumping up groundwater high in iron.

"If such a simple and inexpensive solution were available, we would have seen it previously in our 15 years of selenium enforcement," Morgan said. "We've never seen it, and I think that's because the chemistry just doesn't play out the way they're saying it will."

Morgan said ... environmental advocates see elevated selenium and iron levels occurring together too often in discharge monitoring reports for iron to be accepted as the solution to elevated selenium levels.

**(More on the next page)**

## Perry Is Right

In December, 2021, *The Highlands Voice* published an article asserting that carbon capture and storage is not all that it is cracked up to be as a tool to fight climate change. Carbon capture and storage is a technology for capturing carbon dioxide either where it is released (a coal fired power plant, for instance) or in ambient air. The carbon dioxide is then either used for another purpose or injected deep underground.

This inspired Perry Bryant to write, contending that carbon capture and storage may not be a silver bullet to slay climate change but it was a technology that should be considered. This was in January, 2022.

This month's *Voice* has a letter (p.14) expressing the strong opinion that Perry is wrong and that carbon capture and storage is not a viable technology for fighting climate change.

So, is Perry right about carbon capture and storage? Who knows? Many people have strong opinions. Maybe it is a useful tool for lowering carbon dioxide levels. Maybe it is a scam to keep coal fired power plants operating after the ends of their useful lives.

The thing that Perry is absolutely right about is how hard climate change policy is. Every time he talks about it he talks about how hard it is, how difficult it will be to come to a solution. Carbon capture and storage is just one of a multitude of issues.

Now the Legislature has poked the nuclear power bear (story, p. 1). Carbon capture and storage is a pipsqueak compared to the controversy that a nuclear power plant could provoke.

As a society, we don't have any choice other than to keep working to address climate change. We can't give up just because, as Perry always says, it's hard.

## Send Us a Post Card, Drop Us a Line, Stating Point Of View

Please email any poems, letters, commentaries, etc. to the VOICE editor at [johnmcferrin@aol.com](mailto:johnmcferrin@aol.com) or by real, honest to goodness, mentioned in the United States Constitution mail to WV Highlands Conservancy, PO Box 306, Charleston, WV 25321.



## More about Lexington Coal (Continued from previous page)

But the system laid out in the remediation plan has been used on other properties in West Virginia under approval by the state Department of Environmental Protection, Lexington Coal's plan notes.

Lexington Coal's Surface Mine No. 9, also in the Tug Fork River watershed, is using a well that produces water with iron that is then discharged into a pond to treat for selenium, Department of Environmental Protection acting spokesman Terry Fletcher said. The treatment system has been functioning and staying in compliance, Fletcher said. Fletcher noted the system was installed six to eight years ago.

The plan was authored by Jeremy Starks, vice president of sales and marketing for Range Environmental Resources.

Selenium is especially costly to treat in industrial wastewater.

Treating selenium in industrial wastewater can be challenging for engineers and plant operators due to low concentrations and discharge limits, and the element's complex chemical nature, according to a 2018 [study](#) published in Journal of Water Supply: Research and Technology-Aqua.

As more coal operators near bankruptcy with their industry in decline, the high costs of selenium cleanup could fall to taxpayers.

**Note: A slightly longer version of this article appeared in the January 25<sup>th</sup> Charleston Gazette Mail.**



## Board Highlights

We started off with the businessy business (reviewing the financial report, approving a budget for next year) and then listened to Dave Saville report on strong membership and annual fund appeal response and review a number of graphs showing progress over the years.

We also had Program Director Cory Chase report on what he has been doing. It was a lot.

Luanne McGovern reported on activity at the Legislature with a slide show outlining the major bills being considered so far, showing the coordination between WVHC and WV E-Council priorities, and giving helpful links to follow legislative bills of interest, etc. (story, p. 15). She identified E-Council lobbyists as Lucia Valentine and Hannah King.

Luanne has been in touch with the director of WVU Water Institute about an in-person presentation on the work they are conducting on recovery of Rare Earth Elements from Acid Mine Drainage at the Mt Storm pilot project.

Perry Bryant expressed concern about what directions Congress might take with regard to climate change now that the Build Back Better legislation appears to be stalled or stopped entirely. Especially concerning are conflicting messages from our own Senator Manchin. Perry will attempt to draw up a list of can-dos for publication.

Kent Karriker updated the board on several Public Lands Committee activities.

1) Forest Service concerns: A legal complaint was filed re: the Gauley Healthy Forest Initiative and FOIA action. A formal objection was filed re: the draft Greenbrier East project due to the inadequate analysis of Endangered Species, especially the endangered Candy Darter. WVHC decided not to file a complaint on the Upper Elk/Gauley Mtn area since the Forest Service adopted some acceptable changes in response to comments.

2) ABRA (Allegheny-Blue Ridge Alliance) activities now focus primarily on the Conservation Hub Project reviewed in detail at the October 2021 zoom Fall Review. Some smaller portion of the budget is dedicated to tracking the restoration of the now defunct Atlantic Coast Pipeline. Rick Webb mentioned several individual items within the National Forest Integrity Project. There is also an effort afoot to incorporate ORV/ATV concerns into the Conservation Hub Project. With the retirement of Lew Freeman, ABRA will continue under the guidance of a Board.

Dave Johnston of the Dolly Sods Wilderness Stewards subcommittee reviewed current activities monitoring campsite use and the solitude study; expressed hope to have 100 volunteers to help as trail head stewards with the greatest need at Bear Rocks which has the highest usage of the three trailheads; and reiterated the 'front country' concerns about parking and space.

In matters of Extractive Industries Cindy Rank highlighted two specific coal related items: 1) a successful ruling from the court that determined Lexington Coal Company was responsible for discharging illegal amounts of selenium and ionic pollution from two Mingo County mines (story on p. 16) ; 2) ongoing negotiations with the Special Receiver for bankrupt ERP Coal who proposed the reclamation company working to reclaim ERP forfeited sites wanted to be allowed additional mining incidental to reclamation, a proposal at odds with our agreed upon settlement. As for gas related actions, WVHC joined several other conservation groups in a court challenge of WV DEP's 401 certification for MVP stream crossing plans (story on p.9).

### Become a Wilderness Steward

Dolly Sods Wilderness Stewards do not need to have any special experience or expertise. There is no specific time commitment required; some people may live close and be available more often, but even those who only visit occasionally are welcome to participate as their schedule allows. We recommend and encourage all volunteers, especially the Trailhead Stewards, to take two online courses on the basics of the Wilderness Act and Leave No Trace awareness. Volunteers will be provided with inperson training by the Forest Service and resources to use at the trailheads. WVHC will provide each volunteer with a WVHC T-shirt and cap to help identify them to visitors.

For more information and to sign up online as a Wilderness Steward, go to <https://bit.ly/3pBjiyV>, or contact Dave Johnston at [dollysodsstewards@gmail.com](mailto:dollysodsstewards@gmail.com).



# Indicators for Studying, Assessing and Evaluating Potential Off-Road Vehicle (ORV) Effects and Costs on West Virginia Public Lands

There are numerous parameters to be used in the study and evaluation which will serve as the indicators of the potential of ORV effects if permitted on the public lands of West Virginia. Every attempt was made to provide an inclusive list of potential indicators of ORV effects described in the ORV effects literature. Of those listed, some correspond with the Bureau of Land Management's 17 indicators of rangeland health; others are quite different but could provide supplemental data for evaluating or monitoring ORV effects (for 41 examples, erosion and/or sedimentation rates would complement assessments of rill formation and other surface changes) or fill indicator voids (such as those pertaining to wildlife ecology).

(1) Soil health and watershed condition analysis of:

- Soil strength
- Soil bulk density
- Water infiltration rate
- Permeability
- Erosion and sedimentation rate
- Sedimentation or turbidity in wetlands
- Surface changes (for example, formation of rills, gullies, and terracettes)
- Presence/condition of soil crusts (in some cases: depending on crust type)

(2) Vegetation health analysis of:

- Plant community composition (including species diversity, ratio of native to non-native or invasive species, structural diversity)
- Abundance of individuals and/or stem density
- Percent vegetation cover
- Plant size
- Growth rate
- Biomass

(3) Habitat condition and health of wildlife populations (direct and indirect) analysis of:

- Habitat patch size and connectivity
- Wildlife community composition (including species diversity, ratio of native to non-native or invasive species)
- Abundance, density, and distribution
- Population sizes and trends
- Survivorship, productivity, body mass,

and roadkill rates

- Age-class and gender structure
- Frequency of ORVs passing through a given area
- Road or trail type and width
- Level (decibels), duration, and timing of traffic noise

(4) Water quality analysis of:

- Hydrologic alteration, meaning changes in flow path and changes in extreme (high and low) runoff conditions, which is a long-term impact on steep ground.

- Sedimentation rate
- Levels of turbidity and suspended solids

- Contaminants levels, including levels of petroleum-derived compounds from spills (aromatic hydrocarbons in particular)

(5) Air quality analysis of:

- Dust levels
- Levels of by-products of ORV emissions (including polycyclic aromatic hydrocarbons, carbon monoxide, nitrogen oxides, ozone, and sulfur dioxide)

(6) Socioeconomics (direct and indirect) analysis of:

- Compliance with ORV (or other) regulations
- Knowledge regarding effects of user activities on various aspects of land health
- Mapping the distribution and intensity of OHV versus non-motorized recreation and other land Recreator satisfaction with their recreation (or other) experiences
- uses
- Patterns of regulation compliance (as evidenced by creation of unauthorized trails, damage to vegetation, and so on)
- Trends in local economic indicators associated with ORV and nonmotorized recreation and other land uses (for example, sales in camping equipment, gasoline, restaurants, lodging facilities)

(7) Maintenance cost analysis:

- Calculate the additional costs for maintenance of the public lands infrastructure for potential damages caused by ORV use.

Public lands already have a significant maintenance backlog and a staggering estimate of the cost.

(8) Law enforcement cost analysis:

- The key to successful ORV use monitoring is adequate law enforcement. A good place to start with a calculation would be to obtain a copy of the Hatfield McCoy budget and talk to Jeff Lusk the director, which would only be a start. Budgets for our public lands are already inadequate and this extra burden would most likely be unaffordable.

Specific research questions and management goals—as well as sensitivity to the potential ORV effects and the availability of funding and personnel—will determine the potential efficacy of using any one indicator to evaluate or monitor ORV effects on West Virginia Federal and state public lands. Qualitative indicators may be most useful for rapid assessments, whereas quantitative indicators may be needed to determine long-term potential effects. Ultimately, however, implementing an ORV effects study and evaluation program will require consultation with topical experts and additional research to identify or develop appropriate and efficient indicators and field methods for evaluating potential long-term ORV effects.

Considerations:

- There is a need to prepare an EIS type assessment of all West Virginia public lands to ensure compliance with the environmental concerns of society.
- Public land managers must do the analysis, which needs to be accomplished, if they are to protect the public land environment and habitat.
- Habitat degradation for cold water fish like the brook trout and the candy darter is already damaged by sedimentation and getting worse, not better.
- Most of the sedimentation is due to roads and trails which would be used by ORVs.

**Prepared by the Public Lands Committee.**





► The baby shirts are certified organic cotton and are offered in one infant and several toddler sizes and an infant onesie. Slogan is “I ♥ Mountains Save One for Me!” Onesie [18 mo.]---\$25, Infant tee [18 mo.]---\$20, Toddler tee, 2T,3T,4T, 5/6---\$20

► Soft pima cotton adult polo shirts are a handsome earthtone light brown and feature the spruce tree logo. Sizes M-XL [Shirts run large for stated size.] \$ 25.00, 2XL \$26.50

To order by mail [WV residents add 6 % sales tax] make check payable to West Virginia Highlands Conservancy and send to West Virginia Highlands Conservancy, Online Store, PO Box 306, Charleston, WV 25321-0306

**The same items are also available at our on-line store: [www.wvhighlands.org](http://www.wvhighlands.org)**

## T- SHIRTS

White, heavy cotton T-shirts with the **I ♥ Mountains** slogan on the front. The lettering is blue and the heart is red. “West Virginia Highlands Conservancy” in smaller blue letters is included below the slogan. Short sleeve in sizes: S, M, L, XL, and XXL. Long sleeve in sizes S, M, L, and XL. **Short sleeve** model is \$18 by mail; **long sleeve** is \$22. West Virginia residents add 6% sales tax. Send sizes wanted and check payable to West Virginia Highlands Conservancy ATTEN: Online Store, WVHC, P.O. Box 306, Charleston, WV 25321-0306.