

West Virginia Highlands Conservancy
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The Highlands Voice

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Historic Climate Legislation Passed

By Perry Bryant

The US Senate has historically been the place where climate legislation has died: cap and trade legislation in 2009, the Kigali Agreement phasing out hydrofluorocarbons, etc. Not this time. The Senate passed and President Biden has signed into law the Inflation Reduction Act (IRA), providing almost \$370 billion in funding over the next ten years to significantly reduce America’s greenhouse gas emissions.

Princeton University’s Zero Lab projects that the IRA will cut the United States’ emissions by 40% by 2030. Without the IRA, our emissions would only have

been reduced by 27% by 2030. The 40% cut in emissions puts the US close to meeting our Paris climate goals of a 50 to 52% reduction in emissions by 2030.

As important as these reductions in US emissions are -- and they are vitally important -- the IRA also reasserts American world leadership on climate issues increasing the chances (although there’s certainly no guarantee) that China, India and other countries will up their commitment to fighting the climate crisis during the upcoming November UN Conference of Parties in Egypt.



(More on p. 4)

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Thoughts from our President

By Larry Thomas

August in the highlands has seemed a lot cooler with more rain than usual. The WVHC committees are hard at work on issues before them and I want to extend a big thanks for their time devoted and the resulting progress. Seems like the issues just keep multiplying as they try to keep ahead of them.

Hot off the press is the Senator Manchin proposed energy permitting provisions.

Senator Manchin Proposed Energy Permitting Provisions

Designate and prioritize projects of strategic national importance.

- Direct the President to designate and periodically update a list of at least 25 high-priority energy infrastructure projects and prioritize permitting for these projects.
- Require a balanced list of project types, including: critical minerals, nuclear, hydrogen, fossil fuels, electric transmission, renewables, and carbon capture, sequestration, storage, and removal.
- Criteria for selecting designated projects includes: reducing consumer energy costs, improving energy reliability, decarbonization potential, and promoting energy trade with our allies.

Set maximum timelines for permitting reviews, including two years for NEPA reviews for major projects and one year for lower-impact projects.

- Require a single inter-agency environmental review document and concurrent agency review processes.
- Designate a lead agency to coordinate inter-agency review.
- Expand eligibility for the Federal Permitting Improvement Steering Council (FPISC) streamlining and transparency programs to ensure smaller energy projects, critical minerals and mining, and other key

programs can benefit from FPISC. Provide FPISC funds to accelerate permitting.

- Improve the process for developing categorical exclusions under NEPA.

Improve Section 401 of the Clean Water Act by incorporating improvements from both the Trump and Biden administrations.

- Require one of four final actions within one year of certification requests: grant, grant with conditions, deny, or waive certification.
- Clarify that the basis of review is water quality impacts from the permitted activity, based on federal, State, and Tribal standards.
- Require certification applications to include available information on potential water quality impacts.
- Prohibit State or Tribal agencies from requesting project applicants to withdraw applications to stop/pause/restart the certification clock.
- Require States and Tribes to publish clear requirements for water quality certification requests, or else default to federal requirements.

Address excessive litigation delays.

- Set statute of limitations for court challenges.
- Require that if a federal court remands or vacates a permit for energy infrastructure, the court must set and enforce a reasonable schedule and deadline, not to exceed 180 days, for the agency to act on remand.
- Require random assignment of judges for all federal circuit courts.

Clarify FERC jurisdiction regarding the regulation of interstate hydrogen pipeline, storage, import, and export facilities.

Enhance federal government permitting authority for interstate electric transmission facilities that have been determined by the Secretary of Energy to be in the national interest.

- Replace DOE's national interest electric transmission corridor process with a national interest determination by the Secretary of Energy that allows FERC to issue a construction permit.

- Require FERC to ensure costs for transmission projects are allocated to customers that benefit.

- Allow FERC to approve payments from utilities to jurisdictions impacted by a transmission project.

Complete the Mountain Valley Pipeline.

Require the relevant agencies to take all necessary actions to permit the construction and operation of the Mountain Valley Pipeline and give the DC Circuit jurisdiction over any further litigation.

New Deputy Supervisor at the Monongahela National Forest

Robert West has accepted the position of deputy forest supervisor of the Monongahela National Forest in Elkins, West Virginia.

Robert began his federal career as a Park Ranger with the National Park Service in Montana. He has served as a Partnership Coordinator on the Gifford Pinchot National Forest, a Staff Assistant in the WO Office of the Chief, and a Program Specialist in WO Fire and Aviation Management. Robert is joining us from the Hiawatha National Forest where he has been the District Ranger for the St. Ignace and Sault Ste. Marie Districts for the past 8 years.

WVHC looks forward to meeting and working with Robert in the future.

Please see the information about this year's Fall Review on pp. 10-13 of this issue. The committee has worked very hard to plan the Review, and I am looking forward to the many presentations by a great group of presenters.

Again, the WVHC board wants to thank all of our members and supporters for their continued support, which makes possible what we are doing.



2022 Environmental Summit

.....
Join us to discuss the future of
WV's environmental movement!

Sept 24-25

WVU Natural Resources Center
Morgantown, WV

Day 1: Growing West Virginia's Environmental Voice

Keynote Address delivered by Mary Anne Hitt, Senior Director, Climate Imperative
Panel Discussion *Saving the Planet Starts Here: What WV Environmentalism Looks Like*
Hike at Coopers Rock State Forest
Live Music with Lucia Valentine

Day 2: Where Do We Go From Here?

Morning Legislative Strategic Session
Ziplining at WVU Natural Resource Center

Meals and lodging on site FREE! (suggested donation of \$25/day)
Full agenda listed at the link below

REGISTER HERE: tinyurl.com/WVECsummit

More on Climate Change Legislation (Continued from p. 1)

There's a lot to the IRA. This article will summarize the major energy and environmental provisions and then provide some details on the tax credits that are available to individuals for purchasing an electric vehicle (EV) and the rebates available for retrofitting homes for energy efficiency.

Energy Production

For homeowners who install a solar array or a wind turbine, there is a 30% tax credit for the cost of installing these systems, and that tax credit is available for the next ten years (until 2032). Battery storage, which currently does not qualify for investment tax credits, becomes available for the 30% tax credit in January and is also available over the next ten years.

Utility-grade solar, wind, geothermal, and batteries will also qualify for the 30% investment tax credit if the developer pays prevailing wages and has an apprenticeship program. These solar and wind projects can qualify for additional tax credits if they are located in "energy communities" that include brownfield sites, communities with high unemployment, and census tracts where a coal mine closed after 1999 or a coal-fired power plant retired after 2009. Altogether it appears that a facility could qualify for a 40% tax credit if it met all these add-ons including using domestically produced material in construction of the facility.

By 2030, the amount of solar energy produced in the US is expected to increase fourfold; wind energy threefold; and battery storage fourteen-fold. The IRA could well make the 2020s the decade of renewables. That is not too soon for addressing the climate crisis.

Electric Vehicles (EVs)

Transportation is the largest source of greenhouse gas emissions in the country. Moving to electric vehicles (EVs) is an essential step towards reducing these emissions. During the negotiations on the IRA, Senator Manchin expressed concerns about providing incentives that would encourage EV purchases with batteries made in China and reliance on critical minerals mined in countries outside North America. The final version has significant restrictions on the EV tax credits that reflect his concerns about importing batteries and minerals from China and other countries.

If you are considering buying an EV, or want to understand the restrictions on EV tax credits, the details of these tax credits are outlined at the end of this article. Both the tax credits and the restrictions on the EV tax credits are significant and may well impact how successful the EV tax credits will be in promoting the sale of electric vehicles.

Energy Efficiency

The IRA revives a tax credit program for homeowners installing energy efficiency measures and establishes two new rebates to help pay homeowners to retrofit their homes to make them more energy

efficient. The tax credit program, now called the Energy Efficiency Home Improvement Credit had lapsed. The benefits are now made retroactive to 2022 although it will only pay 10% of the improvements. Beginning in 2023, the benefits increase to 30% and annual and lifetime caps are improved.

The new rebate program promoting electrification (tax credits for electric heat pumps, e.g.) is income based. While one almost always wants higher income levels so more people qualify for these rebates, the income levels are not unreasonable, in my opinion.

The second new program – Home Owners Managing Energy Savings (HOMES) – provides enhanced benefits to low-income households, but is available to all households regardless of income. This program provides larger rebates depending on how much energy is projected to be saved from the retrofit. The details on all three of these energy efficiency programs, including eligibility guidelines and what each will pay for (they are extensive) are in boxes elsewhere in this issue.

Both of these new rebate programs will be run by the state. The state will need to submit a draft program to the US Department of Energy for approval before benefits will be available. It is unclear how soon that will happen. By contrast the tax credit program, the Energy Efficiency Home Improvement Credit, is in effect now with enhanced benefits in 2023.

Just Transition

As the country transitions away from coal and towards renewables for electric generation, there undoubtedly will be additional loss of coal mining jobs. One the best alternatives to mining jobs is to provide a true or just transition by creating good-paying manufacturing jobs. The IRA provides \$10 billion in tax credits for manufacturing clean energy components such as solar panels, wind turbines, parts for EVs, etc. This funding through section 48C of the IRS tax code provides a 30% tax credit for manufacturing clean energy components, and \$4 billion has to be spent in "coal communities." This includes communities where a coal mine has closed since 1999 or a coal-fired power plant retired after 2009. Funding for a specific 48C project isn't assured; funding is awarded on a competitive basis. This is a golden opportunity to diversify the state's economy, particularly in southern West Virginia. One can only hope that state government and manufacturers take advantage of this once-in-a-lifetime opportunity.

Methane Fee

Methane is a very powerful greenhouse gas. Over a 100-year period, methane is 25 times more potent at trapping heat in the atmosphere than carbon dioxide (CO₂). However, unlike CO₂ which impacts the atmosphere for hundreds of years, methane dissipates in

(More on the next page)

Climate Change Legislation, the Rest of the Story (Continued from p. 4)

10 to 12 years. So, reducing methane emissions can have some of the most immediate (in climate time) impact on global warming.

The oil and natural gas industry is a top source of U.S. emissions of methane. They emit methane at every step in the production of oil and natural gas: drilling, processing, and distribution.

The IRA imposes a fee on methane emissions of \$900 per metric ton beginning in 2024. The fee increases to \$1,500 per ton by 2026. The fee only applies to large methane emitters, exempting small operators who emit as much as 60% of all methane emissions according to the Congressional Research Service. The IRA provides the oil and natural gas companies with \$1.5 billion in grants and other incentives to help them reduce their methane emissions. And if companies can comply with an anticipated EPA regulation on methane emissions, they will be exempt from the methane fee.

Environmental Justice

The IRA contains numerous provisions supporting low-income communities and communities of color. Listed below are just two examples of the environmental justice provisions in the IRA. The Greenhouse Gas Reduction Fund sometimes referred to as the “Green Bank,” provides \$27 billion in funding to EPA. These funds are intended to leverage private funding to develop low- and zero-emission projects. \$20 billion will be available to nonprofit financing institutions, and 40% of these funds (\$8 billion) must be invested in low-income and disadvantaged communities.

The Environmental and Climate Justice Block Grants provide EPA with \$3 billion for environmental justice projects for disadvantaged communities. Eligible activities include pollution monitoring, transportation emissions reduction, and pollution prevention.

Black Lung

The tax on the mining of coal that historically funded the black lung program expired last year. The IRA permanently restores the tax on coal mining to fund the black lung program.

Fossil Fuels

The IRA reflects Senator Manchin’s “all of the above” strategy for energy development. For example, the bill prohibits the Interior Department from approving renewable energy development on federal property over a ten-year period unless it also opens lands to oil and gas development.

Specifically, in order for the Interior Department to issue rights-of-ways on federal property for solar and wind development, they are required to lease as much as 2 million acres onshore each year and at least 60 million acres offshore each year for oil and gas development. (*Inside Climate News*, July 28, 2022.) There is leasing reform along with this leasing. These reform measures include, “raising royalty rates and rental rates to hold a lease, eliminating non-competitive

bidding, (and) raising bonding requirements.” (*West Virginia Rivers Coalition*, August 9, 2022.)

The IRA also provides enhanced benefits for carbon capture and storage (CCS). CCS is a technology that removes CO₂ from emissions from the flue gases at coal- or gas-fired power plants or industrial facilities (e.g., cement or steel plants). CCS technology is not currently economically viable and demonstration projects have struggled or failed. The IRA increases the amount of tax credits that a company can claim from the current \$50 per ton of CO₂ to \$85 per ton of CO₂.

Senator Manchin secured agreement from legislative leaders to also pass permitting reforms as part of his support for passing the IRA. See related story on page 6.

Agriculture and Forestry

The IRA provides \$20 billion to help farmers reduce and store greenhouse gases. There is an additional \$14 billion to help rural electric co-ops to transition to renewable forms of energy production.

The US Forest Service will receive \$1.8 billion to reduce fuel in the wildland-urban interface, as well as \$50 million to complete an inventory of old-growth forest and to protect old-growth forest.

Conclusion

Whew. There is a lot in the IRA, and this review only touches on some of the more important provisions. One weakness of the IRA is that it does not require action by individuals or most industries. There are plenty of carrots in the IRA but few sticks. Developing the sticks will fall on President Biden’s shoulders. One can only hope that the combination of the IRA carrots and President Biden’s regulatory action will be enough to make the monumental transition away from fossil fuels to renewables; a transition that the International Energy Agency, the world’s energy experts, has called the most difficult in human history.

In making this transition, the IRA is foundational. It is the most significant and comprehensive climate legislation ever passed by Congress. It creates the opportunity for the US to lead the world on climate reform and conceivably hold global warming to an increase of 1.5 degrees Celsius -- a very daunting challenge. But at least we have an opportunity to meet this challenge thanks to the IRA.

Fast Tracking the Mountain Valley Pipeline?

By John McFerrin

As part of the deal that resulted in the Inflation Reduction Act, Senator Manchin insisted that permitting of infrastructure projects be fast tracked. The result was a side agreement that would direct agencies in charge of permitting to speedily review and approve applications for permits. The summary of the side agreement provided by Senator Manchin's office included, "Complete the Mountain Valley Pipeline. Require the relevant agencies to take all necessary actions to permit the construction and operation of the Mountain Valley Pipeline and give the DC Circuit jurisdiction over any further litigation." While the negotiations took place in private, it is widely assumed that at some point Senator Manchin said, "I can support this but I need to finish the Mountain Valley Pipeline." Or words to that effect.

On the whole, the Inflation Reduction Act has been praised by environmental groups (the West Virginia Highlands Conservancy has taken no position). While the Act itself and the side agreement on the Mountain Valley Pipeline may have some questionable or controversial ideas (carbon capture and storage, for example) and some bad ideas (approval of the Mountain Valley Pipeline), it has good ideas on support for clean energy. If politics is the art of the possible and nobody gets everything they want, most groups have taken the position that, on balance, the Inflation Reduction Act is a good idea. This has left many who live in the path of the Mountain Valley Pipeline feeling as if they are being sacrificed. Mountain State Spotlight has done some excellent reporting on this. https://mountainstatespotlight.org/2022/08/05/joe-manchin-climate-bill-wv-pipeline/?utm_source=Mountain+State+Spotlight&utm_campaign=ed5534ba43-EMAIL_CAMPAIGN_2022_08_05_02_49&utm_medium=email&utm_term=0_91c55fb9d7-ed5534ba43-482945675.

While the side agreement has not yet been put into an actual law and all the details are not known, the general idea is clear. A project as big as the Mountain Valley Pipeline will have an impact upon lots of interests, interests which various agencies are charged with protecting. The Federal Energy Regulatory Commission has to decide if the pipeline will serve the public interest. It will cross waterways and wetlands so the United States Army Corps of Engineers and the United States Environmental Protection Agency

are involved. It crosses a National Forest so the United States Forest Service has to give permission. It potentially imperils endangered species so the United States Fish and Wildlife Service is involved. Although it would not be affected the side agreement, even the West Virginia Department of Environmental Protection has a role.



The idea behind the side agreement is that, collectively, the agencies are a bunch of pettifogging bureaucrats who are nitpicking a valuable project to death. They need to get out of the way and let real men do what needs to be done.

The idea is flawed in two respects. First, the interests the agencies are protecting are important. The National Forest is a valuable asset, belonging to all the people. We can't let just anybody bulldoze their way through it. Water is important. Somebody has to watch out and see that a pipeline company is taking steps to protect it. If the agencies are picking nits they are extremely important nits that need to be picked.

The more important flaw in the idea, however, is that the agencies are not the ones who are stopping the pipeline. When the Federal Energy Regulatory Commission had to decide if the pipeline was necessary, it said yes. When the Forest Service was asked if the pipeline could cross the National Forest, it said yes. When asked if the pipeline could cross streams and wetlands, the Army Corps of Engineers said yes. The agencies may have asked for more information or taken time to study information but, in the end, the answer was yes.

So far as the West Virginia Department of Environmental Protection is concerned, it has behaved more like a third base coach waving a runner home than a hard-nosed regulator.

Telling agencies—as the side agreement does—that the answer to requests for permits should always be yes doesn't change things. So far as the Mountain Valley Pipeline is concerned, the answer has already been yes.

The problem (from the MVP's perspective) or the blessing (from the perspective of the National Forest, the streams, and the endangered species) has been in the courts. In the case of the Mountain Valley Pipeline, the Courts have often sided against the Mountain Valley Pipeline.

(More on the next page)

Still on the Fast Track (Continued from previous page)

Even when deciding against the pipeline, the Courts never said, “No, you can’t build it.” Instead, they pointed out ways in which either the developers or the agencies had been slipshod in their planning or review. The Courts would direct the developers to correct their mistakes and be more careful in their planning and review. If the developers and the agencies did the type of planning and review the law called for, the pipeline could go ahead.

The side agreement addresses this problem/blessing by manipulating what judges will review decisions by agencies reviewing the pipeline.

Under current law, most decisions on the MVP would be by the United States Court of Appeals for the Fourth Circuit, the Circuit which includes both Virginia and West Virginia.

There are fifteen judges who sit on the Court of Appeals. Only three of these hear each case. When a case is filed, the Court randomly assigns three judges to hear that case. While obscure, the assignment process can be important. Judges are all human

beings. They all have different backgrounds and life experiences that leave them with different biases and points of view.

The Mountain Valley Pipeline had the bad luck to draw three judges who believed that agencies reviewing permit applications should take their resource protection duties seriously. The judges also believed that they should take seriously their job of reviewing agency actions. Had the MVP drawn three judges who would rubber stamp agency decisions, its problems would be over.

This approach by the judges led them to call out corner cutting, identify sloppiness, note failures to do what the law requires, and overturn agency decisions.

The Court of Appeals also made another obscure, but equally important, decision. It assigned all MVP cases to the same three judges. It did this because the MVP is a huge, complicated undertaking. It is more efficient if the same judges decided all the cases concerning it rather than force different judges to learn about it for each case.

Faced with this, the MVP’s lawyers asked for a do-over. Faced with judges who

would take review seriously, they asked for a new drawing. With a new drawing, they had a chance of drawing a couple of rubber stamping judges. Two rubber stampers could outvote a third stickler; the MVP’s troubles would be over. The Court refused. Assigning all the MVP cases to the same judges made sense so they are going to keep doing it.

Faced with a set of judges who would insist on following the law, the MVP/Senator Manchin did what litigants do when they don’t get the result they want: find a new judge. The side agreement moves all reviews of agency actions from the Court of Appeals where the project is located to the Court of Appeals in Washington, D.C.

The Mountain Valley Pipeline project may be so flawed that no judges would approve it. Now, at least, its developers have a chance. It has a chance to draw judges who will rubber stamp the permitting decisions of agencies. It doesn’t make success a sure thing but it is better than having to get slipshod work past three judges committed to strict application of the law.

Following up

Extension of Time for Mountain Valley Pipeline Approved

The Federal Energy Regulatory Commission (FERC) has granted an extension of time for the completion of the Mountain Valley Pipeline to October 13, 2026. The authorization to build the pipeline had been scheduled to expire in October, 2022.

As reported in the August, 2022, issue of *The Highlands Voice*, several groups, including the West Virginia Highlands Conservancy, had objected to the extension. They said that conditions had changed since approval was granted, making an extension inappropriate, especially without considering new information.

FERC concluded that the environmental impact of the pipeline had not substantially changed. It also concluded that some of the objections the groups made had been considered the last time the pipeline asked for an extension and, as a result, it could not consider them now.

There has been much talk of late of the side agreement between Senator Manchin and Senate leadership that would fast track the Mountain Valley Pipeline. FERC’s decision on the extension has no direct connection to that. Right now the agreement is only an understanding on future legislation, not a present law. Perhaps fast tracking of infrastructure projects is the air in Washington now, pointing to an indirect connection.

The Pittsburgh Climbers calls out a final “Off Belay”

By Buff Rodman

The Pittsburgh Climbers, one of the West Virginia Highlands Conservancy's founding organizational members, has ended its long run. The majority of its remaining members are well past retirement and the organization has reluctantly accepted the inevitable march of time.

The Pittsburgh Climbers began in 1953 as a group of like-minded rock climbers. Made up of mostly Pittsburgh locals, the group quickly added friends from WV and the DC area, as well as grad students from Carnegie Tech (later Carnegie Mellon University) in Pittsburgh. The club attracted scientists, engineers, educators, lawyers, artists, and professional writers.

Many of them lent their skills to the WVHC's beginnings and early campaigns. And there has been continuous representation on the Conservancy's Board, since its founding, by members of the Pittsburgh Climbers. To name a few: Bob Broughton was a Pittsburgh lawyer, boater and mountaineer who drew up the by-laws and coined the name, West Virginia Highlands Conservancy. Victor Schmidt, a geology professor at the University of Pittsburgh, published the Conservancy's first hiking guide to Otter Creek, that also contributed to its establishment as a Wilderness. Sayre Rodman was a chemical engineer, boater, mountaineer and avid photographer. His photographs and testimony were used in Conservancy court cases and in the Conservancy's hiking guide.

Over the decades of their active years, the group's interests expanded to include all kinds of outdoor recreation. But the early focus on rock climbing made neighboring West Virginia a natural fit and its members are credited with some of the first ascents on several routes at Seneca Rocks.

The Climbers rented a series of old, dilapidated farmhouses from local land owners in WV from the mid-1950s until the floods of 1985 washed away the last one. They started renting from the Germany Valley Limestone Company, then moved to a larger house belonging to the Arbogasts up Roaring Creek above Onego, and finally renting from the Bonners along the Dry Fork near Gladwin. These houses were used as a base for year-round adventures in their favorite parts of the Highlands in Tucker, Randolph, and Pendleton counties. Nearly every weekend was spent climbing, caving, hiking, backpacking, skiing, or whitewater boating, including first descents on parts of the Youghiogheny, Cheat, and Gauley rivers. Some older members of the WVHC will also remember Conservancy committee

meetings at the house at Roaring Creek or the club's annual Pig Roast on Spruce Knob.

Not confined to West Virginia or the east, there were also longer trips out west. In the summers they could be found mountaineering and backpacking in the Colorado Rockies, the Wind Rivers and Tetons in Wyoming, and even up in the Bugaboos in British Columbia, Canada. Or canoeing or rafting on big western rivers like the Colorado, Green, Rio Grande, Salmon, and Snake. In the winter, there were skiing trips to Colorado and Utah.

A hallmark of the club were its monthly meetings from its founding right up to February 2020 when the Covid pandemic hit. These meetings always featured slideshows and trip reports from recent adventures and planning for future outings. This is also when members would receive detailed updates from the current WVHC board representative about ongoing issues.

All of the news would be written up and

published in the club's monthly newsletter, The Social Climber.

The Pittsburgh Climbers was never a particularly large organization. There were fewer than 100 members at its height and over time we grew as close as family. As a group, these outdoor enthusiasts have enjoyed playing in the wild places of the world. As individuals we were, and remain, dedicated environmentalists, thoroughly committed to establishing and preserving public lands and the wonderful recreational opportunities those places provide. We would all agree that it has been an honor to be included as an organizational member and friend of the WVHC for all these years.



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 or by real, honest to goodness, mentioned in the United States Constitution mail to WV Highlands Conservancy, PO Box 306, Charleston, WV 25321.

Join Now !!!

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City _____State _____ Zip _____

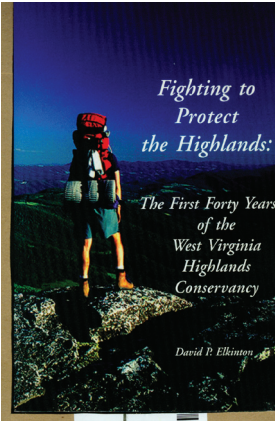
Phone _____Email _____

Membership categories (circle one)			
	Individual	Family	Org.
Senior	\$15		
Student	\$15		
Introductory	\$15		
Other	\$15		
Regular	\$25	\$35	\$50
Associate	\$50	\$75	\$100
Sustaining	\$100	\$150	\$200
Patron	\$250	\$500	\$500
Mountaineer	\$500	\$750	\$1000

Mail to West Virginia Highlands Conservancy, P. O. Box 306, Charleston, WV 25321

West Virginia Highlands Conservancy
Working to Keep West Virginia Wild and Wonderful
You may also join on-line at 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, 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.

WEST VIRGINIA HIGHLANDS CONSERVANCY'S ANNUAL FALL REVIEW

ENERGY

Solar, Hydrogen, Nuclear and more

⚡ Outings

⚡ Speakers

⚡ Fellowship

Oct. 14-16

North Bend

State Park

**Please RSVP
on our website**



Energy: An Enlightening Fall Review

Are you concerned about the energy crisis and climate change? We are too. As we move away from fossil fuels, like oil, coal and gas where will our power come from? Nuclear? Hydrogen? Solar? Wind? How can we learn about more sustainable energy options? Why not start by coming to the WV Highland’s Conservancy’s Fall Review. We will gather at North Bend State Park Friday, October 14th through Sunday, October 16th. You won’t want to miss Saturday, October 15th.

In West Virginia we have a rich history of bringing power to our country in ways that haven’t brought enough benefit to our people. As we transition to more sustainable energy sources, can we continue to bring power to our country, while helping the environment and uplifting our impoverished people?

Have you thought about adding solar to your home? Solar Holler will bring a demonstration of solar power. Want to know more about the proposed blue hydrogen hub? And what is the difference between blue and green hydrogen energy? We’ll hear from Alex Place and Sean O’Leary about that. Can we re-use old coal fields as solar farms, and will that help with reclamation? We’ll learn from Eriks Brolis, The Nature Conservancy about that. Can we harvest rare earth elements from acid mine drainage (AMD)? Dr. Paul Ziemkiewicz will tell us about that. Jocelyn Phares from FERC will talk about pipelines. And zooming in from California, Jessica Lovering will discuss small scale, modular reactor nuclear power.

Come, learn with us and then talk to us about what you think our direction on energy issues of the day should be.

FALL REVIEW 2022 SCHEDULE

Friday			
TIME	EVENT		
6:00 - 9:00pm	Meet ‘n Greet Potluck at Main Pavilion	4:30 – 6:00pm	Sean O’Leary and Andrew Place: Panel on Hydrogen Energy
		6:00 - 7:30pm	DINNER
		7:30pm - End	Jim Van Nostrand: Evening keynote
Saturday		Sunday	
TIME:	SPEAKER	TIME:	EVENT
6:00am	Outing: Bird Walk (led by Jackie Burns)	10:00am	Annual Board Meeting and election of officers
7:00am	BREAKFAST		
8:00 – 9:00am	Outing (tentative): Karina Centeno: Solar Holler solar demo		
9:15 - 10:15am	Dr. Paul Ziemkiewicz: Recovering Rare Earth Elements from Acid Mine Drainage		
10:15 - 10:30am	BREAK		
10:30 - 11:30am	Eriks Brolis: Transforming Coal Fields to Solar Fields		
11:30am - 12:30pm	LUNCH		
12:45 - 2:15pm	Outing: Park tour with North Bend’s Naturalist		
2:15 – 2:30pm	BREAK		
2:30 - 3:30pm	Jessica Lovering (via Zoom): Small Modular Reactor Nuclear Power		
3:30 - 4:15pm	Jocelyn Phares: Conserving Wildlife on Pipeline Infrastructure		
4:15 - 4:30pm	BREAK		

Annual Membership Meeting!

Among the activities that will take place during the West Virginia Highlands Conservancy Fall Review are the Annual Membership Meeting and the quarterly Board meeting. The Annual Membership Meeting will be held at 10:00 AM on Sunday, October 16th at the location indicated for the WVHC fall review. The Board meeting will follow immediately afterward.

The main item of business at the Annual Membership Meeting will be the election of at large board members and officers.

If you wish to suggest someone, or volunteer yourself, for the Board or an officer position, please contact President Larry Thomas.

The Board Meeting immediately follows the Annual Meeting. All Conservancy members are welcome at the Board meeting. Although they are not allowed to vote or make motions, they are welcome to participate in the discussion.

Conserving Wildlife on Pipeline Infrastructure

By Jocelyn J. Phares, Environmental Resources Analyst West Virginia Division of Natural Resources

The West Virginia Division of Natural Resources (WVDNR) actively works to conserve wildlife habitat on oil and natural gas infrastructure. This article and its accompanying presentation demonstrate two ways the WVDNR accomplishes wildlife habitat conservation.

First, for the project's impacts to wildlife the WVDNR and Mountain Valley Pipeline (MVP) reached a voluntary compensation agreement to replace fragmented upland forest habitat. Second, the WVDNR is working towards making pipeline Right-of-Ways (ROWs), the surface area and buffer zone directly above the buried pipe, pollinator friendly spaces. By negotiating with industry stakeholders and advocating for habitat integrity, the WVDNR is conserving West Virginia's wildlife for future generations to enjoy. The WVDNR, Wildlife Resources Section (WRS) would like to thank the West Virginia Highlands Conservancy for the opportunity to share with its community some of the exciting work the state is doing on oil and natural gas infrastructure.

The Oil and Natural Gas Industry's Voluntary Mitigation for Impacts to West Virginia's Wildlife Resources

While the WVDNR does not have regulatory authority to approve or deny oil and gas infrastructure projects, the WVDNR does coordinate with permitting agencies and industry developers to ensure a project's adverse impacts are as minimal as practical. It is important to recognize that all large linear transportation projects will likely have impacts that cannot be reasonably avoided, and that a mitigation process is in place to reduce the severity of those impacts. Specifically, West Virginia requires mitigation for all projects significantly impacting aquatic resources and follows the 2008 Mitigation Rule to guide its mitigation process. On oil and natural gas pipeline projects, the state may recommend specific conditions to protect wildlife outside

of what is required by federal law. While projects like Atlantic Coast Pipeline and Mountain Valley Pipeline (MVP) are required to mitigate for significant losses of aquatic resources, project proponents may also voluntarily provide mitigation for terrestrial impacts as well.

In the case of Mountain Valley Pipeline, the Wildlife Resources Section and MVP worked together to include mitigation outside of what is required by either federal or state law. Specifically, the project provided the State of West Virginia voluntary compensatory mitigation for impacts associated with upland forest habitat fragmentation. This voluntary compensatory mitigation sum was determined using National Oceanic and Atmospheric Association's Habitat Equivalency Analysis (HEA) tool. The HEA tool determines the monetary value of habitat based on current and projected land values as well as species-specific metrics. The Cerulean Warbler and its habitat were utilized in the Habitat EDquivalency Analysis, due to adverse impacts to migratory bird and bat habitat. The Cerulean Warbler is a migratory songbird with a third of its breeding population residing in

West Virginia. According to the International Union for the Conservation of Nature's red list, lack of habitat connectivity has contributed to a 62% decline in population size since 1966. Cerulean Warblers require thick forests with gapped canopies to thrive. The voluntary compensatory mitigation provided by MVP will be used to purchase and protect large tracts of upland forests. The Cerulean Warbler and a host of species that require larger tracts of upland forest will benefit from this mitigation. MVP agreed to voluntary compensatory mitigation totaling approximately 20 million dollars. Half of this sum was given to the state up front; the other half is to be deposited once the pipeline goes into service.

Pollinators and Pipelines: Habitat Recovery on Right-of-Ways

There are currently sixty million acres of utility transmission lines in the United States, a land area on par with the National Parks System. As our land management practices become more integrated with the surrounding ecosystem there is an opportunity to turn impacted land areas into thriving habitats for species that are in need of conservation. The Wildlife Resources Section recently partnered with Integrated Vegetation Management (IVM) Partners, to begin replacing poor quality habitat on oil and natural gas Rights of Way with pollinator habitat.

For oil and natural gas Rights of Way in North Central West Virginia, slope stability is a major challenge for project proponents to overcome. Due to the urgent nature of slope stability, most oil and natural gas ROWs are seeded with fast growing, deep rooting sedges and grasses.

The West Virginia Department of Environmental Protection's National Pollution Discharge Elimination System (NPDES) permits require specific sediment and erosion controls which often necessitate these deep



(More on the next page)

Coal Fields to Solar Fields: The Nature Conservancy to Present at Fall Review

By Susan Rosenblum

Eriks Brolis, Director of Nature & Economy Programs for The Nature Conservancy (“TNC”), will present on TNC’s Solar on Mine Lands Initiative at the Highlands Conservancy Fall Review, October 14-16, 2022 at North Bend State Park.

In an article on TNC’s website: “Mining the Sun: How Nevada and West Virginia are Reclaiming Former Mine Lands with Solar Panels,” TNC reports that it has been estimated by Downstream Strategies that West Virginia has over 100,000 acres of former mine lands and other brownfields which may be suitable for solar development. TNC is working with state policy makers, landowners, mining companies, solar power companies, such as Sun Tribe, and large industrial electricity users and companies, such as Dominion Energy, to promote solar friendly legislation and assess cleared mine lands for solar development in West Virginia and Central Appalachia. The goal is to provide clean domestic energy and economic benefits to local and national communities.

TNC further states that “Many of these sites have existing road infrastructure, existing power lines and are relatively close to major markets hungry for energy.” “And by steering solar development to former mine lands and brownfields, we steer development away from forests and sustain the values they offer to West Virginia: clean water, wildlife, and carbon storage that supports the forestry, outdoor recreation, and tourism sectors. Siting solar on these sites is a win for nature, a win for our economy, and a win for the climate.”

Come attend the Fall Review to learn more from Eriks Brolis about TNC’s Solar on Mine Lands Initiative.



More about Pipelines and Wildlife (Continued from previous page)

rooting species. However, often these seed mixes are not native to the state and spread quickly, taking over native species in the process. IVM developed a process which removes non-native species and replaces them with native pollinator species. A restoration project using this technique was completed in the Canaan Valley National Wildlife Refuge along a natural gas ROW in 2017 with a great deal of success.

While that project was successful there are significant differences between ROWs depending on the underlying geology, construction requirements and slopes involved. Currently, the WRS is working with TransCanada energy and IVM Partners to restore a natural gas pipeline ROW with pollinator habitat in the Lewis Wetzel Wildlife Management Area. The TransCanada ROW restoration project is exciting, because it is being tested on some of West Virginia’s steepest terrain. If successful, combining pollinator habitat creation with sediment and erosion control could become the model for the state’s ROW planting recommendations on a high percentage of oil and natural gas and other linear projects.

The WVDNR advocates for wildlife on oil and natural gas infrastructure to help ensure the state remains wild and wonderful for many future generations. By negotiating with industry stakeholders, the Wildlife Resources Section reached an unprecedented agreement benefitting the state outside of what is required by state and federal law. Additionally, the WRS is working to ROWs into valuable pollinator habitat. While some adverse impacts from large energy transmission projects are unavoidable, the state continues to attempt to minimize those impacts to the greatest extent practical and restore wildlife habitat in the process.

Corridor H for Dummies

By John McFerrin

Corridor H has been around as a proposal since the Johnson (Lyndon, not Andrew) administration and as a controversy for almost that long. For what seems like forever, it has been around, lying there doing nothing for much of the time, flaring up as a controversy from time to time.

Now it is flaring up again. There are many of us (including me) who have not paid much attention, don't remember the Johnson administration, or may never have known some of the basic facts about it. To fill in some of the gaps, here are some basic facts:

What is it?

Corridor H is a proposed four lane highway that would run from Interstate 79 around Weston to Interstate 81 in Virginia.

Why does it have a letter for a name instead of a number like normal roads?

It has a letter because it is a part of the Appalachian Development Highway System. The Appalachian Development Highway System was an effort to improve the economy of Appalachia by upgrading roads throughout the region. The idea was, as Senator Robert Byrd used to say, that "the waters of prosperity flow down rivers of concrete." For the most part they take existing roads and make them four lanes.

Region wide, the lettered corridors use up most of the alphabet. West Virginia has five corridors: (1) Corridor E, also known as I-68 from Morgantown east into Maryland; (2) Corridor L, running from I-79 around Sutton to I-64 near Beckley; (3) Corridor D, running from Bridgeport to Parkersburg and over into Ohio; (4) Corridor G, running from Charleston down to Williamson and then into Kentucky; and (5) Corridor H.

The completed sections do have numbers, just like normal roads. With the exception of Corridor G, most people call them by their numbers, not their letters. Corridor H is designated as US 48.

Is it almost finished?

Much of it is finished. The section from Kerens to Parsons has been under construction for a few years. A 10-mile section from Parsons to Davis as well as a shorter section near the Virginia line are being studied. Virginia has no plan to build its section of Corridor H from the state line to I-81.

Why is it not yet finished?

Mostly it is about money. Because of the terrain, it is an expensive highway to build. Contrary to popular belief, Senator Byrd could not wave his magic money wand and allow West Virginia to back a truck up to the United States treasury and take whatever money it wanted. It is a long, hard task to appropriate enough money for a road that expensive.

It is also partly because building it may not be such a good idea. In *Fighting to Protect the Highlands: The First Forty Years of the West Virginia Highlands Conservancy*, David Elkinton describes it this way: "In essence, the Conservancy questioned the basic need for a controlled-access four-lane highway, preferring instead an upgrade of existing U.S. Route 33, U.S. Route 50, and other feeder routes." He was describing our position in 1974; it hasn't changed. Indeed, our affiliated group Corridor H Alternatives has the same idea in its name and shares this view.

There was also a study several years ago which concluded that Corridor H was the most difficult of the Appalachian Development Highway System to justify economically.

Why is there a current controversy?

Also money. The Bipartisan Infrastructure Investments and Jobs Act which passed in late 2021 provided money for roads. A large chunk was earmarked to complete the remaining gaps in the Appalachian Development Highway System, primarily in West Virginia and Alabama. What had languished on the drawing board for the last few years now has some of the funding it needs to go ahead. What had been an abstract debate about routing, one that many people assumed had been settled years ago, is now real.

What is the current controversy all about?

The West Virginia Department of Transportation was in charge of picking the route that Corridor H would take. Over twenty years ago it considered various alternatives. For the unfinished section near Thomas/Davis the route it selected includes a bridge across Blackwater Canyon and a four lane road that splits Davis and Thomas. Even though decades have passed, it has not changed its mind.

The route was a controversial one at the time and remains controversial. Many have suggested a better route that loops north of Davis and Thomas and avoids Blackwater Canyon and its National Register-eligible historic district.

The Real Northern Route for Corridor H

By Hugh Rogers

In Tucker County, advance men for the Division of Highways (DOH) have been saying that a Northern Route for the Davis-Thomas section of Corridor H was never more than “a crayon mark on a map.”

Yet once upon a time, as recorded in the 2007 Environmental Impact Statement, the DOH had a pretty good idea what a northern route would look like on the ground.

In Table S-2, they compared their preferred alternative with several northern routes as to length, cost, travel time, footprint in acres, volume of earthwork, business and residential displacements, reduction in truck traffic through Thomas, as well as effects on cultural resources and many natural resources that included wetlands (four types), floodplains, streams, and endangered species habitat. So where did they get all those numbers?

If there never was a Northern Route, the DOH would not have complied with its obligations under the Settlement Agreement that concluded our lawsuit:

- Construction may begin following completion of an alignment shift study, which will evaluate alternatives for avoiding the Blackwater Canyon.
- The study will be conducted to evaluate one or more alignment shifts for the Davis-Thomas section of the project as a four-lane divided highway.
- Those alignments generally would involve shifting Corridor H to the north of Thomas, then connecting to WV Route 93 east of Davis.
- The Blackwater area includes the Blackwater Canyon from Thomas to Hendricks. This area includes all historic resources associated with coal mining and coke production in the late 19th and 20th Centuries.

Of course, the Northern Route did not reach the stage of final design. Neither has the DOH's preferred alternative. The Settlement Agreement contemplated that, “If a prudent and feasible alternative route were to be found, the new route would have to be developed. Estimated time for the various studies is 18 months.”

That's 18 months—not the three- or four-year delay the DOH has threatened.

The northern alternative was supposed to be explored for “the Davis-Thomas section of the project.” Its continuation west of that, as DOH designed it, was a failure. It had no access to the high school, excessive cuts and fills, more stream crossings, and other problems. It can be thrown out.

The Northern Route *is* the Davis-Thomas section. To benefit both towns, to avoid a wide barrier between them, to relieve Thomas of truck traffic, and to preserve the Blackwater area (whether you call it the Canyon or not), it must be included in studies for the next Environmental Impact Statement (EIS). The 2007 EIS is obsolete; the previous consideration of alternatives is even older. Beginning a fresh consideration of the Northern Route *now* will save time and money. West of Thomas, it can be connected to DOH's preferred alternative.

A strong majority of local businesses have declared their support for the Northern Route, but they've had difficulty persuading their town councils to take a stand. The case they have made is a positive one. Everyone should realize, though, that the old preferred alternative would violate the federal law protecting significant historic sites and recreation areas. The Keeper of the National Register of Historic Places has stated that the Blackwater Industrial Complex from Thomas to Hendricks is eligible for that protection. How long will the DOH continue to ignore this problem? How much more delay will be the result?

The Cut

Whether the waters of prosperity have actually flowed down the rivers of concrete of the Appalachian Regional Highway System, as Senator Byrd predicted, is a complicated issue. There will always be debates about who was hurt, who was helped, whether the money could have been better spent in other ways, etc.

What the Appalachian Regional Highway System has undoubtedly given us is one of the most spectacular road cuts in the Eastern United States.

In Western Maryland, I-68 (aka Corridor E) goes through the what is known as The Sideling Hill Road Cut. It is a 340 foot deep cut, stretching for almost 810 feet. Those who took geology in school heard about the earth existing in layers, folding, and about synclines and inclines, etc. In this road cut, there it is. The layering is clearly visible. It is easy to see the tightly folded syncline. The exposed rocks consist of the Devonian-Mississippian Rockwell Formation, underlying the Mississippian Purslane Sandstone. It is a sight to see.



Dolly Sods Wilderness Stewards Update

By Dave Johnston

During August the Dolly Sods Wilderness Stewards were all about seeking solitude (or lack thereof) and finding campsites, without staying in them. Let me explain.

Solitude

One of the key values of wilderness character cited in the Wilderness Act is an “outstanding opportunity for solitude”, and wilderness land managers must regularly monitor it to determine if that value is being maintained. Due to resource limitations the Monongahela National Forest has not been able to do this regularly. The partnership with the Dolly Sods Wilderness Stewards makes it possible for this to be done by volunteers, thus freeing up Forest Service resources for other tasks.

Solitude monitoring is done by volunteers simply hiking a trail for two hours out and two hours back, while recording the number of parties, people and dogs encountered along the way. Three trails are monitored, representing a Very High, High, and Moderate usage level. The Wilderness Stewards did a simplified version of this last year, hiking each trail twice on weekends and twice on weekdays on days chosen at the convenience of the volunteer.

This year we have followed an “enhanced” protocol, where each trail is hiked five times on weekends and five times on weekdays, and the dates are randomly chosen. More data about each encounter is also recorded. This approach provides a more robust, statically valid sampling of the solitude that a “real” hiker would experience when visiting the Dolly Sods Wilderness.

The dates for the hikes were randomly generated by computer to fall between mid-July and the end of August. A team of dedicated Stewards was assembled and given an opportunity to “claim” the dates and trails. The schedule filled up quickly and

nearly all the monitoring hikes were done at the appointed time.

As of this writing nearly all of the solitude routes have been completed. It is too early to do a full statistical summary (I may have that next month), but here are a



few observations.

The number of people (and dogs) encountered during the four-hour hike ranged from zero (on the Moderate-use Wildlife trail) to highs of 104 and 124, both on the same weekend, on the Bear Rocks and Big Stonecoal trails, respectively. Those two corresponded to an average number of people encountered of about 30 per hour. The overall average of people encountered on all trails on both weekends and weekdays is running around 7.5 per hour. That is lower than the overall average of 10 per hour recorded last year, but that was during the fall, which is known to be even busier than the summer.

It appears that the High Use zone Big Stonecoal trail may be approaching the use level of the Very High Use Bear Rocks trail. Bear Rocks has an average of about 11.5 people encountered per hour, while Big Stonecoal's is about 8.5, and when only weekends are compared, they

are even closer. This may be at least partly due to increasing popularity of a loop hike starting at Bear Rocks, going down Rocky Ridge and camping on Big Stonecoal before looping back by way of Lion's Head. The same caravan traverses both trails.

The average number of individuals in each group encountered is about 2.75, and this is remarkably consistent across all trails and on weekends and weekdays. This is also consistent with the data from the trailhead registration boxes for the first seven months of this year. It may represent a slight increase in average party size over last year, though we cannot yet account for seasonal differences that may affect how people form their groups.

So what does all this mean for the “opportunity for solitude” at Dolly Sods? It's hard to say. Different people value solitude differently, and have different

ways of evaluating whether they've got it, or not. There is no single benchmark for what constitutes “acceptable solitude” applicable to all wilderness areas. Instead, each wilderness area is supposed to regularly monitor the status of solitude in order to detect and respond to changes and trends.

Given that Dolly Sods does not have previous usable inventories of solitude, that will be difficult. There is no doubt that the number of encounters is greater than in years past, and using the current results as a baseline for future changes neglects the question of whether it has *already* passed an acceptable level. WVHC and the Wilderness Stewards will continue working with the Monongahela National Forest to understand and use the results of solitude monitoring.

Campsites

In last month's Voice I described how the Wilderness Stewards are taking on a project to inventory all the campsites in

(Not finished yet; go to the next page)

More about Dolly Sods Stewards (Continued from previous page)

Dolly Sods. As with monitoring of solitude, wilderness land managers must periodically assess the condition of recreational sites, including backcountry campsites, and determine whether they are consistent with wilderness character. Volunteers can help make this possible by doing the fieldwork to gather the needed observations.

During July the Wilderness Stewards worked with the Forest Service and Southern Appalachian Wilderness Stewards to develop and refine the procedures for finding and surveying the many campsites in Dolly Sods. A phone app that can be used in the backcountry to record observations was developed and tested, and trainings for the campsite inventory team were conducted. By August the teams were hitting the trails. It is expected that the surveying will continue through September.

All of the trails in Dolly Sods have been divided into segments of around 1.0 to 2.5 miles long, defined by end points such as trail junctions and creek crossings. In addition, several long social trails known to have campsites along them have been identified. Each of these defines a “zone” that needs to be completely inventoried; that is, any campsites along them found, measured and documented.

Volunteers on the campsite inventory team have an opportunity to “claim” one or more zones and essentially take responsibility for visiting that zone and surveying the campsites within it. They can do so on their own schedule, and can combine zones to cover during a backpacking trip or working from a base camp, or just during day hikes. While on the trail, the members look for signs of likely campsites: social trails leading off the main trail, areas of level and dry ground, especially in spruce or pine groves, and areas where the trail crosses a stream.

Campsites are usually (though not always) defined by the presence of a fire

ring, or at least an area of compressed vegetation larger than would be made by an animal. Once a site is identified the Steward assigns an identification number based on the trail number and uses a phone app to record a GPS waypoint. The Steward then records observations in the app, such as the presence of fire rings or camp furniture such as rock chairs or tables.

A rating of the degree of disturbance to ground cover and severe damage to trees (including those cut down), the distance of the site from a stream or other water and from the system trail, and the number of discernible or well-worn social trails associated with the site are recorded. A rough measurement of the disturbed area is made. Finally, a record photo of the site, including a permanent, recognizable landmark such as a distinctive tree or boulder is taken, and the azimuth of the landmark and distance from the photo point are recorded.

Once the survey of a site is complete, the Steward saves it and moves on to the next site. At the end of the day or when a zone is complete, and the Steward returns to cell coverage, all of the accumulated campsite records are uploaded to a server. The data is available to be shared with WVHC.

Trailhead Stewards

The Trailhead Stewards have continued to post at the trailheads on weekends, reminding visitors of Leave No Trace principles, the need for preserving the wildness of Dolly Sods, and helping them prepare for a wilderness experience. Though the volume of visitation may be down a bit from the pandemic, it still reflects the popularity of Dolly Sods which has been on an upward trend, especially over the past decade, and the Stewards remained quite busy. As in past years, we expect the visitation to peak during the late September to early October leaf season.

I want to extend the appreciation of WVHC to all the Stewards who devoted a huge amount of time during August to the solitude monitoring, campsite inventory and the trailheads. Having all three of our main projects come together during August was unexpected, but the Stewards came through and made sure we met our objectives in each case. With this type of commitment from the Stewards, there is hope that the wilderness character of Dolly Sods can continue to be improved.

Become a Wilderness Steward

Would you like to be part of the exiting activities we are doing and planning for the Dolly Sods Wilderness Stewards? Visit the WVHC website (wvhighland.org) and follow the links to the Dolly Sods Wilderness Stewards. You can find a sign-up form on the site, and can indicate the programs(s) you are interested in. Once you sign up we will be contacting you once these programs are ready to be implemented.

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 Cristyn Bauer 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.

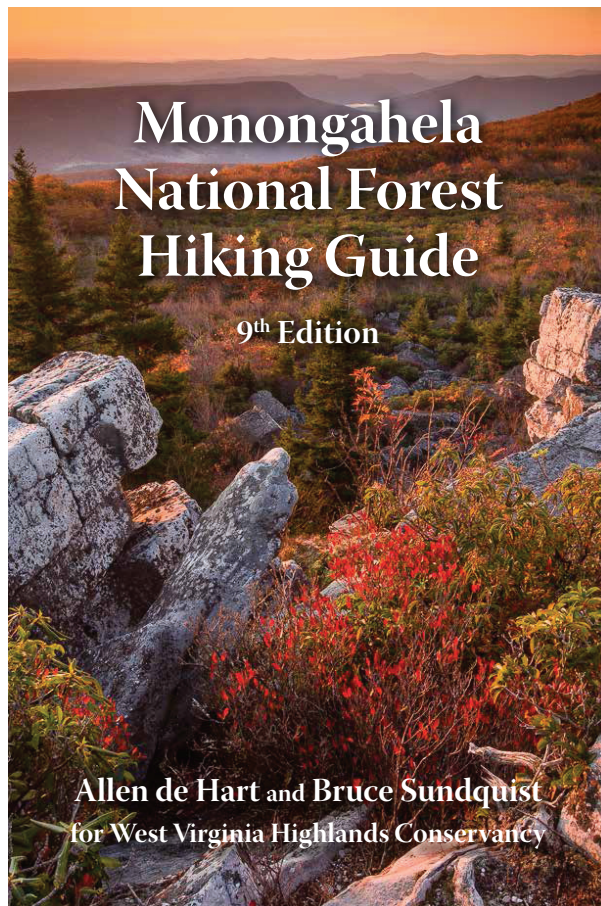
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HATS FOR SALE

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

Mushroom Meander: Another Successful Outing

By Cory Chase

The Highlands of West Virginia hold many treasures. One the most diverse—and least understood—is the world of fungi. Modern research is revealing the intricacies and importance that fungi play in ecosystems the world over. Our third outing for the year had over 35 people in attendance, mostly due to the well-deserved fanbase of our trip leader, Dr. Kristen “Kay” Wickert (and partially due to me not turning off the RSVP page in time... oops!). She has a popular [Instagram account](#) with over 32,000 fans that is chock full of interesting woodland flora and fauna.

Kristen is a professional naturalist, botanist, forest entomologist and plant pathologist. She holds a Bachelor’s in Forest Biology from Penn State and a Master’s and PhD in Plant Pathology from WVU. She studies the interrelation and interdependence between fungi, arthropods, and plants.

For those who don’t have that hard-earned PhD, fungi includes eukaryotic organisms (meaning they have cells with a nuclei and nuclear membrane) like mold, yeast, and mushrooms. Arthropods are animals with an exoskeleton like a crab, spider, insect, millipede, etc. Arthropods are the largest phylum in the animal kingdom. Then there are the more familiar photosynthetic eukaryotes, commonly known as plants. While we humans do know a lot, the more we study the interrelations in nature, the more we can become humbled by knowing that we are still just scratching the surface.

Kristen is also the President of the [West Virginia Mushroom Club](#), a “non-profit organization that was founded to promote fellowship, communication and education for anyone interested in fungi. We are an amateur club and, although our skills range from beginners to world renowned experts, the majority of our members are beginners just like you.”

We were also joined by two other board members from the Mushroom Club, Kyle Rooke and Chip Chase (my father, a fun guy indeed). We rallied at the Main Lodge at Canaan Valley Resort State Park and did not have to walk more than 100 yards or so to find a patch of woods filled with various and sundry fungi. Perhaps we didn’t put the “out” in outing, but we really did live up to the event title by meandering through a couple patches of woods and finding more and more species every step of the way.

Kristen tried her best to keep us moving but on multiple occasions as soon as the group began to move someone would find a new species and we would stop and discuss. Naturally, the children in the group were good at procuring different species of mushrooms. I assume their eyes are sharper than mine and they are closer to the ground, to boot. But not all mushrooms are on the ground, so don’t forget to look up, too!

Late July and early August were quite fantastic for mushrooms here in the Highlands. The WV Mushroom Club held its Annual Foray at Blackwater Falls State Park and it was overflowing with mushrooms discovered from all over Tucker County. The chance combination of ample rain and warm temperatures seemed to supercharge the mycelial networks beneath our feet.

While this outing was not so blessed with the moisture end of the equation, we still found plenty of mushrooms, although some were getting a little dehydrated. We found puffballs, waxy caps, cordyceps (talk about fungi and arthropods!), death angels, turkey tails, and the coveted (and overharvested) chaga. There was even a lone chanterelle—a choice edible—that was spotted, albeit a little late in the season.

There were literally dozens and dozens more species. Some of these mushrooms are food and/or medicine. We found loads of mushrooms right at the entrance to the Main Lodge, proving that we don’t have to look far to find the plethora of fungus interacting with plants, insects and trees.

Speaking of edible mushrooms...it may come as some disappointment to many budding (or...sporulating?) mushroom enthusiasts that there is not a simple answer to what to eat and what not to eat. If anything, the main takeaways are that there is usually no hard and fast rule, minus that you be very mindful and do your research before making that stroganoff for the community potluck. Mushroom lore is rife with misinformation and sometimes dangerous advice. Sayings like “if it stains blue it is not edible” or “most white mushrooms are edible” are simply inaccurate...and could land you



Our host, Dr. Kristen "Kay" Wickert

More mending on the next page)

Still Meandering (Continued from previous page)

in the ER or six feet under. The deadliest mushroom around is a gorgeous all white amanita mushroom, the Destroying Angel.

Another reason to be careful when planning to eat wild mushrooms is that there are lookalike mushrooms that are not edible. One should do their best to review distinguishing characteristics like gills, stem, cap, color and even smell.



Mushrooms offer a wide range of flavors, smells and consistencies. Think almond, lemon, chicken, anise...and less desirable qualities, as well. Not all of them are mushy, either. Chicken of the woods is a firm shelf fungus that often has a bright orange top and vibrant yellow underbelly. But as far as digestibility goes, there are body types that can react less kindly to certain kinds of edible mushrooms. There are chemical compounds that may give you an upset stomach but can sit fine with others.

And one final thing to mention: just because it is edible does not mean it is flavorful. I am pretty sure that cardboard is “edible” but I don’t recommend it. If you are using a mushroom guide, note that some varieties are considered “choice edible”. Those are prized for their flavor. Learning how to identify and distinguish the edibles from the non-edibles...that is not as easy to impart in a two hour outing. As for mushroom guides, Kristen recommended [Mushrooms of the Northeastern United States and Eastern Canada](#) by Tim Baroni; other Highlands-centric guides include [Appalachian Mushrooms](#) by Walt Sturgeon and [Mushrooms of West Virginia and the Central Appalachians](#) by William C. Roody. <http://www.mushroomexpert.com/> is also a good resource.

There was informative discussion about the evolution of fungi to break down lignin in wood and how important that is for forest ecosystems. One attendee mentioned that many millions of years ago trees and plants were not broken down by fungi, which resulted in the oil and natural gas deposits that we so dangerously build the backbone of our society with...for now.

Thank you to Canaan Valley Resort State Park for hosting our outing. And special thanks to Dr. Wickert, Kyle and Chip of the WV

Mushroom Club. You can [become a member](#) of the WV Mushroom Club on their website. <https://www.wvmushroomclub.net/join-us>. We plan to do more mushroom outings next year and into the future. And if you meandered this far, please take a look at our Annual Fall Review, which will be held at North Bend State Park on Oct. 14-16. There will be fun outings and a full day of speakers on that Saturday discussing Energy in WV. Hydrogen, solar, nuclear, pipeline permitting, etc. [Learn more and RSVP here](#). Come for the day or stay for the weekend. Bulk room rate is available. Hope to see you there.

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 Cristyn Bauer 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.

Watoga Old-Growth Forest Exploration Outing

By Larry Thomas

As Cory and I mentioned in the August Highlands Voice, the Conservancy has revived the outings, with three of the four planned outings completed and one remaining for 2022. We also have a revised plan for outings for 2023. The second outing, which I'm talking about below, was the Watoga Old Growth Forest Exploration Outing. It was planned before and overlapped with the Old Growth Forests Executive Order signed by the President, which required completion of an inventory of old-growth on Federal lands and a plan for protecting the United States' Forest, especially old-growth forests.

The second outing occurred on August 7th, when 16 people met ecologist/naturalist Doug Wood in Watoga State Park at the Ann Bailey Overlook Trailhead. It turned out to be a wonderful opportunity to learn and experience "up close and in-person" old-growth trees at the head of a hollow within the park boundaries.

Doug, along with Ken Beezley, a professional forester, explained the events of the day along with a narrative of how the stand of old-growth trees had survived the efforts of three different logging companies who logged the area, including the very top portion of the hollow. A mistake on the loggers' part left the trees at the top of the hollow which we got to experience.

Doug then explained what we would see; these are characteristics to look for when trying to find old-growth forests:

1. scattered, dominant canopy trees greater than 20 inches diameter-at-breast-height or dbh (>120-150 years old),
2. dominant canopy trees have "stag-headed" crowns with large horizontal or near horizontal branches (>45 degree angle from the main trunk),
3. canopy, sub-canopy, understory trees, and shrubs of varying sizes, reflecting

multiple ages,

4. multiple canopy tree species, but very few shade-intolerant tree species, except in canopy gaps,
5. large logs on the forest floor,
6. scattered, large dying trees and standing dead snags,



7. usually, small canopy gaps created by standing dead and fallen trees as well as other natural phenomena, like insect infestation, soil slips, and windfall,
8. few if any cut stumps (rotting or otherwise) can be seen,
9. few if any visible signs of old logging roads or skid trails,
10. 100% ground cover by leaf litter, except on large rock faces, and except soon after a fire,
11. the presence of wildlife species that are mature-forest specialists
12. rotting stumps that appear to have been uncut have an associated uncut rotting log next to them (remnants of the naturally fallen tree),

It is not necessary to know the distant-past disturbance history of an old-growth forested watershed that is currently providing

high quality water and aquatic habitat. So long as the eleven old-growth characteristics typify the watershed, and so long as the typical ecosystem services and ecological functions of old-growth are provided by the forested watershed, then the category of old-growth is not so important. To further determine if an identified old-growth tract is one that has never been cut, not even selectively in the distant past, he recommended researching courthouse deeds, interviewing old-timers, and looking for the following characteristics:

We then hiked about a mile and a half to the head of the hollow where we found the old-growth trees that had been missed by the loggers so long ago. As we approached the area, the old-growth trees were quickly evident. Along the way, Doug and Ken continuously pointed out many interesting facts about things we saw. Of particular interest during the hike were trees that had contracted what is commonly known as the Oak Wilt fungus. This was indicated by the fallen diseased leaves around and close to the affected trees.

Bretziella fagacearum is the new name for the Oak Wilt fungus <https://mycokeys.pensoft.net/article/20657/>. Oak Wilt fungus is another invasive alien species which is considered one of several significant diseases that threaten the health of forests worldwide. On a positive note during the hike, Doug pointed out one of his favorite mushrooms, the edible *Cantharellus cibarius*, commonly called Golden Chanterelle. It is also known as girolle. They are completely wild, which means they cannot be commercially grown. Doug mentioned he has a secret place to find them and he wasn't telling anyone where that is.

(More big trees, next page)

And So I Weed

By Jackie Burns

It's August. In Canaan Valley that means it is time for pulling out Japanese stiltgrass (*Microstegium vimineum*) so that it doesn't become the problem here that it has become elsewhere. It's a warm evening, just after a rain and about an hour before it will get dark. I have packed for my trip, which begins tomorrow, and have just this little bit of time. So, what am I doing? Pulling stiltgrass out of my yard. Doing my part.

As the name implies, this grass came to us from halfway around the world, courtesy of Japan, making it an alien plant. But not all alien plants are a problem, just those that become invasive and crowd out our native species. Such is the case with Japanese stiltgrass in many areas around us. But here in Canaan we caught it early and have been working to control it for about a decade now.

How do we tell stiltgrass from other similar plants in our area? Well first, grasses are parallel veined, most of our plants are net veined. So look at the veins to be sure the suspect plant is a grass. Stiltgrass leaves are short, typically 2-3 inches long, and have a silvery central vein running the length of the leaf. Also, the weak rootlets pull out of the soil much more easily than most of our plants. You learn the feel of this if you weed a patch of it.

If you go to areas where stiltgrass has aggressively invaded the forest floor, it covers the ground and outcompetes our native woodland wildflowers. But in Canaan Valley, we still have our natural woodland wildflowers and would like to keep them. So, where we have small patches of stiltgrass, we weed. And where the patches are larger, a spray might be used. Currently the preferred herbicide is

called Post. Post only affects grasses, and instead of killing, it retards their growth. Stiltgrass dies back to the ground with a heavy frost and doesn't seed until the second half of September. So, if its growth is slowed, it will typically die back from frost before going to seed.

As I do this weeding, I realize that in my neighborhood we do this work with the help of the U.S. Fish and Wildlife Service (USFWS). Recently the WV Highlands Conservancy was asked to support a petition asking the USFWS to stop using pesticides on National Wildlife Refuges. Since I worked for the USFWS I know that their applicators of pesticides and herbicides must be specially trained for this work, and they do try to minimize the use of these chemicals. Managing land for wildlife is challenging work. Taking away a tool that they use makes it more challenging, and at times impossible to get the desired results. I don't think that a blanket ban on the use of pesticides is necessary or helpful. I think each project needs to be evaluated individually. I hope that the WV Highlands Conservancy will re-evaluate their position on this issue.



More about the big trees (Continued from previous page)

Upon reaching the head of the hollow, we immediately started to identify trees which appeared as old growth. We stopped at each tree and Doug pointed out the species of tree and performed the measurements and observed other characteristics which confirmed that the tree qualified as old growth. We found trees that measured from 48 to 52 inches in diameter-at-breast-height. They were certainly giants.

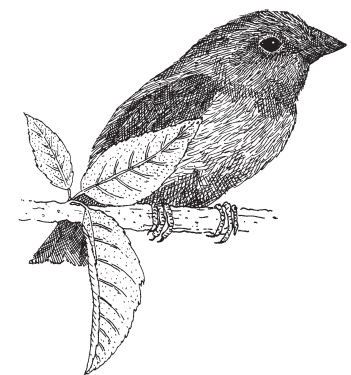
Doug also pointed out the importance of high-quality soil in carbon sequestration. [Soil Carbon Sequestration | Regenerative Energy](#)

We then found a fallen giant Oak and Doug pointed out that it was very important to leave it where it fell as it was still storing carbon. That tree measured 52 inches at the point that we determined was breast-height. Some of us thought it was much bigger until the tape confirmed the measurement. It just looked so huge lying there.

Participants certainly learned the importance and benefits of our forests and the soils in carbon sequestration as we work hard to mitigate climate change.

WVHC thanks Doug, Ken and everyone who made this outing a huge success as we

endeavor to provide meaningful outings for our members, supporters, and the public.





► 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

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.