Hydrogen Hub in WV
Clean Energy or More of the Same Old Drill?

With the 2021 passage of the Infrastructure Investment & Jobs Act, better known as the Bipartisan Infrastructure Law, the U.S. Department of Energy Office of Clean Energy Demonstrations (OCED) received up to $7 billion to establish six to ten regional hydrogen hubs across the country under what is known as the Regional Clean Hydrogen Hubs program.

The rules for the program mandate that at least one of the hubs must produce hydrogen from fossil fuels. The Ohio River Valley region (including West Virginia, Ohio, and Pennsylvania) is under consideration for this fossil fuels-based hub.

According to the National Renewable Energy Laboratory, “Because hydrogen does not exist freely in nature and is only produced from other sources of energy, it is known as an energy carrier. It is a clean-burning fuel, and when combined with oxygen in a fuel cell, hydrogen produces heat and electricity with only water vapor as a by-product.” Hydrogen shows promise in decarbonizing hard-to-decarbonize sectors of the economy like steel or cement production, aviation, and international shipping.

This fossil fuels-based hub would generate hydrogen from methane (or “natural”) gas coupled with carbon capture and sequestration technology. This type of hydrogen is more casually known as blue hydrogen. The Ohio Valley region is being looked upon favorably for a blue hydrogen hub because of its existing infrastructure, a large number of potential industrial end users, a favorable regulatory and political environment, and favorable geologic formations (both natural and man-made) for carbon sequestration. This hub would

CONTINUED ON PAGE 7
I became WV chapter chair in 2021, a year of pandemic and political turmoil. Added to these societal challenges, our chapter has had too much to do and not enough people to do it. Since becoming chair, I have spent countless hours studying issues and taking care of administrative tasks, but when I chaired my first West Virginia Sierra Club meeting, I felt like the hero of the TV series Designated Survivor—the Secretary of HUD who unexpectedly becomes President of the United States. It’s been an amazing year, one of immense personal growth. I’ve led meetings, spoken with reporters, and approved legal documents.

In 2022 the WV Chapter strengthened its allegiances with other environmental groups, particularly the West Virginia Environmental Council. We welcomed Alex Cole, the first professional organizer dedicated solely to Sierra Club’s work in West Virginia. We continue to fight to clean up our minelands, our gas fields, our wildlands, and our streams, in spite of an increasingly hostile state political environment. I’m thankful for the tenacity, passion, and creativity of our ExCom and other volunteers in undertaking this important work.

In 2023 our leadership needs will be a little different. We’re moving beyond overcoming obstacles. We’ll be setting proactive goals and developing a strategy for attaining them.

After reviewing our interests, talents, and ability to serve, the 2023 ExCom recognizes that we have an experienced leader among us. We extend a warm welcome to Jim Kotcon as our chair. No one else in West Virginia knows our environmental challenges better, and his years at the front of a classroom have honed his leadership talents. I offer him my hearty congratulations and look forward to continuing to work with him.

Jim leaves behind a chapter position that I’ve agreed to fill: the chapter’s conservation chair. This person sits in on policy meetings, connects with legislators, and organizes the occasional rally. I’m excited about my new role, and I’m grateful to all the West Virginia Sierrans who make our chapter’s work possible. We hope you’ll join us in that work.
Iron-Air Batteries: Good News for the Environment and for WV

Freeing ourselves completely from fossil fuels requires a battery that can reliably supply energy for at least several days. At grid scale, lithium-ion batteries can only supply about four hours of energy at a time. But in the event of days-long cloudy skies or no wind, they need fossil fuel back-up. A Boston-based startup called Form Energy has developed a battery using the process of oxidation, i.e. rusting, to generate and store energy efficiently and cheaply over long periods. And where better to build such a facility than in a rust-belt city like Weirton, WV, the site selected to produce grid-scale iron-air batteries.

Similar to AA batteries, the iron-air battery has an anode consisting of pellets of metallic iron on one side and an air-breathing cathode on the other, all immersed in a non-flammable, water-based electrolyte liquid. When oxygen from the air passes through the liquid to react with the iron, rust is produced, a process that frees the oxygen from the rust, turning it back into iron—a cycle that can be repeated over 10,000 times with a life span of around 30 years! For batteries to attract investors and save the planet they need to be affordable, reliable, and greenhouse-gas-free. Because the iron-air battery uses ambient air (which doesn’t need storage space within the battery) and requires the abundant availability of iron and water, these batteries can store energy at about a tenth of the cost of lithium-ion batteries. Iron is the fourth-most-common element on earth, while lithium is 2,000 times less plentiful. Furthermore, lithium-ion batteries have a tendency to overcharge and combust.

Iron-air batteries won’t replace lithium-ion batteries for smartphones or EVs because they are the size of washing machines. But at grid scale they offer flexibility. Based on energy demand, tens of thousands or hundreds of thousands of the modules can be grouped into megawatt-scale power blocks, which can be built anywhere to meet local demand and fully replace fossil fuel power plants—affordably, reliably, and with no greenhouse-gas emissions. This is a real inflection point for renewable energy.

Form Energy, an off-shoot of MIT, was founded by Mateo Jaramillo, former head of battery development for Tesla, and MIT professor Yet-Ming Chiang, one of the world’s foremost battery scientists. Investors include Bill Gates, Jeff Bezos, and MIT’s investment fund The Engine, among others. Form Energy president and COO Ted Wiley said, “We’ve completed the science; what’s left to do is scale up from lab-scale prototypes to grid-scale power plants.”

The good news for West Virginia is that Form Energy chose to build this cutting-edge battery factory at the site of the old Weirton Steel mill and will call it Form Factory One. That project is among the first industrial proposals to be directly related to the Inflation Reduction Act, which makes standalone energy-storage installations eligible for federal tax credits. Prior to the passage of that law, they had to be part of a wind or solar farm in order to qualify.

Construction is expected to start later this year, with production slated to begin in 2024, creating at least 750 full-time factory jobs. The WV Economic Development Authority allocated $75 million toward purchasing 55 acres of property and undertaking construction for the site, along with a financial incentive package of up to $290 million in assets and performance to support Form Energy’s decision to choose Weirton. The total cost of the facility will run about $760 million.

In last summer’s Mountain State Sierran, I reported on another new battery technology startup called Sparkz, which is eliminating cobalt from lithium-ion batteries and using a combination of lithium and iron instead. According to a Bloomberg article from December 8, 2022, they are still planning to build a facility in West Virginia but are more focused on plants in California. Sparkz initially plans to make batteries that will power buildings and the grid, rather than EVs.

While Sparkz will be a welcome addition to battery technology and to the Mountain State, the sheer simplicity of Form Energy’s iron-air battery is breathtaking. There is a lot more hope and sustainability in simplicity.

An update at the time of publication: Appropriation of state funding for this project came up before the WV House this session - House Bill 2882 - and met with opposition from Delegates Marty Gearheart, R-Mercer and Bill Ridenour, R-Jefferson, who see the Form Energy project as an attempt by the green energy industry to eliminate coal-fired and natural gas-fired power generation. Thankfully, voices of reason did prevail and the House passed the bill on February 10 by a 69-25 vote after more than two hours of debate. It now goes to the Senate.
It’s BAAAACK!
Pleasants Power Plant Debate Reemerges

Just like the evil spirits from the old Poltergeist movies, some bad ideas keep coming back!

In 2017 FirstEnergy requested approval from the WV Public Service Commission (PSC) to transfer ownership of the Pleasants Power Station from their Ohio affiliate to their WV company, MonPower. Although they claimed that this would be a money-maker, under the transfer MonPower and Potomac Edison’s customers would be required to pay costs for the dirty, outdated power plant. And those costs do not account for the damage to the climate inflicted by the fossil fuel emissions.

In West Virginia, ratepayers are required to cover any utility costs that the PSC deems “prudent.” Opposing this transfer became a major campaign in 2017 for the Sierra Club’s WV Chapter. Members attended public hearings, wrote letters, and developed a range of actions to defeat the transfer.

In the end, the PSC approved the transfer in 2018 but required MonPower to, essentially, assure that costs would not be borne by ratepayers. With those conditions, First Energy said, “No, thank you!” and instead transferred the Pleasants plant to a private company. That company has been losing money and plans to close the plant by June 2023, unless another buyer can be found.

But in December, the PSC ordered MonPower to evaluate whether to acquire the Pleasants plant. New commissioners have become adamantly pro-coal, in spite of the poor economics. A recent study found that building new renewables would generate electricity more cheaply than operating any existing power plant in West Virginia. (See the study at: https://tinyurl.com/mss-energy-innovation.)

MonPower is required to report to the PSC by the end of March on the feasibility of purchasing Pleasants. The WV Legislature and Governor Justice have gone out of their way to keep Pleasants open, and the PSC seems willing to enforce that effort. We expect a major effort this spring to convince the PSC that rate-payers should not be stuck paying the bill for a 50-year-old coal-fired plant, especially if renewables are cheaper.

Instead of asking ratepayers to keep throwing good money after bad by trying to keep coal plants open, the PSC should require utilities to invest in a Just Transition for coal communities.

For more information, contact Jim Kotcon at jkotcon@gmail.com.

New Trails!

Trail and Town Alliance volunteers have developed new trails on DNR land in and around Harpers Ferry. PHOTO BY ALEXIS GRANT.

(Find out more about what these volunteers have been up to in the Harpers Ferry story, p. 12.)
WEST VIRGINIA, Where Nuclear Is King?

By Aileen Curfman

If you watched the news on January 9, you may have seen images of Joe Manchin and Bill Gates touring an old coal-fired power plant in Kanawha County. They were discussing plans to build a nuclear reactor in West Virginia. West Virginia leaders seem ready to introduce a new energy era. Nuclear power produces almost no greenhouse gases. Will the Mountain State lead the way to Net Zero?

In 2022 the WV Legislature repealed a law that had prevented the development of nuclear facilities in the state. The repealed law didn’t ban all nuclear power plants; rather, it only banned ones that could not be shown to be affordable, functional, and safe. Those requirements are no longer in place.

Only 38% of West Virginians support construction of new nuclear reactors. Proponents of nuclear power are seeking ways of overcoming this resistance, even hiring anthropologists to join research teams. Companies hope to gain acceptance by offering benefits to the chosen community and by getting input from the community in planning the facility.

Developers emphasize the differences between modern and traditional reactors. Most traditional reactors use water as a “moderator” in the reaction, while modern “advanced” reactors may use other technologies that were invented in the 1960s but weren’t developed until now.

A traditional reactor produces about 1000 megawatts of electricity. The new reactors will be smaller, producing about 300 megawatts. In the future, however, some of these designs may be used for large reactors.

Different power-generating technologies have differing amounts of inefficiency. That makes it difficult to compare a 300-megawatt nuclear plant to a 300-megawatt coal-fired power plant, hydroelectric plant, solar farm, or wind farm. Estimates of energy efficiency and cost vary wildly from one report to another.

Bill Gates has already invested in another “advanced” reactor to be built in Wyoming. That reactor will use molten salt as a moderator. The WV reactor would be like the Wyoming reactor and would be built after that reactor is in operation. A 2028 startup date for the Wyoming reactor has been delayed, because the uranium fuel will come from Russia. Russia’s invasion of Ukraine has severed the supply chain, resulting in a delayed startup date.

Many questions remain. Will the uranium supply be reliable? What measures will ensure that the facility is safe for workers and the community? How and where will waste be stored? How will waste be transported to the storage facility? If a technology is implemented to reduce the volume of waste, how will the safety of that technology be ensured? Companies investing in new nuclear technology provide answers based on their modeling, because the reactors haven’t been built yet. In the scientific community there is plenty of skepticism that the new technology will meet all these challenges.

The Sierra Club “remains unequivocally opposed to nuclear energy.” The West Virginia Chapter’s Jim Kotkon sums it up, “We should adopt the fastest, cheapest, safest, and cleanest sources first. Nuclear is none of those.”

 Interested? Read more here:
• Nuclear energy generation holds potential for West Virginia, former coal plant sites [https://tinyurl.com/mss-wvnews](https://tinyurl.com/mss-wvnews)
• So-Called Next-Generation Nuclear Power Plants Are Being Oversold [https://tinyurl.com/mss-scientificamerican](https://tinyurl.com/mss-scientificamerican)
• Bill Gates eyes West Virginia for potential nuclear expansion [https://tinyurl.com/mss-power-eng](https://tinyurl.com/mss-power-eng)
• Environmental justice concerns persist as WV eyes nuclear expansion following Gates visit [https://tinyurl.com/mss-coalvalleynews](https://tinyurl.com/mss-coalvalleynews)
Medical Waste Pyrolysis Facility Planned for Follansbee, WV

By Natalie Rocchio

The president of Empire Green Generations LLC attended a Follansbee City Council meeting on March 7, 2022 to submit a building permit for a structure to house equipment that would recycle medical waste received from “all over the Ohio Valley.” The process was explained by the president as being “no emissions, it is all self-contained.” At the following meeting on March 14, the City Council unanimously voted to grant the building permit to Empire Green Generations. In their presentation to the Council, the company did not mention the word pyrolysis or explain in detail how the facility would operate, outside of it being a “green” technology to keep medical waste out of the landfill.

No Emissions?

Members of the City Council indicated they were surprised to learn in November that the WV Department of Environmental Protection (DEP) would be hosting a public meeting for an Air Quality permit for Empire’s facility. At the Council Meeting where that public meeting was announced, Councilwoman Wendy DeAnglis said, “I think everybody was told before that there wasn’t going to be any kind of output.” In the DEP notice, potential emissions authorized by the proposed permit would be as follows: Particulate Matter less than 2.5 microns (PM2.5), 9.5 tons per year (TPY); Particulate Matter less than 10 microns (PM10), 18.5 TPY; Particulate Matter, 31.6 TPY; Sulfur Dioxide, 39.0 TPY; Oxides of Nitrogen (NO2), 24.0 TPY; Carbon Monoxide, 99.0 TPY; Volatile Organic Compounds, 24.0 TPY; and Total Hazardous Air Pollutants, 2.0 TPY. Does this sound like a “no emissions” and “self-contained” process?

Additionally, this facility should not be able to receive any permits for operation without meeting the requirements set forth in 20-5K-3. This code states, “A commercial infectious medical waste management facility may not utilize incineration technology in any form, including the manufacture or burning of refuse-derived fuel in any form.”

What’s Next

While we await DEP’s final draft and approval of the air permit, and any information from DHHR, residents should contact both agencies with questions and concerns about the operation of this facility. We are also recommending that you contact your local WV representatives to voice opposition to the recently amended definition of advanced recycling facilities within the state.
HYDROGEN | CONTINUED FROM PAGE 1

be yet another fossil fuels-driven quagmire and is the last thing this region needs.

As pointed out by the Ohio River Valley Institute (ORVI), an independent, nonprofit research and communications center founded in 2020, a blue hydrogen hub would mean more fracking (and all the pollution that comes with it), increased costs to ratepayers, more pipelines, and few new jobs, all while failing to address the climate crisis and pulling resources away from real climate solutions, such as investing in clean, renewable energy.

Let’s start with the most obvious problem—more fracking. Hydraulic fracturing, or fracking, for oil and gas recovery is an extraordinarily harmful practice in numerous ways. A great summation of the harms can be found by referencing the Compendium of Scientific, Medical, and Media Findings Demonstrating the Risks and Harms of Fracking and Associated Gas and Oil Infrastructure, Eighth Edition, April 28, 2022. This can be found at https://concernedhealthy.org/compendium/ and is provided by Physicians for Social Responsibility, Concerned Health Professionals of New York, and the Science and Environmental Health Network (SEHN).

The Science and Environmental Health Network (SEHN), a consortium of North American environmental organizations, administers a website called carboncapturefacts.org, an indispensable site for understanding the plethora of safety and health threats, immense costs, and lack of viability of carbon capture and sequestration technologies and methodologies. At the time of this writing, the West Virginia Legislature has already passed legislation, Senate Bills 161 and 162, that would allow the Department of Natural Resources (DNR) to sell, lease, or dispose of property under its control under certain circumstances (SB 161) and to lease state-owned pore spaces beneath state forests, wildlife management areas, and other lands under DNR’s jurisdiction for use in carbon sequestration projects (SB 162). These bills were written with the blue hydrogen hub in mind and passed after the Senate suspended state constitutional rules requiring bills be read on three separate days in order to pass both bills on just one day, the second day of the 2023 legislative session.

To quote from the SEHN site, “For a CO2 storage site to be considered suitable, it must have (a) adequate total capacity for the intended load of CO2; (b) must allow the injection of CO2 at the desired pressure and rate without breaking the underground geology; (c) must provide evidence that it will not leak CO2 in the future—the existence of fissures, cracks, fractures, faults must be completely ruled out, and ideally the site would have two layers of impermeable ‘cap rock’ above the pressurized CO2 to stop the upward flow of dangerous hazardous-waste CO2. All this investigation of the geology must take place a mile below ground without compromising the geologic integrity of the storage site. In addition, any old exploratory boreholes and abandoned oil or gas wells must be located and permanently sealed.”

West Virginia has more than 4,000 abandoned oil and gas wells that have been documented, but there are likely more. Will all the wells be located and permanently capped before CO2 is injected? How long will that take? Mid-Ohio Valley Climate Action, a 501(c) (3) nonprofit climate and environmental education and advocacy organization for which I am board president, is partnering with numerous other organizations and groups to oppose the development of a blue hydrogen hub in the Ohio River Valley region. We strongly oppose a blue hydrogen hub in the region for the reasons outlined above but know that numerous powerful and wealthy interests are already committed to seeing the hub to fruition.

If West Virginia continues to pursue a fossil fuel-based hub we must ensure that the project ensures strong safeguards and the maximum benefits possible for our communities, workers, and environment. This includes:

- limiting end uses to hard-to-electrify needs that don’t already have better alternatives;
- ensuring users are close to the site of hydrogen production to minimize infrastructure and the associated risk of leaks and accidents;
- requiring robust monitoring, reporting, and mitigation of pollutants, including hydrogen, methane, and carbon dioxide leaks;
- a safety assessment of any transportation infrastructure;
- meaningfully engaging workers and residents, especially those in environmental justice communities.

Hydrogen produced by separating water molecules via electrolysis powered by renewable energies like solar and wind, also known as “green hydrogen,” is the only sensible means of obtaining hydrogen. After decades of fossil fuels and chemical industry exploitation, the Ohio River Valley deserves better than this proposed blue hydrogen hub.
The Sierra Club is dedicated to protecting marginalized communities from environmental sacrifice zones. Sierra Club’s 2030 goals include increasing diversity among members, expanding outdoor access to all people, and addressing inequities in government responses to climate disruptions. People of color, in addition to other marginalized populations, frequently experience challenges to healthy environments and access to nature. Sierra Club is dedicated to ending environmental racism and supporting the social justice movement.

Another impetus for considering these topics is the recent naming of the first person of color to lead the Sierra Club. Our new executive director, Ben Jealous, previously served as the NAACP’s youngest CEO and president and began that organization’s Climate Justice Program. Ben has also led People for the American Way, an organization that promotes civic engagement and civil liberties.

Environmental justice and social justice are intertwined. Both topics are explored in Leah Thomas’s book *The Intersectional Environmentalist*. Thomas reports that the Black American population of the U.S. emits nearly 20 percent fewer emissions than non-Hispanic white Americans but at the same time are more vulnerable to the impacts of climate change. These vulnerabilities were created by historical practices of slavery, Jim Crow-era laws, and redlining in mortgage lending, since these practices segregated the Black population into less desirable housing areas. Thomas lists coinciding vulnerabilities like exposure to poor air quality and extreme heat due to proximity to environmental hazards.

On the global scene, the world witnessed extreme flooding in Pakistan in 2022. This climate change-induced event left 1,739 people dead and caused 3.2 trillion dollars in damage to the country. Pakistan is one of the top ten most climate-stressed countries yet contributes only 0.8 percent of the global climate footprint.

Nature teaches us the wisdom of diversity and connection. Ecosystems are systemic, as are human communities. Every being in an ecosystem has a role in supporting the health of the system in its entirety. Everything is connected. Ecosystems thrive when they are balanced, and the entire system weakens when part of the web is compromised. Similarly, intersectionality theory views humans as interconnected. When privileged populations have an advantage, the result is that others are at a disadvantage.

A forest would not survive with one type of tree. Forests with genetic diversity among tree species are more productive. In addition, the trees in forests are connected by mycelium, underground fungal networks. Through these networks, trees share information and nutrients, allowing the forest to thrive as a community. City trees, in contrast, are disconnected from other trees. While urban trees provide benefits to humans, they exist without connective support, leaving them susceptible to disease, pollution, and limited nutrients. Like the forest, people are strengthened through diversity and equal access to resources.

Social justice-oriented approaches such as intersectional environmentalism are crucial to the future of contemporary environmental movements, and I hope in future articles to link the connection with other marginalized populations, including women, people from the LBGTQIA+ community, persons living in poverty, people with health conditions or impairments, and those experiencing homelessness. Environmental disasters are increasing in West Virginia at the same time that our legislature is attempting to infringe on the rights of marginalized people in our state. The connection between social and environmental justice should increasingly drive our work.
E-bike Use on Trails?
Sierra Club Establishes a New Policy

E-bikes—bicycles powered by electric motors—are rapidly gaining popularity as a mode of transport and recreation. While they are great for urban transportation, their use in wild backcountry places can lead to serious conflicts and impacts.

The rise of e-bikes challenged the Sierra Club to see how to accommodate this new form of travel and still meet our mission to protect the environment while helping people get out into nature. In the past year, Club volunteers and leaders have discussed how to address this new challenge. The Recreation Issues Sub-Team of the national Wildlands Team led the revision process for our Off-Road Use of Bicycles and our Off-Road Use of Motorized Vehicles policies. In May 2022, the Sierra Club’s Board of Directors adopted the new policies recommended by the recreation team.

The new policy recognizes the benefits of electric motorized bicycles and promotes their responsible use in urban and developed areas. This policy makes clear that for use on trails in public lands, all e-bikes must be considered and managed as motorized vehicles. In wildlands where motorized vehicles are prohibited, e-bike use should also be prohibited.

INDUSTRY ADVOCACY

When e-bikes first appeared, they had to meet the requirements for motorcycles and mopeds. Because these limitations were forecast to hurt sales, e-bike distributors and manufacturers formed an organization to change federal and state laws and policies to favor e-bikes. The PeopleForBikes Coalition began campaigning to convince the public that electric motorized bikes should be allowed everywhere conventional bicycles go. Today PeopleForBikes Coalition has 27 full-time employees and an annual budget of $3.7 million.

To increase e-bike access, the industry invented a three-tier class system that ranks e-bikes as Class 1, 2, or 3. Class 1 e-bikes were claimed to be similar to traditional bicycles, operated when pedaled, and could go no faster than 20 miles per hour. (A conventional bicyclist typically goes just over 10 miles per hour.) Class 2 and 3 e-bikes are faster, heavier, and more powerful.

There is a practical problem with the claim that Class 1 e-bikes should be allowed wherever bicycles are allowed. It is not physically possible for a bicyclist or an enforcement officer to look at an e-bike and determine its “class.” There is no distinctive marking. Many e-bike models can be configured to be either Class 1, 2, or 3 and look identical.

The artificial e-bike classification system is an e-bike industry legislative lobbying ploy to expand use of electric motorized bikes. The distinction is unenforceable by a land manager, and thus, if allowed, would open any non-motorized trail to any motorized bike.

PeopleForBikes Coalition has been very successful. Forty-three states have passed e-bike legislation that adopts their recommendations.

30X30, WILDLIFE, HIKERS, AND EQUESTRIANS

Many outdoor activities associated with human recreation disturb wildlife, resulting in harm to animals’ health and causing wildlife to avoid otherwise suitable habitats. Studies have shown that because e-bikes go faster and further, they impact some wildlife more than hikers, cyclists, and horseback riders.

As part of the Club’s mission to protect wild places, we need to protect some quiet hiking and horseback trails from vehicles.

There is growing pressure to use more vehicles for recreation, which conflicts with a critical need to protect biodiversity and preserve wildlands values. In response to climate change and the rapid loss of biodiversity, the Sierra Club champions the 30x30 campaign to protect 30% of natural habitat by 2030. Allowing e-bikes in candidate wilderness areas may prevent us from achieving these 30x30 goals. Motorized use may disqualify candidate natural areas for federal wilderness designation.

E-bikes are here to stay, and they may benefit many. It will be our challenge to promote these vehicles and still respect others on trails and, of course, protect wild lands.

For more information, request a copy of the Sierra Club’s Recreation Issues Team’s E-bike Report. This paper explains in detail concerns relating to e-bike use on public lands and can serve as a resource for chapters in responding to e-bike involvement by their state legislature.
For the first time since the COVID-19 pandemic, the Eastern Panhandle Sierra Club (EPSC) held a program open to the public. Twenty-seven people attended the meeting, in which presenters from Save Our Soil WV (https://www.saveoursoilwv.com) shared how folks can work with and protect soil. Shepherdstown residents Kay Schultz and Leah Rampey presented on how “changing our thinking and use of our yards can help bring about a healthier environment, restore pollinator populations, and even be one link in the solution to climate change.”

The program “Lawns to Life” encourages and helps residents of the Eastern Panhandle of West Virginia create eco-friendly yards. Our presenters shared data on the negative ecological impact of Americans’ reliance on monoculture lawns and other environmentally unfriendly practices:

- Since 1970, half the population of U.S. songbirds have disappeared.
- More than 40% of U.S. insect populations are predicted to disappear in the next 20 years. This loss is projected to take place after the past loss of one-third of the nation’s honeybee colonies in 2017 alone. The number of monarch butterflies has been reduced by 90% since 1992 because their primary food, milkweed, has been reduced by the same amount. Without pollinators like bees and butterflies, 87% of all the world’s plants would disappear.

We are experiencing a topsoil crisis. Four tons per acre per year are lost by erosion. At this rate we have less than 60 years of topsoil left. This loss is due to agricultural and landscaping practices such as tilling, leaving resting soil bare, and planting the same crops in fields year after year. Grass, the most common monocultural crop in the nation, provides virtually no habitat for pollinators or other animals and plants that make up the healthy and diverse ecosystems the planet needs.

Schultz and Rampey followed up with how to reverse the loss of topsoil by adopting regenerative practices:

- Minimize tilling your soil.
- Keep soil covered.
- Don’t use chemical herbicides or pesticides. Instead, use biological control.
- Diversify plants in your yard.
- Incorporate grazing animals on large plots of land.
- Sequester carbon dioxide in your yard. The greater the biomass and the larger the roots, the more carbon is captured, held, and passed to the soil by plants.
- Capture water in rain barrels or rain gardens.

In the final segment of their program, Schultz and Rampey shared practices that will slow the loss of soil and lead to a healthier Earth:

- Practice good stewardship of water.
- Save and plant trees, especially native oaks and maples.
- Transform your lawn from the monoculture plant grass to a diversified space filled with native plants.
- Build up soil for plants.
- Save our Soil WV’s website (https://www.saveoursoilwv.com) has great suggestions and resources to help you get started. They also have a newsletter, a Facebook page, and other resources.

Eastern Panhandle Sierra Club’s programs will continue on a bimonthly basis—always at 6:30 p.m. on the fourth Tuesday. Unless announced as elsewhere, all programs will take place at St. John’s Lutheran Church Annex building, 101 Martin Street, Martinsburg.

On March 28, Mike Christensen of MTV Solar will present the benefits of residential and small-scale solar installations and some of the incentives available through the 2022 Inflation Reduction Act. He will also touch on recent West Virginia’s legislative action involving solar power.

On May 23, David Billmyer of the Berkeley County Public Service District will speak on stormwater, covering what communities are doing to slow runoff and keep our soil and our streams healthy, as well as what residents can do to help the cause.

For more information on EPSC’s programs, contact Maggie Louden at maglouden@gmail.com.
Eastern Panhandle Sierra Club Elections

Thanks to all who voted in the 2023 EPSC election. Pam McLellan, previously a Sierra Club leader and volunteer in Oregon who moved to Bolivar in 2022, was elected to the executive committee, along with all incumbents on the ballot. At the January ExCom meeting, Aileen Curfman and Chris Craig were elected co-chairs of the group. The complete lineup can be found in the directory, p. 2.

The EPSC Group sends out a special “thank you” to former chair Gail Kohlhorst, who stepped down last year due to family health issues. Gail’s leadership and organizing were immensely valuable in the formation of our group and throughout the disruption that the pandemic brought.

West Virginia Sierra Club Elects New ExCom

A big thank you to all who voted in the recent election for members of our chapter’s governing board. Election results are in. Kevin Campbell, David Sturm, Chrissy Sandy, and Aileen Curfman were elected to fill two-year terms. They join Maura Ross and Bob Griffith. Jim Kotcon stepped up to fill a vacant seat. Those three seats will be up for election in 2024.

Officers for 2023 will be: Jim Kotcon, chair; Bob Griffith, vice chair; Maggie Louden, secretary; and Candice Elliott, treasurer. In addition, several committees will change leadership. For the full lineup of committee chairs, see the Chapter Directory, p. 2.

Many thanks to all of our dedicated volunteers who offer their time and talents to the West Virginia Sierra Club.

A special shoutout goes to Mel Waggy, who served as secretary for seven years. She has faithfully attended meetings of a board where she wasn’t a voting member. She has unfailingly provided the chapter with accurate minutes of the proceedings. When the discussion strays, it’s always been Mel who has kept us on topic. She has spurred a lot of creative thinking about how to make the chapter more effective and has inspired plans for a board retreat. Thank you so much, Mel, for your dedication to the chapter!

A chilly day and busy time of year kept the group small, but those who showed enjoyed a fun and vigorous December hike on the Appalachian Trail in Loudoun County, Virginia. Here at Bears Den Overlook.

PHOTO BY CHRIS CRAIG.

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If you have named Sierra Club or your Chapter as a beneficiary or would like to discuss doing so, please contact us today.

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2011 Webster St, Suite 1300, Oakland, CA 94612

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myplan.sierraclub.org

SIERRA CLUB GIFT PLANNING
Outings

Saturday, March 18, 2023
DAY HIKE: Appalachian Trail. Snickers Gap to Morgans Mill Road, VA

This is a rugged hike along the AT Roller Coaster in Northern Virginia. We will cover the same ground as our winter hike from Snickers Gap, but quite a bit more as well. Old trail closings forced the AT off the main ridge years ago, resulting in a section of climbs and descents. Our efforts will be rewarded, however, with some good views, walks in mature forests, and some historic cabin sites. This hike is suitable for individuals in good shape. Well-behaved dogs on leashes are welcome. There is no charge for this hike, but contributions are welcome.

**Distance/Difficulty:** 13.6 miles, DIFFICULT

**Duration:** 7.5 hours

**Bring:** Water, lunch, and a snack or two. Wear layered clothes suitable for a range of temperatures. Poles or a walking stick may be helpful.

**Meet:** 8:30 am. VDOT Commuter parking lot at southwest corner of the intersection of VA Routes 7 and 601. (Access from Eastbound 7 or from 601 south of 7.)

**Leader:** Chris Craig
ccraig@laurellodge.com
304-433-1260

**Nearest towns:** Bluemont and Round Hill, VA

**Cancellation policy:** We will cancel or postpone in case of ice, snow, or heavy rain.

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Harpers Ferry Group Cares for DNR Lands

Woodpecker Woods is a large plot of land along the Potomac River, straddling the towns of Harpers Ferry and Bolivar as well as adjacent Jefferson County land. Most of the land was donated to WV Department of Natural Resources (DNR) years ago by Bradley Nash, a mayor of Harpers Ferry in the 1960s. It is the only Wildlife Preserve in West Virginia—as opposed to the many Wildlife Management areas that DNR owns and operates. It provides peaceful habitat for birds, deer, turtles, and other wildlife, and it is a popular spot for birdwatchers.

Over the past year, a small community group in the area has worked with DNR to establish hiking trails and otherwise care for Woodpecker Woods. The Trail and Town Alliance of Harpers Ferry and Bolivar, a working committee of the Harpers Ferry-Bolivar Historic Town Foundation, was formed in 2009 as the steering committee for the two towns' involvement in the [C&O] Canal Town Partnership and (later) the Appalachian Trail Community program. It works for sustainable, outdoor-oriented economic development as well as better facilities and

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Sierrans enjoyed a Mon Group outing on the Hemlock Trail in November.

PHOTO BY ADRIENNE EPLEY BROWN.
services for users of the area’s outdoors. Trail and Town’s recent partnership with DNR might serve as a model for other community organizations working in West Virginia public lands.

Acting on a Memorandum of Understanding (MOU) between the Harpers Ferry-Bolivar Historic Town Foundation and DNR, Trail and Town has utilized financial support from private donors and the Town of Harpers Ferry and benefited from the work of over 30 volunteers from around the region. Though much remains, they have hauled away loads of trash that remained from years of dumping and former homeless encampments. They have worked with DNR and NPS law enforcement to eliminate illegal use of the woods by off-road vehicle users. They have cleared invasive weeds and sought to educate the public about the encroachment of wavyleaf basketgrass, which has made its way down from Bolivar Heights into town lands and neighborhoods. Trail and Town also cleaned up DNR’s small parking lot on Old Furnace Road and spread fresh gravel purchased with funding from the town of Harpers Ferry.

Trail and Town’s volunteers continue to establish and blaze hiking trails throughout the woods that are already adding to the outdoor and natural experiences of local residents and others. Most of these trails align with deer and social paths used through many years. The work crews are making these trails safer for use by hikers and helping to reduce erosion and other damaging impact that might result from increased usage. A system of blaze markings will eventually enable trail users to traverse the area without getting lost. (Unfortunately, the initial blazes were removed with great effort by vandals late in 2022.) Trail and Town will be adding signage at trailheads as they find funding for that use and as they receive approval from DNR.

Trail and Town looks forward to continued progress on its trail work and other efforts in the woods. A recently signed MOU between the Town of Harpers Ferry and the Historic Town Foundation will enable the group to provide seamless access to the trails from Harpers Ferry streets and to enable them to expand trails onto other Harpers Ferry town lands approved for such development by the town. For more information and to get involved, go to Trail & Town Alliance of Harpers Ferry & Bolivar | Facebook.

**Sunday, March 18, 2023**

**DAY HIKE: Snake Hill Trail, Snake Hill WMA, Preston County**

Snake Hill Wildlife Management area covers 2,000 acres of public land near Morgantown. Managed by the Coopers Rock Foundation for the purpose of trail work, habitat restoration, and educational workshops, the terrain is a mix of rolling table land and rocky cliffs near the Cheat River Gorge. There are no restroom facilities.

Snake Hill Trail is a 3.5-mile, lightly trafficked loop trail that features seasonal wildflowers and outlooks. The hike can be muddy and has uneven terrain. This hike is suitable for adults and teens accompanied by an adult. Dogs are not allowed in the area.

**Distance:** 3.5 miles  
**Difficulty:** EASY  
**Duration:** 3 hours  
**Bring:** Bring: Water, some food, footwear suitable for the rugged terrain.  
**Meet:** 12 pm. Snake Hill WMA parking lot, Snake Hill Rd. From Cheat Lake, WV, follow Cheat Road (CR-857) south two miles. Turn left on Tyrone Road 1.6 miles to left on Snake Hill Rd. The Wildlife Management Area and parking are about 1.5 miles ahead.  
**Leader:** Adrienne Epley Brown  
adrienne_epley@yahoo.com  
702-465-9119  
**Nearest town:** Morgantown, WV  
**Cancellation policy:** We will carry on in drizzle but postpone in case of a downpour or snow. Please be sure to RSVP for updates. Snake Hill Road is not well maintained and trails can become muddy and slick.

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**Saturday, April 1, 2023**

**DAY HIKE: High Rock-Shockeys Knob, Sleepy Creek Wildlife Management Area, Morgan County**

6.5-mile, moderate hike with 960-foot elevation gain. This hike will include sections on an old forest access road and hilly trails, including sections of the Tuscarora Trail to High Rock Overlook. Expect some good views and short but vigorous climbs. Open to all adults and minors (with parental permission or accompanied by adult) prepared for the distance and a moderately strenuous hike. Well-behaved dogs on leashes are welcome. Bring water, lunch, a snack if desired, and protection from ticks and other bugs. There is no charge for this hike.

**Distance:** 6.5 miles  
**Difficulty:** MODERATE  
**Duration:** 4.5 hours  
**Bring:** Water, snacks or light lunch, clothing and shoes appropriate for a wet spring hike.  
**Meet:** 10 am. 706 Historic Packhorse Trail, Glengary, WV. There is a dirt parking lot with a red gate at the trail head.  
**Leader:** Ken Kendall  
kekendall65@gmail.com  
304-433-9537  
**Nearest town:** Glengary, WV  
**Cancellation policy:** We will carry on in light rain but cancel for a downpour or thunderstorm.

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**Saturday, April 8, 2023**

**DAY HIKE: Cool Spring Preserve**

Cool Spring Nature Preserve is a 63-acre tract of land owned and managed by Potomac Valley Audubon Society. It features forest, meadow, and marsh, and is bordered on one side by Bullskin Run. It is designated as a birding “hot spot” and also has significant historical value, since much of the tract was once owned and leased out by George Washington. We will hike the perimeter trail plus explore a few of the cross sections featuring old orchards or avian flyways. This hike is appropriate for families or adults capable of handling unpaved trails on gently rolling terrain. Well-behaved dogs on leashes are welcome. There is no charge for this hike, though donations to PVAS for their expenses at Cool Spring are welcome.

**Distance:** 1.4 miles  
**Difficulty:** EASY  
**Duration:** 2 hours  
**Bring:** Water and a snack if desired.  
**Meet:** 10 am. Cool Spring Preserve parking lot, 1469 Lloyd Rd., off US340 in south Jefferson County, WV. (Heading south from Charles Town on US340, turn right onto Wheatland Rd. Follow for 2 miles to Lloyd Rd, where you will find the entrance.  
**Leader:** Chris Craig  
ccraig@laurellodge.com  
304-433-1260  
**Nearest town:** Charles Town, WV  
**Cancellation policy:** We will carry on in light rain but cancel in a downpour.
Sunday, April 30, 2023
DAY HIKE: Mason Dixon Historical Park Fairy Door Trail, Core, WV.

This hike is open to all, but we will limit attendance to 15, so reservations are needed. The Fairy Door trail is a great way for children to connect to the outdoors and for adults to reconnect with their inner child. We will walk the Green Trail, next to Dunkard Creek. The trail will take us to the Third Crossing of Dunkard Creek site. After passing this site we will connect to the Bluebell and Fairy Door Trails, following the Bluebell trail around the hillside to view the Fairy Houses and reconnect to the Green Trail to form a loop.

**Distance/ Difficulty:**
- Distance: 1 mile
- Difficulty: EASY

**Duration:** 1.5 hours

**Bring:** Snack, water, sunscreen, and shoes for the varied terrain.

**Meet:** Meet: 11 am. Mason Dixon Historical Park lower parking lot, adjacent to Dunkard Creek and Basketball Court, 79 Buckeye Rd., Core, WV.

**Leader:** Adrienne Epley Brown
adienne_epley@yahoo.com
702-465-9119

**Nearest town:** Morgantown, WV

**Cancellation policy:** We will carry on in drizzle but postpone in case of a downpour.

**Additional Information**

This is a unique hike. Situated along the trail are miniature and humble abodes of fairies, gnomes, and other creatures. These miniature creations feature tiny benches, fence posts, and welcome signs, perfect for the inhabitants. Local artists came together and, with the help of an Arts Mon Impact Grant, made the idea a reality in the spring of 2020. This hiking adventure is great for all ages and hiking abilities. masondixonhistoricalpark.com

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Saturday, May 13, 2023
DAY HIKE: Tuscarora Trail, Sleepy Creek Reservoir, Morgan County, WV

We will continue our exploration of the Tuscarora Trail in West Virginia on this out-and-back hike. The trail follows roads part of the way and passes campsites near Sleepy Creek Reservoir. It is suitable for adults and children (accompanied by adults) in reasonable shape. Well-behaved dogs on leashes are welcome. There is no charge for this hike, though contributions will be welcome.

**Distance/ Difficulty:**
- Distance: 7.4 miles
- Difficulty: MODERATE

**Duration:** 4.5 hours

**Bring:** Water, lunch, and snacks if desired.

**Meet:** 10 am. Sleepy Creek WMA Lower Campground parking. From WV 9, take Back Creek Valley Road (CR 7) south 7.3 miles. South of Jones Spring, turn right (west) on CR 7/9 for 6 miles, passing Sleepy Creek WMA office and registration point. At the Y intersection, go right 1.8 miles to the end of the road, within view of the dam.

**Leader:** Chris Craig
craig@laurellodge.com
304-433-1260

**Nearest towns:** Hedgesville, WV

**Cancellation policy:** We will carry on in light rain but cancel if downpours or thunderstorm are expected.

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Friday, May 19, 2023
DAY HIKE: Appalachian Trail-Annapolis Rock/ Black Rock, Washington County, MD

This is a hike on the Appalachian Trail popular for the spectacular views. We’ll reduce some of the crowding by doing it on a Friday. The trail is relatively easy for the most part but does have a steep ascent at the start of the hike. Total elevation gain is 840 feet. This hike is open to all adults and children (accompanied by adults) in reasonable shape. Well-behaved dogs on leashes are welcome. There is no charge for this hike.

**Distance/ Difficulty:**
- Distance: 7.9 miles
- Difficulty: MODERATE

**Duration:** 4 hours

**Bring:** Water, snacks or light lunch, clothing and shoes appropriate for a wet spring hike.

**Meet:** 10 am. 11174 Baltimore National Pike, Myersville, MD. There is a large paved parking lot.

**Leader:** Ken Kendall
kekendall65@gmail.com
304-433-9537

**Nearest towns:** Myersville, MD

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Sierrans discovered a lovely section of the Appalachian Trail on this December hike. Along the way they discovered the famous Bears Den Hostel, near Snickers Gap, Virginia.

PHOTO BY CHRIS CRAIG
Sunday, May 21, 2023
DAY HIKE: Quebec Run Mill Run Trail
The Quebec Run Wild Area is located along the eastern slope of Chestnut Ridge, in Fayette County. This heavily forested 7,441-acre area extends eastward to Big Sandy Creek. Nearly all of the Quebec Run and Tebolt Run watersheds are encompassed by the Wild Area. No development of a permanent nature is permitted in this area, in order to retain the undeveloped “wild” character. The general public can use the area for hiking, biking, hunting, fishing, and the pursuit of peace and solitude. Big Sandy Creek and Mill Run are stocked with trout, and the lower reaches of Quebec and Tebolt Runs contain native trout. The forest is mixed mesophytic, with maples, yellow-poplar, hemlock, pitch pine, and mixed oaks occupying varying moisture and sunlight zones. Underbrush, including rhododendron, mountain laurel, dogwood, sassafras, and greenbriar occur throughout. The forest is mostly third growth, resulting from extensive timber harvesting by the Summit Lumber Company in the late 1930s. Many of the old logging roads and tram roads are visible, along with dark brown sawdust piles that give mute testimony to the once active portable sawmills.

Distance/ 
Difficulty: 2.5 miles MODERATE
Duration: 2 hours
Bring: Snack, water, sunscreen, and shoes for the varied terrain.
Leader: Adrienne Epley Brown adrienne.epley@yahoo.com 702-465-9119
Nearest town: Farmington, PA
Cancellation policy: We will carry on in drizzle but cancel if downpours are expected.
Additional information: For November it was a pretty great day for this group of Sierrans to discover more of the Tuscarora Trail and some nearby old roads on Third Hill Mountain, Berkeley County, WV.
PHOTO BY CHRIS CRAIG.

Saturday, June 10, 2023
DAY HIKE: Grandview Area Trails, New River Gorge National Park and Preserve
This hike is planned in conjunction with the WV Sierra Club’s summer picnic at the Grandview area. (See Picnic planned, p. 2) Details are still being arranged at the time of publication. Grandview offers unsurpassed views of the deepest section of New River Gorge. The trails range from easy to strenuous, and you can join us for parts or all of the hike. Come discover one of America’s newest National Parks on this Sierra Club gathering.

Distance/ 
Difficulty: 6 miles/MODERATE (with shorter distances possible)
Duration: 3.5 hours
Bring: Water, lunch, and snacks if desired.
Meet: Time and location are still to be determined as of publication. Go to sierraclub.org/west-virginia/events to watch for details.
Leader: Chris Craig ccraig@laurellodge.com 304-433-1260
Nearest town: Beckley, WV
Cancellation policy: We will carry on in light rain but cancel if downpours are expected.

For November it was a pretty great day for this group of Sierrans to discover more of the Tuscarora Trail and some nearby old roads on Third Hill Mountain, Berkeley County, WV.
PHOTO BY CHRIS CRAIG.

The Mountain State Sierran is published quarterly by the West Virginia Chapter of Sierra Club and distributed to all paid members—in print (when requested) or electronically. $1 of each member’s annual dues helps offset the cost of producing this newsletter.

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DEADLINE FOR THE 2023 SUMMER ISSUE: MAY 6, 2023

Opinions expressed in the Mountain State Sierran are those of the contributors and do not necessarily reflect the opinions of the Sierra Club.
Chapter ExComm Meeting

The next meeting of the WV Chapter of Sierra Club Executive Committee will be held online at 9:30 am – 12:30 pm, Saturday, April 2.

Email sierraclub.wv@gmail.com or call 304-314-2709 for more information or to receive the link.