



The Highlands Voice

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Public Service Commission Considering Crippling Solar Power

By John McFerrin

The West Virginia Public Service Commission is considering a proposal by First Energy (parent company of Mon Power) to reduce the amount that it pays individual producers of solar power for the electricity their private solar panels add to the electricity grid.

Almost all home solar systems are connected to the electricity grid. During the day, and particularly on sunny days, those homes produce all the electricity they use. On most days, the homes produce more electricity than they need. This electricity goes into the electrical grid, available for use by other customers.

At night and on cloudy days,

these homeowners use more electricity than their systems produce. During those times, they import electricity from the grid. If, at the end of the month, the homeowner has used more than he or she has exported to the grid, the homeowner is billed for the excess. The system is known as net metering.

Under the current system, the electricity the homeowner takes from the grid is the same price as the electricity which he or she supplies to the grid. The electric company credits the homeowner for the electricity supplied to the grid from the homeowner's system at the retail rate for electricity. It then charges the homeowner for electricity that the homeowner takes from

the system produces at the same retail rate. In most situations, the amounts taken from the grid and supplied to the grid are about the same, so the homeowner's bill for electricity (not considering the service charge that First Energy imposes) is close to zero.

First Energy wants to change that. It wants to start crediting homeowners for the electricity they send to the grid at the wholesale price. It would still charge those same homeowners the retail price for electricity it delivers to them. The result would be that the electricity leaving a home would be considered worth about half as much as the electricity entering the same home.

This is not net metering's first

rodeo at the Public Service Commission. It was on the agenda in 2006; multiple people and companies participated, including First Energy. The Public Service Commission directed the parties to negotiate an agreement. By the end of 2007, the parties had negotiated and come up with the agreement that formed the basis of the Public Service Commission order that First Energy now wants to change. Apparently, it has had second thoughts about what it agreed to.

First Energy gives this justification for the change: The change proposed to the credit is appropriate so that other customers are not subsidi-

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Thoughts From Our President

By Marilyn Shoenfeld

Mother Nature is very busy with the annual coloring of the leaves, which has been very evident witnessing the annual transformation from green to the scarlet, purple, orange, yellow, and brown of the fall foliage. Everyone seems to agree that She has outdone herself with one of the most spectacular shows for a long time.

October was again very busy at the Conservancy, as it was for all the organizations within the environmental community. For the Conservancy, among other activities, it was another wonderful annual Fall Review at the Canaan Valley Resort State Park. The theme was Water in West Virginia, and as promised, it was a weekend of education, environmental activism, and fellowship. The Conservancy wants to thank the members of the Fall Review Committee, the fantastic presenters, and those who attended for making this year's Fall Review an incredible success. Please mark your calendars for the Fall Review at Cacapon Resort State Park in Berkeley Springs, West Virginia, on Oct. 11-13, 2023.

The Annual Membership Meeting with the election of Directors At-Large and Officers for the next two years (see the Roster of Officers, Board Members, and Committee Chairs in this issue of The Voice) followed by the

Fall Board of Director's Meeting were held on Sunday.

It is hard to believe that we are fast approaching the 2024 legislative session. The West Virginia Environmental Council (WVEC) has been preparing for the upcoming legislative session mode, reviewing the legislative session interims during the year, and working with coalition partners. By the time you receive this month's Voice, members of the Legislative Committee will have met during the West Virginia Environmental Council Annual Meeting to establish legislative priorities for the upcoming session. **On the list are:**

ENERGY

- **Community Solar** - promote access to affordable renewable energy through a solar facility subscription service where customers can purchase an interest in a solar facility and use credits against their electric utility costs.
- **Net Metering** - protect and preserve long-standing net metering rules to ensure all solar users are entitled to the existing fair market retail rate.
- **Orphaned Gas Well Responsibility** - require bonds to be set before drilling begins to cover plugging costs for gas wells that are abandoned or orphaned.

- **Advanced Nuclear** - monitor 2022's bill to repeal the state's ban on nuclear power, while opposing expansion of this energy source if no safe long-term storage is available.
- **Hydrogen Hub/CCS** - monitor legislative developments and oppose any proposal that increases carbon emissions through use of fossil fuels.

CLEAN WATER

- **Above ground Storage Tank Legislation** - prevent further rollback of legislation passed after the 2014 chemical spill in Charleston. Recently defeated bills would have relaxed inspection requirements on oil and gas tanks located within zones of critical concern.
- **Water Quality Standards** - provide outreach and education at legislative public meetings as the legislature and West Virginia Department of Environmental Protection develop water quality standard rules.

ADDITIONAL PRIORITIES

- **Public Lands** - defeat proposals to open public lands to Off-Road Vehicles and other legislation that would degrade West Virginia's state parks and forests.

Watch for an article in Decem-

ber's Voice to see the priorities chosen and information on how you can monitor actions during the legislative session.

Want to have your voice heard concerning what happens to our West Virginia Public Lands? Members of the Public Lands Committee have been working all year with the West Virginians for Public Lands (WVPL) coalition to think about the best ways to safeguard our Wild and Wonderful state public lands.

Here is an opportunity to have your voice heard. Think about what you want: More public lands? Extend non-motorized trail safeguards to Wildlife Management Areas? Full funding for maintenance, non-motorized trail building, and staffing? Our public lands rich in biodiversity and intact ecosystems? Rich in nature-based recreation and quiet solitude? Modernized public notice rules for full transparency and public input? Or any other suggestions you might have. If so, complete the survey at <https://bit.ly/45UCGI3>

Again, we look to you, our membership, for continued support and participation. Thanks for reading, and please email me with questions, concerns or comments at marilyn.shoenfeld@gmail.com.

Clearing the Waters: West Virginia's Impaired Streams List

By Olivia Miller

As we have all heard before, the first step in fixing a problem is acknowledging that you have one. The same is true in order for us to improve and maintain the health of our streams, rivers, and lakes.

The Clean Water Act requires every state to take the first step in addressing statewide water quality by compiling a list of impaired and threatened waters and submitting it to the Environmental Protection Agency (EPA) for approval (or disapproval) every two years. For each water on the list,

the state identifies the pollutant causing the stream not to meet state water quality standards. This list, known as the 303(d) list, kick-starts the process of cleaning up polluted streams.

Once an impaired water body is identified, it triggers the development of Total Maximum Daily Loads (TMDLs) for that water. TMDLs establish the maximum amount of a pollutant allowed in a water body and serve as a starting point for restoring water quality.

After TMDLs have been es-

tablished, states can begin to address the problem through permits to control sources of pollution or managed through grants, partnerships, and voluntary and other programs.

States are required to update and resubmit their impaired waters list every two years. The last time the EPA approved an impaired stream list submitted by the West Virginia Department of Environmental Protection (WVDEP) was in 2016. Now, West Virginia is faced with a six-year backlog of streams that are in need of restoration but have not

been receiving the help they need.

Because of the backlog, the WVDEP submitted a combined impaired stream list for 2018, 2020, and 2022 in May. In its response to West Virginia's submission, the EPA did not fully approve the submission on the basis that WVDEP did not provide a technical, science-based rationale for excluding existing and readily available biological and other water quality data in its decision-making process. The

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Book Review: What an Owl Knows by Jennifer Ackerman

By John McFerrin

This is a book about owls—where they live, what they can do, threats they face, and folklore about owls. The West Virginia Highlands Conservancy is blessed to have some real bird brainiacs among its members, people whose knowledge of birds is awesome. I think it is safe to say that not even they know nearly as much about owls as is in this book.

What owls can do is jaw-dropping. Some can see light in a part of the spectrum that is invisible to humans. Some have hearing so acute that they can hear a vole moving under a foot of snow; they can track its movements well enough to know the exact time and place to pounce. They can form such a precise mental picture of a place that they can find their way even in complete darkness. Snowy Owls can survive in temperatures forty degrees below zero (the number of feathers they need to be able to do this makes them one of the heaviest owls).

There is even a possibility that some owls can see sound. There are neural pathways that lead to parts of the brain that process sound, enabling hearing. In some owls, the neural pathways that usually lead to hearing parts of the brain end up in the seeing parts. It may be that the sounds an owl hears are being processed into a visual image that makes hunting more precise. Whether this is true or not is unknown and probably unknowable. It is hard enough to catch an owl, much less have it sit for an interview.

The book explains why owls can fly without making any noise. Much of the noise in other birds' flight comes from the air passing over their wings. Owls have fine ridges on some of their feathers that break up the air. This gives owls the ability to fly silently, giving the appearance of magically ap-

pearing when nobody heard them coming.

There is some dispute among researchers on the purpose of silent flight. Some contend that it is so that prey cannot hear them coming. Others contend that it is because owls depend so much upon their hearing in hunting. They cannot be distracted by any noise their wings make. This controversy is unresolved; maybe it is both.

There are lessons about ecology as well. Many species of owls are cavity nesters. They can't make their own cavities. For that, they depend upon the presence of woodpeckers. It is easier to create cavities in certain tree species. An abundance of that species means lots of cavities, lots of owls. In many places, an abundance of owls depends upon whether it is a good year for cones. Plentiful cones means plenty of small mammals. Plenty of small mammals means plenty of owls.

Much of the book is about research into owls and owl behavior. This inevitably leads to stories about owl researchers. Because most owls are nocturnal, they depend upon sound for courtship, territorial defense, etc. Owl researchers spend a lot of time in the woods with their recorders, listening. One of the legendary owl researchers came to owl research after musical training and one career as a professional musician. With her lifelong orientation toward sounds and the nuances of sound, she was as close to an owl as any human could hope to be.

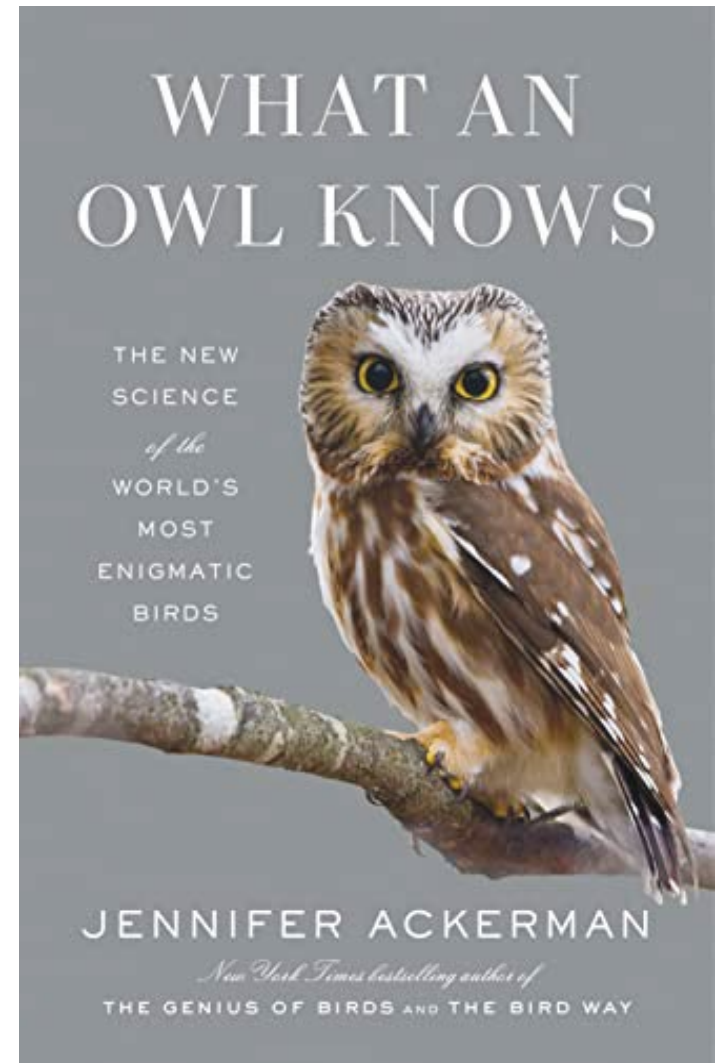
One of the things that make owls difficult to study is that they are difficult to see. Although they have the talons to make them formidable fighters, their first line of defense is camouflage. They are masters of looking like a broken tree branch, a lump, anything to make themselves invisible to preda-

tors (the goal) or researchers (an incidental result). The difficulty in studying owls results in many things about owls being unknown.

The natural history of owls was most interesting to me. In addition to chapters about the natural history, there are chapters on folklore surrounding owls, the role of owls in our ecosystem, and threats to owls (habitat loss, climate change, pesticides).

The threats section introduced me to what has to be the greatest acronym of all time: RATS (Raptors Are The Solution). It advocates for reduced use of poisons to kill rats and mice, suggesting that birds of prey such as owls, hawks, etc., can take care of the problem. It's a real thing: website, Facebook page, the works. Look it up.

From a glance, it might be possible to conclude that this book would tell you more about owls than you really wanted to know. This is absolutely not true. The book is entertaining from beginning to end. While it tells a lot, it is not wearing and definitely does not tell you more that you want to know. The author has an obvious affection for



owls, has done a lot of research, and has an engaging writing style. There is no danger that you will get part way through and decide you are sick of owls.

One omission: the chapter on owl folklore does not mention the episode of *The Andy Griffith Show* where a superstition about an owl was a key plot point. But nobody's perfect.

The West Virginia Highlands Conservancy is a non-profit corporation which has been recognized as a tax exempt organization by the Internal Revenue Service. Its bylaws describe its purpose: The purposes of the Conservancy shall be to promote, encourage, and work for the conservation—including both preservation and wise use—and appreciation of the natural resources of West Virginia and the nation, and especially of the Highlands Region of West Virginia, for the cultural, social, educational, physical, health, spiritual, and economic benefit of present and future generations of West Virginians and Americans.

West Virginia Highlands Conservancy Online Store Catalog

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- **WVHC Cotton Hat (Black or Army Green):** \$22.50
- **WVHC Hemp Hat (Black or Green):** \$25.00
- **WVHC 100% Cotton T-Shirts (Coyote Brown, Kelly Green, Navy Blue, Black) Available in XS-XXL:** \$22.00
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- **I Love Mountains Bumper Sticker:** \$3.00 for one, \$12.00 for 20

Books

- **Monongahela National Forest Hiking Guide, 9th Edition:** \$21.95
- **Fighting to Protect the Highlands:** \$15.95

To order by mail make checks payable to West Virginia Highlands Conservancy and send to P.O. Box 306, Charleston, WV 25321. Please indicate the item and relevant color and size if applicable. To view and purchase store items online, visit wvhighlands.org

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 two 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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PSC Considering Crippling Solar Power *continued from page 1*

dizing net metering customers and so that net metering customers actually pay for the distribution, transmission, and capacity facilities that they use and costs that are incurred for them.

In other words, even though the solar-powered homeowner is not using the power plant to produce his or her electricity, that homeowner should pay a share of the cost of the wires, etc. required to deliver that electricity of him.

This justification is insufficient in several ways. First, it is imprecise. Because of its imprecision, it almost certainly overstates the cost of using the distribution system. A typical homeowner who uses solar power would, if not using solar power, have an electric bill of about \$100 per month, \$1200 per year. Under First Energy's proposal, that same homeowner, using solar power, would still have a bill of about \$600 per year. It is not plausible to say that each solar-powered homeowner imposes a cost of \$600 on the electrical grid each year.

Even if the typical solar-powered home imposes a cost upon the grid, it is wholly or partially offset by what First Energy charges users of solar power. Right now, First Energy charges all homeowners who have solar power \$5.00 per month, even in months when they contribute more electricity to the grid than they draw from it.

Second, it ignores the financial benefit that solar-powered customers confer upon the power companies. One of the curses of the power generation business everywhere is that the companies have to plan for, and build capacity for, peak demand. They can-

not just build enough capacity to supply the average amount of electricity that people need. They must build capacity both in the power plants and in the distribution system to meet the demand when demand is greatest. Even if much of that capacity is unused most of the time, the utility companies must bear the expense of building and maintaining it. In other states (but not West Virginia) some companies pay customers to install energy saving equipment. It is in the utilities' interest to do so because it is cheaper than the cost of building new capacity.

In West Virginia, the owners of solar equipment are offering the power companies an even better deal. They are not asking that the companies pay for their systems. At their own expense, they have voluntarily given the power companies a way to manage their peak demand problem. In return, it is only fair that they receive the retail price for their power.

Solar power is particularly useful in helping meet the peak demand. Peak demand typically comes during the summer, when the sun is blazing and everybody is running air conditioners full blast. That is when homeowners who have solar power are contributing the most electricity to the power grid.

Homeowners who install solar power are helping the United States move toward a national goal of reducing greenhouse gasses as a way to slow down climate change. The United States has set a national goal of reducing greenhouse gasses by 50% from 2005 levels by 2030. Solar power helps us get there. It is an activity that should

be encouraged, not discouraged by underpaying for the electricity produced.

Finally, the Public Service should avoid killing an entire industry. Right now, solar power installation is a growing industry in West Virginia, employing, by one estimate, 536 workers and growing. If homeowners cannot be fairly compensated for the excess electricity they produce, they will be dramatically less likely to install solar power.

Right now, solar power installation is a growing industry. It may be able to survive a blow such as the one First Energy proposes. It may not. If it

does not, the Public Service Commission will have succeeded in killing one of West Virginia's few growing, thriving industries. It is hard to see how killing an industry which is—by reducing climate change and saving West Virginians money on their electric bills—serving the public interest is consistent with the Public Service Commission's mandate to protect the public interest.

The Public Service Commission is still accepting comments on the proposed rule. It will probably make a decision in February 2024.

Clearing the Waters *continued from page 2*

EPA also identified an additional 346 impaired streams, over 1,600 stream miles, missing from the list—117 of which WVDEP attempted to delist.

Additionally, the report revealed that WVDEP has continued to use an outdated water quality assessment tool despite repeated direction by the EPA to replace it with the best available methodology since 2010.

In July, the EPA released a public notice announcing the EPA's identification of the additional streams and offered the public a chance to review

the additional waters to be added to West Virginia's Section 303(d) list and provide comment.

The West Virginia Highlands Conservancy joined the West Virginia Rivers Coalition and other environmental groups in a letter supporting the EPA in its finding that WVDEP did not use and did not provide a rationale for not using the latest science and data in preparation of its impaired stream list and supporting the inclusion of the 346 additional streams.

Missing Frank, again

When the current net metering rule was adopted in 2007, much of the advocacy was done by Frank Young. He was one of the negotiators who reached the agreement that became the current rule. It is much too dramatic to say that this change wouldn't be happening if Frank were still alive. It's not too dramatic to say that we sure could use his help this time around. It's just another reminder of how much we miss Frank.

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 Crys Bauer at membership@wvhighlands.org. 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.

2023 Fall Review Recap: Water Is at the Heart of It All

By Olivia Miller

There is no greater connector—or reminder that we humans are inextricably linked to nature—than water. Clean water gives us life, good health, and nourishment. Although it is treated as one, it is so much more than merely a resource.

On the weekend of Oct. 13, members and supporters of the West Virginia Highlands Conservancy gathered at Canaan Valley Resort State Park to learn about threats to our water and how we can, and are, working to care for it. The fall foliage blanketing over West Virginia's mountaintops was the most striking in recent memory. It provided an inspiring backdrop for the many great speakers who presented at the Fall Review.

On Saturday morning, we were delighted to have Pam Edwards, former Forest Service research hydrologist, and Rick Webb, executive director of the Allegheny-Blue Ridge Alliance, discuss an issue of growing concern that severely affects the health of our streams: sedimentation. Sediment pollution is caused by soil erosion. Erosion is a natural process caused by water or wind but is being accelerated by humans through de-forestation, construction and urban development, mining, agricultural practices, invasive species, climate change, and so on.

Pam's presentation focused on Best Management Practices, known as BMPs, that are used to prevent or control the amount of sediment entering a waterbody by human activities. Pam noted that while they are called best management practices, they are not, after all, the best we could be doing at controlling sedimentation.

More importantly, waters are measured for good health by water quality standards set for human toxicity levels, neglecting to account for the toxin levels of aquatic organisms, who are much more sensitive to changes in water quality—causing negative impacts on reproductive ability and food availability.

Some species can withstand a higher level of pollutants than others

or are able to move to find cleaner waters. Rick's presentation shifted our attention to the endangered candy darter, an example of a species that is unable to escape pollution like the native brook trout can. Half of the candy darter's historical range has already been lost, and a major driver of this loss is sedimentation and stream degradation.

There are many ongoing and planned projects within the candy darter's critical habitat, like the Mountain Valley Pipeline and the Forest Service's proposed 1,700 acres of clear-cutting in the Greenbrier Southeast project, that further threaten the candy darter by polluting streams with sedimentation. Rick explained that within the Monongahela National Forest, sedimentation is a chronic problem, and we do not know exactly where it is coming from. A recent complaint brought by the West Virginia Highlands Conservancy against the Forest Service urges that the source of the problem be identified and addressed.

Madison Ball, conservation program director of Friends of the Cheat, discussed a more familiar water pollutant: acid mine drainage. In 1995, the Cheat River was named one of the country's most endangered rivers; thanks to the work of Friends of the Cheat and its partners, it is once again alive with life. To date, Friends of the Cheat has built 20 acid mine drainage treatment systems, with two more in the planning stages.

Madison gave us a harrowing reminder that while the rebirth of the Cheat River is incredible progress, the source of acid mine drainage can never be fully remedied. Acid mine drainage from underground mining operations will continue to seep out of the Earth



Madison Ball, conservation program director at Friends of the Cheat presents “29 Years of Acid Mine Drainage Remediation in the Cheat River Watershed: Challenges, Successes, and Future Restoration Efforts.”

well past our lifetimes, continuously polluting for thousands of years until the pyritic material in the mine has deteriorated.

After a delicious lunch spread and the chance to rest our minds, we reconvened for a brief outing to tour the state park's water treatment plant. One tiny building below the lodge is responsible for the processing of nearly 18 million gallons of water that is supplied to the park's various buildings, including the ski resort, in a single year.

Following the outing was a panel focused on small-town water issues and PFAS (per- and polyfluorinated substances) with Luanne McGovern, the Conservancy's senior vice president, Mike Hawranick from the West Virginia Division of Health and Human Resources, and Cory Weese from the West Virginia Rural Water Association.

As with acid mine drainage, there is no clear end in sight for the proliferation of PFAS in the environment and within our bodies. What was also made clear is that no one has a straight or reassuring answer for how to deal with this overwhelming problem.

The manufactured group of PFAS chemicals are known as “forever chemicals” because they can take more than a thousand years to degrade. PFAS poses a severe threat to human and animal health and have been detected in the bloodstream of 99% of people living in the United States.

In July 2022, the state released a study of PFAS in West Virginia's pre-treated source water. In the study, PFAS was detected in 130 community water systems around the state. Mike regrettably noted that we are just at the beginning of this wild PFAS journey.

After being scared straight by PFAS, we took a moment to switch gears and honor someone who has selflessly and tirelessly worked to protect our water. Upon her retirement from the Conservancy's Board of Directors, Hugh Rogers presented Cindy Rank with the Water Warrior Award in appreciation of her 44 years of dedicated volunteer service.

Hugh expressed that Cindy changed the nature of the Conservancy from an organization whose mission

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2023 Fall Review Recap *continued from page 6*

By Olivia Miller



On the occasion of her retirement from the West Virginia Highlands Conservancy's Board of Directors, Hugh Rogers presented Cindy Rank with the Water Warrior Award.

was solely focused on the Highlands to a broader vision of protecting the state and its people in its entirety.

As a testament to her wisdom and courage, Hugh quoted Cindy's testimony before a senate committee,

"Water is at the heart of it all. Having nowhere to put the deep layers of Earth that separate coal seams, companies blast apart and dump the rock into the stream valleys that originate in the high reaches of the mountain and flow down the hollows between the ridges. Pockets of groundwater, perched aquifers, and hillside springs that many of us depend on are gone in an instant. One of the main goals of the Surface Mining and Reclamation Act was to uphold the Clean Water Act. Water is at the heart of it all."

In perfect order, we heard from another West Virginia water warrior next. Angie Rosser is the executive director of the West Virginia Rivers Coalition. She delivered an uplifting and inspiring presentation on the power of collective action and brought attention to some of the issues we will likely be presented with in the upcoming legislative session that could impact our water.

Angie reminded us that the environmental movement is a game of incremental progress, and we have indeed made incremental progress in recent years. Among these successes are the pushback against off-road vehicles on public lands, the PFAS Protection Act, the defense of the Above ground

Storage Tank Act, and an increase in the number of inspectors of orphaned gas wells.

The keynote address was given by Nicolas Zegre, associate professor of forest hydrology at West Virginia University, who approached the subject of water from a different perspective than we had heard throughout the day's earlier sessions. His address, "Preparing Agents of Change for Tomorrow: Climate Justice and Action in the Mountain State," focused on flooding.

In short, flooding is getting worse in West Virginia. From 2006 to 2022, there were 1,683 flood events in the state. Since 2016, there have been 968 recorded flood events. It is estimated that 46% of our roads are at risk of flooding. West Virginia faces the highest flood risk in the country. As the Earth's temperature increases, extreme rainfall will continue to increase and lead to even more flooding.

In recognizing this problem, Nico and a team of researchers at WVU's Center for Resilient Communities are working to build youth-led climate resiliency in communities most impacted by increased flooding. Preparing Agents of Change for Tomorrow (PACT) is a program that works with youth to create flood resilience plans

in their communities and identify the unique drivers causing flooding in their area. The PACT curriculum being developed for the program will be publicly bundled and distributed across the state.

Nico left us with a reminder that we all live in watersheds, and we all must be involved with our local watershed organizations. A good place to start demanding action is to advocate for funding of the West Virginia Flood Resilience Law (SB 677). Despite its passage in March 2023, the bill has yet to be funded.

Following the keynote address, those who weren't too tuckered out from the busy day square danced the night away with caller Bob Smakula. We were accompanied by live music from Kevin Chasser, Andy FitzGibbon, and Nate Druckenmiller.

Thank you to all the volunteers who made the Fall Review such an enjoyable experience, the speakers for sharing their knowledge, the staff at Canaan Valley Resort State Park for being so accommodating of us, and, of course, to the attendees who joined us for the fun. We hope to see you at next year's Fall Review, Oct. 11-13, 2023 at Cacapon Resort State Park.

A Thank You to Bob Marshall

After 20 years on the job, Bob Marshall has retired from his position as treasurer of the West Virginia Highlands Conservancy. The November 2002 issue of the *Voice* announced that Bob agreed to serve as treasurer, noting that he planned to remain until the 2003 Annual Meeting when the Conservancy could elect somebody permanently. Twenty some years later and the joke's on him.

We are most grateful for Bob and his commitment to the Conservancy. Fortunately for us, Bob will remain on the board as a Director-At-Large. George Hack has graciously agreed to take over Bob's position on the board as treasurer.

Book Review: The Climate Book by Greta Thunberg

By Cindy Ellis

In an online post, Eric Engle recommended this book. Eric is active in the Mid-Ohio Climate Action group, and he helps supply me and others with eye-catching “Climate Voter” signs.

So, from the library, I checked out *The Climate Book* by Greta Thunberg. I thought I knew something about climate crisis and its attendant issues. Turns out that what I knew was dwarfed by unrecognized threats and complications. And it is also clear that this comprehensive set of essays should not be sidelined as what some may perceive as routine doom and gloom.

Even the book’s cover conveys a message. Its design is “Warming Stripes,” a graphic visualization of data, in minimalist form, intended to show trends without distraction. In this case the bars simply get redder.

I read the book straight through. Alternately a person might look at the five expansive sections and choose to select an unfamiliar topic... or a familiar one. Thunberg wanted to create a “go to” book. She assembled contributors: scientists, economists, novelists, activists, and more. There is a wealth of information. At some point I ordered, from a thrift bookstore, my own copy so that I could underline, highlight, and put tabs.

The section headings are:

- How Climate Works
- How Our Planet is Changing
- How it Affects Us
- What We’ve Done About It
- What We Must Do Now

Greta herself adds essays. In one of her early articles, she notes that she finds optimism in our current ease of communication. She sees it as key to spreading facts and combating misinformation.

As I became immersed in information new to me, I wanted to share. I tried posting online a quote each day from the chapters as I read them. Later though, I came to feel that dispatching single lines or short paragraphs was less than ideal. Nearly all of

what I found that was new and riveting could not be presented out of context.

For example, I had not known about the reindeer. Nor about all the critical matters associated with permafrost. I cannot briefly convey the dismay raised by the description of reindeer calves now routinely starving to death due to disruption in what formerly was reliable snow cover. A member of the Nordic Sámi tribe wrote, “The elders are now talking about an emergency year that has lasted for over a decade, the end of which we cannot see.”

There was so much to find out about in regard to so many elements that have sustained us. About oceans, and about soil—and thus food crops—about “tipping points,” about our predicted inability to ADAPT, impacts of agriculture, and much more. And we need to read beyond “Drought is the consequence of a planet desperate to cool itself,” in order to grasp details of that desperation.

So, I will plan to enlarge on those online posts by sharing this review.

And to say that this book could help to help us sort out our overload of messages, and with sorting out the source of money behind messages. It does not shy from speaking of those who benefit from inaction. “The biggest political donors in American history, the Koch brothers, were also the country’s biggest oil and gas barons; United States Senator Joe Manchin, who had taken more political donations from the fossil fuel industry than anyone else in Washington and personally has millions invested in coal, was single-handedly able to rewrite climate legislation in 2021.”

I hope that some will want to read *The Climate Book*, in parts or in whole, to gain insights on views that do not seem to change or to change quickly. I expect some will want to turn to “What We Must Do Now”, but it’s my hope that “What We’ve Done About It” won’t be ignored.

There are explanations and suggestions in the last two sections for

applying all the “ammunition” one may learn in the first three sections ... those about climate basics and details of change and its effects.

There’s an array of ideas. We might wonder if we can rise to these challenging times; to “Take the Jump” as a website of that name suggests.

Six “shifts” are:

- End clutter: keep electronic products for at least seven years.
- Holiday local: take short-haul flights only once in three years.
- Eat green: adopt a plant-based diet and leave no waste.
- Dress retro: buy at most three new items of clothing a year.
- Travel fresh: don’t make use of private cars, if possible.
- Change the system: act to nudge and shift the wider system.

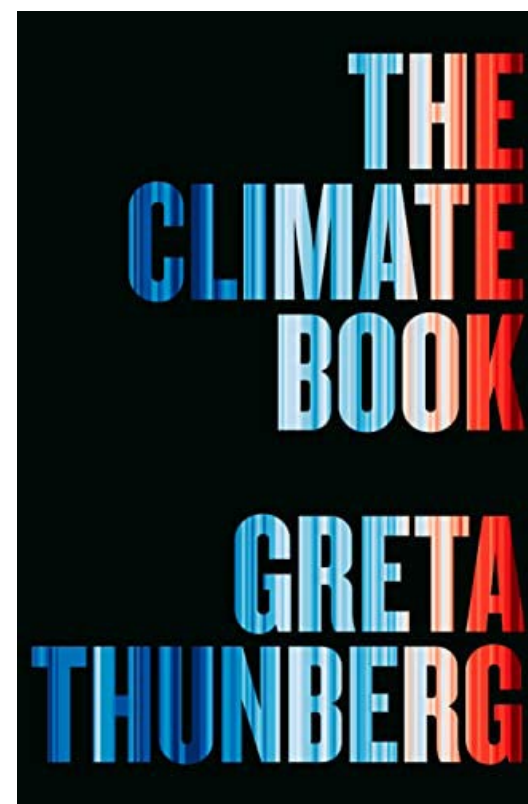
The latter portions of the book also make the effort to awaken us to the consequences of “greenwashing”, of media shortcomings, and of rampant consumerism.

Points are made about the fashion industry. For many of our readers and members “new threads” may mean a new pair of socks for our hiking boots, but we should know that, “Pressured to deliver orders of low-cost clothes under very tight deadlines, factories worldwide often push garment workers into an intense schedule of long hours with low wages, insecure contracts and a ban on organizing the workforce.”

The industry produces 2% of greenhouse gas emissions and makes heavy use of materials, water, chemicals and energy... “less than 1 per cent [of garments produced] are reused or recycled for new clothing.”

To wind up, I hope to convey optimism, as the book did.

But first here are some minor observations of *The Climate Book*. There is only the slightest mention of



“point of use” in power schemes, and a fairer picture would be provided with some note of the few but real negatives to consider with wind and solar. Although the pages have a nice, non-slick feel, the print is quite small. The essays by Thunberg are printed on gray pages with print that is only slightly darker, making some of us squint.

Even so, “*The Climate Book*” is eye-opening. And optimistic.

Two voices saying so are the young activist Greta, and Robin Wall Kimmerer, an Anishinaabe/Potawatomi, author of *Braiding Sweetgrass*.

Robin speaks of, “...the One Bowl, One Spoon treaties” of her people. “The land is understood as the Bowl, filled by Mother Earth with everything we need. It is our responsibility to share it and keep the bowl full... Not a tiny one for some and a gouging shovel for others.”

Greta says, “Hope is taking action. It is stepping outside your comfort zone. If a bunch of weird school kids were able to get millions of people to start changing their lives, just imagine what we could all do if we tried.”

Board Highlights

By John McFerrin

This quarter's meeting of the West Virginia Highlands Conservancy featured another transition while at the same time planning for the future.

The transition was a new treasurer. After over 20 years on the job, Bob Marshall is hanging up his green eye shade. We appreciate his service and wish him well. We will have plenty of opportunities to wish him well in person since he is staying on the Board. George Hack will step into his treasurer's shoes.

Looking to the future, we took a step to help make us more financially sustainable. Thanks to some bequests from members and supporters, we now have more money than we have had in a long time. The money was left to us so that we could do great things. At the same time, we don't want to spend recklessly. We have a budget deficit so far this year and can't continue that indefinitely. To address this, we are going to place a restriction on our savings and dramatically curb spending that goes below that limit. This will impose some fiscal discipline upon the Board.

Hugh Rogers reported on the work of the Highways Committee. Most of what he had to say has already been reported in the September 2023 issue of *The Highlands Voice*. Members of the Committee have met with representatives of the West Virginia Department of Highways and the Federal Highway Administration. The result of that meeting and other discussions was that the Department of Highways will have to do a renewed National Environmental Policy Act (NEPA) review of this section of the highway.

It will have to include the Go North route (going north of Thomas) as one of the alternatives to be considered. There is some concern that the Department of Highways is so committed to what has been, up to now, its preferred alternative that it will only make a token effort to study the northern route or design a northern route in such a way that it is designed to fail. Through comments during the process, we will see that that does not happen.



We have given out about 2,750 copies of the booklet *Making a Difference, Practical Actions That Individuals Can Take to Reduce Their Impact on Climate*. We have about 1,500 left. Perry Bryant took the lead on preparing the booklet, and we appreciate it.

Along with our partners from the West Virginia Rivers Coalition and the Friends of the Cheat, the Rivers Committee are training and organizing testers to establish background water quality conditions along the Corridor H route. They are testing either bi-weekly or monthly at the test sites. They also had a picnic for the testers. The Committee hopes to expand testing to include streams that would be impacted by the northern route.

No matter which route is chosen, there will be threats to streams. The Committee hopes to be able to help mitigate damage to those streams.

The Committee is also looking at Best Management Practices (BMPs) required by West Virginia. In this context, BMPs are the on-the-ground measures that those doing such things as road building have to take to prevent water pollution. They include such things as reseeding disturbed areas, diverting water, etc. Casual observation indicates that other states have BMPs that are more effective than those in West Virginia.

The Committee plans to look at BMPs in surrounding states, see how they differ from the ones West Virginia uses, and advocate for ones that are more effective. Patty Gundrum will work on this.

The Public Lands Committee is still reviewing Forest Service projects proposed for the Monongahela National Forest. They are reviewing the proposed Cranberry Springs Creek and the Deer Creek projects. The Forest Service still hasn't made final decisions on three projects for which they completed the analysis a long time ago (Upper Elk, Upper Cheat, and Brushy Mountain).

The Dolly Sods Stewards program is continuing in all its activities (trailhead stewards, crosscut sawyer team, trail maintenance team, and solitude monitoring). For fiscal year 2023, they reported 2,229 volunteer hours. Trailhead Stewards reported the most hours.

The Trailhead Stewards nearly doubled from the previous year. They are giving out lots of maps.

Solitude monitoring continues. They are using more sophisticated sampling, with volunteers hiking specifically chosen trails on specifically chosen days and times. This makes the results more accurate and useful. The crosscut sawyer team has done one

project in Otter Creek. The trail maintenance team has been slowed by a Forest Service determination that, even though the trails are already there, a maintenance project would require some environmental study before it can begin. You can read the full update on the Dolly Sods Wilderness Stewards program on page 14.

In Extractive Industries, we are cooperating with several groups to oppose the South Fork Coal Company mine, particularly the haul road that goes through the National Forest. The Forest Service has allowed the haul road to go ahead with no NEPA review. The immediate goal is to require a proper NEPA review.

So far, the legislative interim committee meetings have been uneventful. For the regular session, we (along with the Environmental Council) will focus on community solar, PFAS, orphaned and abandoned gas wells, and anything having to do with public lands. We will also be defending against any bills that are adverse to our interests.

On January 9, 2024, there is an event to mark the 10th anniversary of the Elk River chemical spill that poisoned drinking water in Charleston. We have scheduled the winter Board meeting on January 10 so that Board members who wish to go to the event will only have to make one trip.

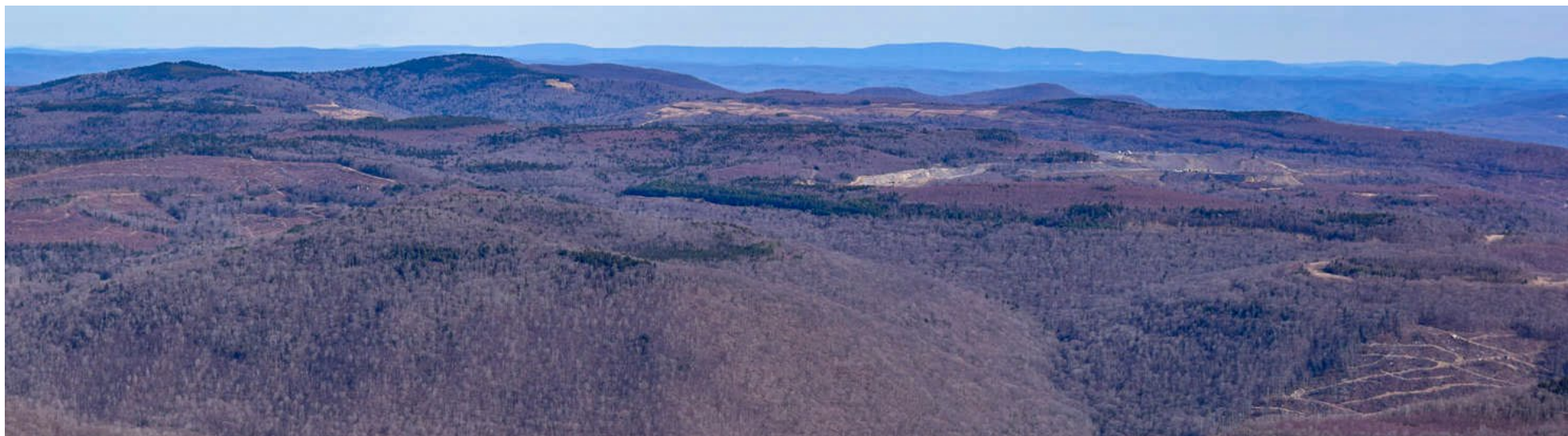
E-Day at the Legislature is scheduled for February 13, 2024.

Olivia Miller presented a report. She prefaced it by saying that she has a great job and is glad to have it. She has been working on helping plan the Fall Review, Corridor H, and spiffing up the website. On the website, she is working on pages of Ways to Get Involved, Media Inquiries, Biographies of Board and Staff, Our Impact, and a Giving Page. We continue to have a robust presence of social media.

Lame Duck Treasurer Bob Marshall presented the financial report. He reported that our income has been good and that the deficit will probably be less than we had projected.

King Coal: Don't You Lose Any Sleep?

By Andrew Young



Rocky Run Surface Mine visible in the foreground with Point Mountain and Sugartree Bench Mountain in the background. Cranberry lies just beyond the two mountains. (Photo courtesy Allegheny-Blue Ridge Alliance Pipeline Airforce)

[Part two in this series](#) found in the October issue of the *Voice* provided a brief overview of the harmful impacts that a handful of strip mines and coal haul roads operated by one company, South Fork Coal Co., are wreaking in the Laurel Creek and South Fork of the Cherry River-watersheds that are designated occupied critical habitat for the most important remaining metapopulation of candy darters.

In a brazenly corrupt way that harkens back to the darkest King Coal days, this devious company appears to be implicated in a conspiracy along with the West Virginia Department of Environmental Protection (WVDEP), the West Virginia Field Office of the United States Fish and Wildlife Service and the Office of Surface Mining and Reclamation Enforcement (OSMRE), to dishonestly evade regulation under the 2020 Programmatic Biological Opinion (2020 BiOp) by having all parties play ignorant about the presence and potential impacts upon the candy darter and its listed critical habitat, while still claiming “take coverage” benefits under the same 2020 BiOp.

Part two will delve into two of the important laws at play here that exist to protect our region’s treasured biodiversity, the Endangered Species Act and the Surface Mine Control and

Reclamation Act.

Essentially, South Fork Coal Co. and the agencies are trying to get the benefit of the BiOp to protect themselves from liability, while avoiding the required additional species impact analysis and other layers of protection that are required to actually avail themselves to legitimate take coverage under the 2020 BiOp. It is a scheme that completely lacks professionalism and self-respect by those who have participated in it, and we, the Conservancy, and coalition partners, are going to hold each and every single conspirator to account for it. But to delve into the specific violations (in Part III of this series), an overview of the Endangered Species Act and the Surface Mine Control and Reclamation Act provisions is needed.

The Endangered Species Act

The central purpose of the Endangered Species Act is to protect endangered and threatened species and the ecosystems upon which they depend. The Supreme Court has declared that the Endangered Species Act “represent[s] the most comprehensive legislation for the preservation of endangered species ever enacted...” As the Court recognized, “Congress intended endangered species be afforded

the highest of priorities” in order “to halt and reverse the trend toward species extinction, whatever the cost.” To that end, the Endangered Species Act provides a program for conserving endangered and threatened species and the ecosystems upon which they depend.

Section 7 of the Endangered Species Act requires all federal agencies to work to recover listed species, and it contains both a procedural and a substantive requirement toward that purpose. Substantively, it requires federal agencies to ensure that any action authorized, funded, or carried out is not likely to jeopardize the continued existence of any threatened or endangered species or adversely modify the species’ critical habitat. To avoid jeopardy or adverse modification of critical habitat, Section 7(a)(2) sets forth a procedural requirement that directs an agency proposing an action (“action agency,” here the OSMRE granting Surface Mine Control and Reclamation Act permits) to consult with an expert agency (the Fish and Wildlife Service here) in order to evaluate the effects of the proposed action on listed species.

It is illegal to engage in any activity that “takes” an endangered species absent valid take coverage under Endangered Species Act Sections 7 or

10. Persons subject to the take prohibition include individuals and corporations, as well as “any officer, employee, agent, department, or instrumentality of the Federal Government...[or] any State.” Further, “[t]he Endangered Species Act prohibitions apply to actions by state agencies where their regulatory programs approve actions by third parties that contribute to causing take.”

If, during Section 7 consultation, the Fish and Wildlife Service determines that the action is not likely to jeopardize a species, it may issue an incidental take statement. The incidental take statement must specify the impact of such incidental taking on the species, set forth “reasonable and prudent measures” that the Fish and Wildlife Service considers necessary to minimize such impact, and include the “terms and conditions” that the action agency must comply with to implement those measures.

When the terms and conditions of the incidental take statement and the biological opinion are adhered to, the incidental take statement provides “safe harbor” for the action agency, state regulators, and permittees (South Fork Coal Co. here), authorizing limited take of listed species

continued on next page

King Coal: Don't You Lose Any Sleep? *continued from page 10*

By Andrew Young



Map of South Fork Coal Company operations that impact candy darter critical habitat. Impaired streams are shown in red, critical habitat shown in lime green. (Allegheny-Blue Ridge Alliance's Coal Operations in Candy Darter Habitat Conservation Hub Site)

that would otherwise violate Section 9's take prohibition. However, if the terms and conditions of a biological opinion and incidental take statement are violated, agencies and private actors are exposed to take liability.

The Surface Mine Control and Reclamation Act and the Endangered Species Act

The Office of Surface Mining and Reclamation Enforcement (OSMRE) within the Department of the Interior is the primary regulator of coal mining under the Surface Mine Control and Reclamation Act unless and until a state demonstrates that it has developed a regulatory program that meets all of the requirements of the Surface Mine Control and Reclamation Act and the implementing regulations issued by OSMRE.

West Virginia has received the authority from OSMRE to be the primary regulator within the boundaries of the state. However, even after a Surface Mine Control and Reclamation Act program has been delegated to a state, OSMRE retains oversight of that program through supervision of the state's implementation of the regulatory program. OSMRE further maintains federal oversight over state Surface Mine Control and Reclamation Act programs by funding them on an ongoing basis. The Surface Mine Control and Reclamation Act specifically requires that OSMRE evaluate and oversee the administration of approved state programs, and requires that OSMRE enforce the terms of the statute and substitute its enforcement power for that of the state—or take back implementation authority from the state—should it

find that the state has failed to adequately enforce its state-delegated Surface Mine Control and Reclamation Act program.

OSMRE therefore retains discretion and control over the Surface Mine Control and Reclamation Act program, even where the program has been delegated to a state authority, as here. This includes oversight and enforcement of the Surface Mine Control and Reclamation Act provisions regarding protected species.

The 2020 BiOp ostensibly provides Section 7 coverage for all listed species, and

designated or proposed critical habitat, potentially affected by surface coal mining, surface effects of underground coal mining, and coal mine reclamation, nationwide. Specifically, it provides Section 7 coverage for OSMRE's implementation of Title V of Surface Mine Control and Reclamation Act, including where states have primacy under the statute, as in West Virginia. In the 2020 BiOp, the Fish and Wildlife Service concludes that OSMRE's implementation of Title V of Surface Mine Control and Reclamation Act "is not likely to jeopardize the continued existence of proposed or listed species and or destroy or adversely modify designated or proposed critical habitat."

To reach this conclusion, the Fish and Wildlife Service explicitly relied upon: 1) the coordination process between the states and Fish and Wildlife Service that ensures the creation of

adequate protection and enhancement plans and species-specific protective measures and 2) OSMRE's oversight of state programs and enforcement of the Surface Mine Control and Reclamation Act in states with primacy, including the proper implementation of protection and enhancement plans and their species-specific protective measures. It is only through compliance with the terms and conditions of the 2020 BiOp that OSMRE, and through it the states and mine operators, receive coverage via Section 7.

The 2020 BiOp requires that the states initiate "coordination" with the Fish and Wildlife Service to ensure that adequate protection and enhancement plans and species-specific protective measures are in place to avoid harm to listed species and their critical habitat. As early as possible in the Surface Mine Control and Reclamation Act permitting process where the proposed action may affect listed or proposed species or designated or proposed critical habitat, the state must submit a proposed protection and enhancement plan to the Fish and Wildlife Service. The Fish and Wildlife Service then works with the state through a "technical assistance process" whereby the Fish and Wildlife Service ensures that the protection plans, and species-specific protective measures are adequately protective to avoid jeopardy and adverse modification. States must also reinstate coordination with the Fish and Wildlife Service upon the newly proposed or final listing or designation of potentially affected species or critical habitat under the Endangered Species Act.

That's it for part two, the specific Endangered Species Act and Surface Mine Control and Reclamation Act violations will be expanded upon in part three.

Corridor H Eastern End: *Still a Road to Nowhere!*

By Bonni McKeown, Stewards of the Potomac Highlands

Have something to tell the West Virginia Division of Highways (WVDOH) about Corridor H, Wardensville to Virginia Line? As in Tucker County, this eastern section of Corridor H would rip through a national forest (the George Washington National Forest) and cripple a small town—Wardensville. Citizen comments are due Nov. 13.

Things to write (or just pick one!):

1. Why waste \$189 million building 6.8 miles of four-lane ending at the state line? Virginia state and county governments have gone on record against building the Virginia section connecting to I-66/81. WVDOH, in its public statements, bypasses this fact. But it's true; this is a Road to Nowhere. Maybe you know of a road situation that could use state funding instead.
2. Corridor H would cross through Wardensville's Wellhead Protection Area. WVDOH has offered no remedies in the event that construction ruins the town's water supply. East Hardy County is full of karst terrain, where groundwater can easily be polluted by surface disturbance and runoff.
3. Corridor H would worsen local traffic problems. On the western edge of Wardensville, a tight curve on the Trout Run Road exit will not accommodate big trucks and speeding cars coming from Corridor H. And Corridor construction parallel to Route 55 won't decrease the volume of trucks headed to and from Winchester, Virginia, and Wardensville on Route 259.
4. Building a four-lane around a small town tends to divert tourist traffic away from Main Street, hurting the growing small businesses. WVDOH's new design to eliminate a North Mountain interchange will inconvenience locals and divert tourists even further from downtown.
5. Trout Run and Waites Run are some of the most pristine Tier 3 native brook trout streams in the Cacapon watershed and all of West Virginia. Mud and pollution from road construction can severely degrade water quality, choke out fish and other aquatic life, and impair recreation.
6. Corridor H would take people's houses and disrupt Wardensville's historic small-town atmosphere. It will be hard for displaced people to find homes, as area land prices have surged.

WVDOH has extended the Wardensville section comment period from Monday, Oct. 23 until Monday, Nov. 13.

Submit your comments online at: <https://bit.ly/CorHWardensville>

Or you can mail comments to:

Mr. Travis Long, Director, Technical Support, WVDOH, 1334 Smith St., Charleston, WV 25301.

Take a minute and send a copy to your local officials, state legislators and Congress members. Let's put a monkey wrench in the Road to Nowhere!

For more information, visit the Stewards of the Potomac Highlands online at potomachighlandstewards.org

Our Readers Write

My cousin Betty Mullendore passed on recently at age 99. Betty was always an ardent environmentalist in her own quiet way and a lifelong and generous benefactor to the Audubon Society.

I would always send her copies of my letters to the Charleston Gazette and copies of The Highlands Voice. About 20 years ago, she proudly announced to me that she was becoming a member of the West Virginia Highlands Conservancy, even though she lived near Gaithersburg, Maryland.

Betty loved and studied birds and wildflowers. She kept an extensive notebook describing all of the wildflowers she ever encountered.

On the last day of September, most of my extended family gathered at my farm in Gilmer County to celebrate her life and scatter her ashes among the wildflowers she loved.

Bill Dwyer
Gilmer County, WV

Old Growth Forests in West Virginia

By Luanne McGovern

Did you know that there are 15 forest areas in West Virginia that are designated as "old growth?" They range in size from a few acres in North Bend State Park, to 1,350 acres in Kanawha State Forest.

The national Old Growth Network was established in 2011 and is dedicated to ensuring that some of the oldest trees in the country are just left alone. As the climate continues to change, the value of old growth trees cannot be underestimated. These trees sequester more carbon and nitrogen than forests of younger age classes. Besides carbon sequestration, these rare old growth forests inspire awe and wonder with their beauty. They have unique ecological roles to play based on their structure—home to animals, insects, birds and fungi. Old growth forests retain moisture and create soil, improving water and air quality.

Many of West Virginia's old growth forests are located within our state parks. Cathedral State Park is renowned for its virgin hemlocks; Beech Fork has a section of trees believed to date prior to the War of 1812; Holly River has oaks and chestnut oaks that are more than 200 years old; Twin Falls has designed 777 acres as old growth; Watoga has oak trees that may be more than 300 years old; Carnifax Ferry Battlefield has trees that are 240 to 400 years old. Federal lands also support old growth forests such as the Gaudineer Scenic Area in the Monongahela National Forest. Two new areas have been identified by the National Park Service within the New River Gorge National Park. There are two old growth forests on private lands—the Bethany College Parkinson Forest and the Marie Hall Jones Ancient Forest Preserve in Doddridge County, owned by the West Virginia Land Trust.

All of the West Virginia old growth forests are free and open to the public. So, get out there and be inspired!

For locations and information visit oldgrowthforest.net/west-virginia

Forest Carbon Capture: What Is Going On?

By Luanne McGovern

I recently attended the Forest Carbon Management in Central Appalachia Conference at West Virginia University (WVU). It was an eye-opening and thought-provoking two days of presentations, panel discussions and breakout sessions, all centered on better understanding the emerging field of forest carbon sequestration. A broad range of perspectives were presented, including researchers, academics, landowners, forest product professionals, forest carbon companies and environmental justice advocates.

Forest carbon management is surprisingly complicated, bringing together political, economic, ecological and social factors. In the 2023 West Virginia legislature regular session, there was spirited debate and discussion about how the state should regulate these carbon management programs. While no new legislation was passed, this issue will continue to be critical to West Virginia, one of the most heavily forested states in the nation.

What are Forest Carbon Capture Programs?

There is no more efficient method of carbon capture than photosynthesis. Trees take carbon dioxide out of the air and convert it to sugar and oxygen. The carbon in the sugars is then stored in the growing wood. For companies and industries looking to reduce their carbon footprint, investing in forest carbon capture can be one method of carbon offset. Within the US, there are both compliance and voluntary carbon markets, which operate under very different rules. Most forest carbon capture programs are voluntary, so the programs can vary significantly in contract length, requirements and forest owner compensation.

Numerous forest carbon credit (FCC) companies are now in business to be a broker between buyers (companies looking to purchase carbon credits) and sellers (forest owners). These FCC agreements will include:

- Evaluation of the forest size, typically greater than 40 acres

- Evaluation of total carbon capture potential based on the quality of forest timber
- Length of contract, typically 20 to 50 years
- Compensation, typically \$10-15 per acre per year
- Restrictions on timbering and requirements for a forest management plan

After signing the contract, the forest owner will receive regular payments but will be restricted from any commercial or large-scale timbering.

Are Forest Carbon Capture Programs Good for Appalachia?

This is where things get even more complicated, depending on where you stand regarding the forest products industry.

Most small family forest owners could benefit from these programs if they don't intend to timber their land. A forest management plan would be developed, and they could receive a modest payment each year. Unfortunately, if they want to sell their land, pass it on to their children, or need to timber for financial reasons, in most cases, they cannot rescind the contract. Likewise, the forest carbon market could change substantially in the coming years as climate change accelerates. What seemed like a good deal now, may be significantly undervalued in ten to 20 years. Some landowners are already enrolled in the West Virginia Managed Timberland Program, a tax incentive program. Entering into a carbon credit program may violate the requirements of the state-managed timberland program. So, there are many considerations for the landowner before entering into an agreement.

An excellent resource for landowners and others that are interested in forest carbon capture is found on the Forest Owners Carbon and Climate Education's website (psu.edu).

For the forest products industry, FCC programs cause concern about the availability of feedstocks, longer harvest rotations, and loss of jobs and

income. According to the West Virginia Division of Forestry, "The wood industry of West Virginia generates \$3.2 billion annually for the state's economy and provides more than 30,000 jobs. Each of the state's 55 counties has some segment of the wood industry as an employer. The forest products sector is the largest employer in many of these counties."

It is estimated that 79% of West Virginia (12.25 million acres) is covered by forest, and about 40% of that land is considered family forest. That is about five million acres of forest that could potentially be covered by FCC programs. The state also has over 2.5 million acres of corporate-owned forests. Bluesource Sustainable Forests Company has acquired over 700,000 acres of forest land in West Virginia and is now the largest private forest land owner in the state. Their stated goal is to manage their land for "long-term carbon sequestration, climate adaptation, and restoration of biodiversity." (anewclimate.com/bsfc)

For the powers-that-be in Charleston, FCC programs have raised a lot of concern. In the 2023 regular Legislative Session, SB585 and SB739 were introduced and amended in various forms to tax, regulate, stop, and/or delay the ability of landowners to enter into private forest carbon capture contracts. Various arguments were presented throughout the session, for and against these agreements, by multiple stakeholders. Ultimately, the Senate could not concur with the amendments to SB739 passed by the House, and the bill died on the last day. The topic is sure to be resurrected in the 2024 regular session.

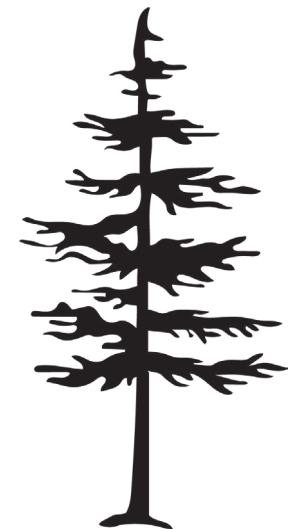
One of the most interesting panel discussions during the WVU conference was related to environmental justice and equity. The panel debated topics such as: Who gets the most benefit from FCC programs – the polluter, the broker, or the landowner? Is the carbon market perpetuating the cycle of exploitative extraction industries in Appalachia? What happens to good paying

jobs in timber communities when land is placed into these programs? Do FCC programs actually make any real difference in the global carbon balance, or is it a "feel good" exercise? What are the social and economic inequalities between where the carbon emissions are being produced and where the credits are being bought? All excellent questions with no clear answers.

In conclusion, I left the conference with much to think about and many unanswered questions. Indeed, our forests play a major role in mitigating climate change, and FCC programs can help. Private landowners should have the option to enter into these agreements without interference from the state government. But the bigger issues around environmental justice and the true impact of the programs on local communities are harder to parse. The long history of exploitation in the Appalachian region should not be repeated.

A few other resources to learn more about forest carbon capture:

- caryinstitute.org/news-insights/feature/rethinking-forest-carbon-offsets
- nature.org/en-us/what-we-do/our-insights/perspectives/carbon-offsets-markets-illustrated/
- forestcarbonworks.org
- appvoices.org/new-economy/carbon-removal-paper/



Dolly Sods Wilderness Stewards Update

By Dave Johnston

Following is an update and review of the success of the Dolly Sods Wilderness Stewards, as well as a look ahead at exciting new projects we are exploring for the future.

Volunteer Hours

As part of our partnership with the Monongahela National Forest, we keep track of and report the volunteer hours contributed by the Stewards in all of our projects during each federal fiscal year, which ends on September 30. For fiscal year 2023, we reported a total of 2,230 hours, an increase of almost 40% from last year. This was driven partly by the addition of Crosscut Sawyer and Trail Maintenance teams and by continuing our popular solitude monitoring projects. But we also saw a considerable increase in Trailhead Stewards hours, nearly doubling to 1,106 hours. The Forest Service was impressed and passed on its thanks to all of the Dolly Sods Wilderness Stewards volunteers.

Trailhead Stewards

The big increase in Trailhead Stewards hours was enabled by a significant increase in active Trailhead Stewards during 2023. We were able to hold two trainings for new Stewards this year, and added 25 to the ranks. The new recruits have been enthusiastic, and several have already become regular hosts of the trailheads, rivaling our veteran Stewards. We currently estimate that we cover about 35% of the potential trailhead slots with at least one Steward during weekends.

Stewards have handed out nearly 800 Dolly Sods trail maps since July. They provide a handy map of the Dolly Sods system trails to supplement any phone map visitors might use, and include Leave No Trace principles geared for the needs of the Sods on the back, as well as links to the Conservancy's website. We often encounter people who have saved the maps and brought them back for their next visit!

During the past several months, we have implemented a new

training opportunity for Trailhead Stewards. Many Stewards appreciate the beauty of Dolly Sods and want to pass on the importance of preserving it to visitors, but aren't as familiar with the trails and features of the interior. We have offered short "guided hikes" to Stewards so they can experience the Wilderness firsthand, learn more about the natural and human history of the Sods and see some of the campsite and trail impacts we are trying to decrease. These hikes have been popular and help the Stewards be more effective advocates for the Wilderness at the trailheads.

Solitude Monitoring

The Stewards have once again taken on an enhanced solitude monitoring project, in which volunteers hike specified trails for four hours on randomly chosen dates and record the number of groups, individuals, and dogs or horses they encounter. This monitoring is a regular part of assessing the availability of an "opportunity for solitude," which is one of the key elements of wilderness character.

The current study runs from mid-September to the end of October and is meant to assess the solitude conditions during the busy fall color season. This follows a study done in the summer of 2022 and precedes one planned for the spring of 2024. The Stewards plan to repeat these, one season per year, on a three-year cycle, to allow changes and trends in visitor impact to be observed. The data is being provided to the Forest Service.



Despite the heavy morning rain, mist, and fog at Dolly Sods, Majorie McDiarmid was at the trailhead, greeting hikers. Way to go Majorie. (Photo from Frank O'Hara)

Crosscut Sawyer Team

The Stewards' Crosscut Sawyer team was formed this past spring to use crosscut saws and other traditional, hand-powered tools to clear trails and provide safe passage in the Wilderness environment. The training for these specialized skills was held in April for about 12 team members. The crew undertook several trail-clearing projects in both Dolly Sods and Otter Creek Wilderness during the spring and summer.

Another training is expected next spring, and the team will no doubt be busy clearing blowdowns from the winter.

Trail Maintenance Team

The Trail Maintenance team was also formed this past spring. Like the Crosscut Sawyers, volunteers will use primitive, non-mechanical tools but address trail conditions affecting the surrounding environment or user safety. This includes providing drainage so that water does not stand on the trail and tempt users to form impact-

ful bypass trails. Trail maintenance in Wilderness is a balancing act of allowing trails to be primitive and not overly developed but still provide user access that has minimal impact on natural conditions.

The team received a two-day training in the spring but has not been able to take on any trail projects this year. The Forest Service determined that a biological assessment and impact analysis was needed to ensure that trail work did not affect the endangered Cheat Mountain Salamander. It is anticipated that another training will be held next spring and that trail work will be undertaken next year.

Future Plans

Even though the busy season at Dolly Sods is winding down for the year, we are busy making plans for the upcoming 2024 season. Here is a sample of some of the new projects we are working on.

continued on next page

Dolly Sods Wilderness Stewards Update *continued from page 14*

By Dave Johnston

WAG Bags

The longstanding recommendation that campers and hikers dispose of their human waste in a 6 to 8-inch deep cathole is being questioned by scientific research and resource managers, as it often isn't implemented correctly and contributes to water contamination. Catholes have always been difficult in Dolly Sods because of the thin, rocky soil. The result has been poorly buried visible human waste on the ground surface, unsightly and unsanitary toilet paper fields around campsites, and potential water contamination.

The long-term trend is toward encouraging the use of "pack it out" methods for handling human waste, which is already required in some sensitive and heavily used natural areas. This is made practical, safe, and sanitary through the use of WAG ("waste alleviating gel") bags. These allow the user to do their business directly into a wide-mouth bag, seal and enclose it in an outer, tough, puncture-resistant bag, and carry it out. The chemical agent in the bag disinfects the waste and neutralizes odors, and the bag can

be disposed of in the trash.

There is an understandable hesitancy among many people toward carrying their poop around in their backpack. To help alleviate that and get people used to this more environmentally friendly way of handling waste, the Wilderness Stewards plans to offer "free samples" of WAG bags at the trailheads during 2024. This will be coupled with a public educational event in the spring with a presentation by a Leave No Trace trainer and a handout for kids and grownups.

The program will be entitled "Leave No Waste: Keep Dolly Sods Clean."

Backcountry Stewards

Given the success of the Trailhead Stewards in educating and guiding visitors about the things they need to know and practice to have a low-impact experience in Dolly Sods, it makes sense for the Stewards to carry the messages into the interior, where the action is.

We are in the process of developing the concepts and operational parameters for a Backcountry Stewards

program. This team of specially selected and highly trained Stewards would interact with visitors at the trailheads but would also use "Authority of the Resource" techniques to model and help hikers apply LNT principles and wilderness best practices in real-time.

Backcountry Stewards will also do small-scale trail maintenance and brush clearing, monitor campsite and trail conditions, and report on backcountry conditions and user issues to the Forest Service. They will be equipped to report on urgent situations and emergencies from the backcountry, allowing official response to be quicker and more accurately located.

We are actively consulting with other wilderness stewardship organizations nationwide that have implemented similar programs. Our goal is to complete the planning for this over the winter, hold trainings in the spring, and be able to implement the Backcountry Stewards on the ground in time for the 2024 Dolly Sods busy season.

Web Pages for Dolly Sods Info

In its report on the 2022 LNT Hot Spot event for Dolly Sods, the LNT

team noted that there is no single complete and comprehensive source of information about Dolly Sods and how to support its wilderness character during a visit. They recommended that a central source of information, consolidating the information spread around other sources and emphasizing Leave No Trace practices, be developed. The Conservancy is planning on developing a set of 10 to 12 new web pages, each addressing specific topics about Dolly Sods, to host on its website. Development is planned over this winter.

JOIN US

Would you like to be part of all the exciting activities of the Dolly Sods Wilderness Stewards? We have lots of opportunities for folks with various levels of experience, time availability, and proximity to Dolly Sods. To learn more, visit wvhighlands.org and follow the links for Dolly Sods Wilderness Stewards to read more about what we do and access the online signup form. Once you sign up, you will receive more information about opportunities to participate.



Become a Dolly Sods Wilderness Steward!

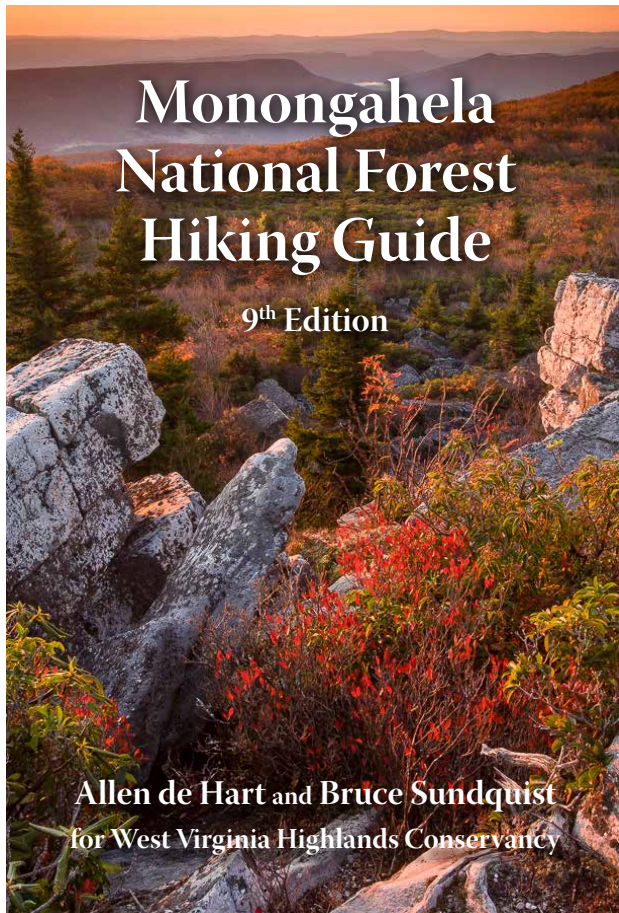
Sign up today at bit.ly/DollySodsWildernessStewards

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Remember the Highlands Conservancy in your will. Plan now to provide a wild and wonderful future for your children and future generations. Bequests keep our organization strong and will allow your voice to continue to be heard.

Your thoughtful planning now will allow us to continue our work to protect wilderness, wildlife, clean air and water and our way of life.

Hit the trails with our 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.

Send \$18.95 plus \$3.00 shipping to: West Virginia Highlands Conservancy, P.O. Box 306, Charleston, WV 25321 OR order from our website at www.wvhighlands.org

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