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2021 WV Legislative Session Sees Unprecedented Attacks on the Environment

A host of bad bills moved through the WV Legislature, but many died when the session ended April 10. Several of the Sierra Club's priorities made significant progress, although not always in the ways expected. Our lobbying efforts were coordinated with the West Virginia Environmental Council, and their lobby team was essential to keeping us focused and up to date.

Clean Water

Advocates for stronger WV water quality standards suffered defeats with the passage of HB 2832, which weakened a number of standards for carcinogens. West Virginia has the third-highest death rate from cancer in the US, yet a majority of legislators voted to weaken these at the request of industry, even though no one was able to point to a single job saved with weaker standards, or a business threatened by stronger standards.

The 2014 Water Crisis led to passage of strong standards for above-ground storage tanks, but industry keeps whittling away at those protections. HB 2598 would have exempted tanks for the oil and gas industry, even those tanks in the "zone of critical concern." This zone contains those tanks where a release would contaminate drinking water sources within a five-hour travel time.

HB2598 passed the House of Delegates (74-26), but died in the State Senate.

State Energy Policy

While the rest of the world adopts measures to fight climate change and promote clean energy, the WV Legislature worked overtime to subsidize dirty energy. HB 2959 would expedite utility funding for a range of investments dubbed "pollution control," even investments that made no economic sense. Under this bill, *any* investment in pollution control could be charged to ratepayers, even if the facility was never used or even needed. HB 2959 was initially on a fast track, but the bill was simply too outrageous, even for our legislators.

Another bill, SB 542, would have mandated that utilities continue to burn coal at the

same rate as in 2019. Even utility executives argued this was uneconomic, and the

bill was pared down to merely requiring a 30-day supply of coal be kept on hand. The House of Delegates amended the bill to establish a "community comeback plan" to assist communities facing shutdowns of coal facilities in diversifying their economy. This was apparently too "forward-thinking" and the State Senate refused to accept the plan, so the bill passed without it.

Solar energy saw one step forward and one step back. HB 3310 established power purchase agreements as a funding mechanism for small-scale solar facilities. Passage of this bill marks a victory for a Sierra Club priority over the last several years. But the Legislature also adopted SB 492 to require full cost reclamation bonds for solar and wind facilities. While this may be a needed step, and the bill was amended to be more palatable to the



BY JIM KOTCON

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Haven't West Virginians Given Enough?



When I think of West Virginia, I think of the lyrics in the song *Fortunate Son* by Creedence Clearwater Revival: “And when you ask ‘em, ‘How much should we give?’ they only answer more, more, more.” We West Virginians have sacrificed so much. Extractive industries have made this state an extraction colony—a sacrifice zone to power and provide products for the rest of the country and a large part of the world. It’s time we get something more back.

Our people bled and died at Blair Mountain and Matewan to demand an end to the coal industry’s exploitation of our labor. Some of that exploitation never ended. Give the books *Appalachian Fall* by Jeff Young and *Soul Full of Coal Dust* by Chris Hamby a read sometime. We’ve sacrificed our water to the hydraulic fracturing of shale gas and oil. That water can never again be safely returned to the water table and hydrologic cycle. And, of course, our water’s been poisoned by companies like DuPont/Chemours and Freedom Industries to make plastics and petrochemicals. Power, steel, everything plastic, agricultural chemicals, you name it—West Virginia has given it, or helped give it, to the world.

I’d have loved to see a West Virginia forest of trees so big that it took 10 to 20 people to encircle one trunk. But no—we had to cut and process those trees and send them places where folks probably couldn’t point to us on a map, perhaps so another wealthy industrialist could add an east wing. Resource rich and dirt poor, that’s West Virginia history in a nutshell! It’s got to change. CONTINUED ON PAGE 7

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ROCKWOOL—Inadequate Permits for Major New Polluter

On April 30, the Danish company Rockwool announced its plan to start operations at its new Ranson mineral wool factory in mid- to late-May, with continued ramp-up throughout the summer.

Meanwhile, Jefferson County Foundation and the Sierra Club continue to press state and federal authorities, as well as Rockwool, for vitally important changes in how this major new polluter in the U.S. will operate, especially with respect to its air and water permits.

Air Permit Deficiencies

In March 2020, as the pandemic was starting, Rockwool quietly told the WV Department of Environmental Protection (WVDEP) that it was changing the planned fuel source for its melting furnace from coal to natural gas. WVDEP allowed Rockwool to make that change in its primary fuel source for the largest emission unit at the facility with no analysis of the continued validity of permit terms in light of that change and without reopening public comment. When the Foundation learned about this change in May 2020, we urged the WVDEP to look into the issue, but the agency did nothing.

It's not clear that Rockwool will even be decreasing the amount of coal it will be using, because it uses coal as an in-process fuel and may be increasing that. It cannot be determined from the information provided.

Why is this an issue? Burning coal and burning natural gas result in fundamentally different pollutant emission profiles, and there is nothing in the current prevention of significant deterioration permit or the record created by WVDEP that demonstrates that the control technologies being installed at the facility, and the resulting emission limits in the current permit, meet Clean Air Act requirements for an operation primarily fueled by natural gas. We are now asking the federal EPA to get involved so that WVDEP properly addresses Rockwool's air permit requirements.

Stormwater Plan Deficiencies in a Vulnerable Region

The Foundation has identified shocking omissions in the water discharge permits issued to Rockwool by the WVDEP under the federal Clean Water Act. WVDEP failed to require protections of Rockwool that it routinely had required of other stormwater permit holders in our region—an area characterized by limestone-rich karst hydrogeology that greatly heightens the risk of contaminants impacting the groundwater that our farms and residents rely on.

There are currently 22 known sinkholes at the Rockwool site, seven of which are under a large water retention pond that will hold 3.9 million gallons of process water. In its legal challenge to Rockwool's stormwater permits, the Foundation recently obtained documents showing that Rockwool refused to add a leak detection system to pond liners that the WVDEP had requested. Rockwool, which routinely advertises its sustainability and good corporate citizenship, stated, "The cost and operational implications of adding an interstitial monitoring layer and second geomembrane are considerable, and Rockwool does not believe they will add any appreciable value."

Our challenge of Rockwool's construction stormwater permit is in its final stages before the WV Environmental Quality Board. And in the meantime, we are preparing our challenge to the stormwater permit that will govern Rockwool's operations going forward.

More Work to Be Done

West Virginia regulators have a history of favoring industry over citizens and the environment. The Foundation will continue to pursue other avenues to hold Rockwool to a higher standard. This factory is less than a half mile from a Title I elementary school and near several other schools, so



Rockwool's largest amount of particulate matter is coming off the melting furnace and those emissions do not go through the wet electrostatic precipitator control, pictured here.

COURTESY OF ROCKWOOL.

the air pollution it will generate will affect generations to come by impacting kids—a population that is especially sensitive to pollutants. If not checked, the Rockwool factory endangers the drinking water of not only the majority of Jefferson County residents who depend on groundwater, but also the greater Chesapeake Bay watershed.

For more information and to find how you can help, please visit our website, jeffersoncountyfoundation.org.



BY LYNN DELLES

Director of Strategic Communications, Jefferson County Foundation Inc.

A New Nightmare for Pleasants County and the Ohio River Valley:

Methanol BY ERIC ENGLE



West Virginia Methanol plans to open a methane plant like this one in the Ohio River Valley. COURTESY OF OHIO VALLEY ENVIRONMENTAL COALITION (OVEC).

The Ohio River Valley is already known for plastics, petrochemicals, and other chemical industries. There are those who say we are threatened in the Valley with becoming “Cancer Alley II,” a reference to Louisiana’s area between Baton Rouge and New Orleans where cancer, caused primarily by industry, is prevalent — but we’re really already there. That’s why the building of a \$350 million natural gas-to-methanol facility in Pleasants County is yet another terrible idea for this area.

West Virginia Methanol Inc. applied in November 2020 to construct this plant on the Ohio River where a Cabot Corporation carbon black manufacturing facility once stood. The goal of the facility is to produce 1,000 tons of methanol from natural gas daily, using 36 million cubic feet per day of natural gas. According to Mitsubishi Gas Chemical (MGC), “Methanol and its derivative products such as asetic acid and formaldehyde created via chemical reactions

are used as base materials in acrylic plastic; synthetic fabrics and fibers used to make clothing; adhesives, paint, and plywood used in construction; and as a chemical agent in pharmaceuticals and agrichemicals.”

The review of a permitting application for the facility in the Charleston Gazette-Mail said, “The proposed facility has the potential to emit 91 tons of carbon monoxide, 92 tons of nitrogen oxides (poisonous, highly reactive gases), 54 combined tons of three different kinds of particulate matter, and 11 combined tons of the known and probable human carcinogens formaldehyde, acetaldehyde, benzene, and 1,3-butadiene.” This doesn’t even factor in that, once again, we’re creating more plastics and petrochemicals here—the last thing a planet smothered by plastics waste can stand. The facility will only create about 30 permanent jobs and apparently is being built overseas so it won’t really lead to construction jobs here. It’ll just need assembly like a new toy.

As I write this, the Ohio Valley Environmental Coalition (OVEC), Sierra Club’s West Virginia Chapter, and others are gathering expert feedback to inform public comments and those who attend a public meeting on the facility. We’re going to fight this. I don’t know how successful we’ll be, because, according to the Gazette-Mail piece, West Virginia environmental regulators “have already made a preliminary determination to issue a permit for the facility.”

We’re tired of being a sacrifice zone in the Ohio River Valley, much like the rest of West Virginia is tired of being a sacrifice zone. I certainly hope we can find a way to stop this monstrosity!

To get involved in this fight, contact Eric Engle, ericengle85@yahoo.com, 304-488-4384; or Karan Ireland, karan.ireland@sierraclub.org, 304-356-8774. 🌿

renewable industry, the Legislature's focus on reclaiming renewable energy sites was in stark contrast to the complete inaction on bonding and reclamation for coal mines, or for plugging old oil and gas wells.

West Virginia is facing hundreds of millions of dollars of unfunded liabilities that are the result of inadequate bonds and unfunded reclamation. Coal and gas sites leak toxins and greenhouse gases, and create direct threats to human health. The impending bankruptcies of coal and gas companies threaten to leave citizens footing the bill. Yet the Legislature did nothing, seemingly content to simply *hope* the industry will make everything all right (as if that has ever happened).

Energy Efficiency got a boost with passage of HB 2667, establishing energy efficiency programs for state buildings, and mandating reductions of 25% from 2018 levels by 2030.



In an example of the forethought typical during the 2021 Legislative session, WV Senate President Craig Blair (R – Berkeley) assured that all WV funding of MARC Train (Maryland Transit) service in Martinsburg and Harpers Ferry would be eliminated. This after years of Eastern Panhandle citizens and politicians fighting to keep the funding and the service. Blair's reasoning? MARC hasn't had enough Panhandle riders during the pandemic.

PHOTO COURTESY OF WVLEGISLATURE.GOV.

The gas industry will pay extra fees for permit modifications on gas wells, thanks to SB 404. Other bills to fund WV Department of Environmental Protection's Office of Oil and Gas or the Division of Air Quality did not pass, leaving both of these programs facing cuts to enforcement.

Senate Concurrent Resolution 55 was adopted and offers support for the Atlantic Coast Pipeline. It is unclear what that does, as the company announced it had canceled that project in 2020. But HR 15, voicing support for a clean energy future, also was adopted. These non-binding resolutions do seem contradictory. More important was SCR 81, urging the Governor to establish a task force to develop alternative economic development for coal-affected communities. A useful bill stemming from this resolution may appear in future years.

Solid Waste

The "Plastic Ban Ban", HB 2500, passed and prohibits city or county governments from regulating or placing fees on "auxiliary containers," defined as any reusable or single-use bag, cup, or other container. This is an apparent attempt to pre-empt fees or bans on plastic grocery bags, single-use bottles or other plastic trash.

SB 464 passed and authorizes composting facilities. Originally a much stronger bill to promote and regulate commercial composting, the adopted version at least does no harm.

Public Lands

SR 43 passed the Senate and urges construction of an off-highway vehicle trail to parallel the Appalachian Trail. This is a really bad idea and could be a serious problem for one of America's premier hiking trails. No other information is available at this time.

Lots of good bills were introduced, but went nowhere. These include the Clean Drinking Water Act (HB 2757, to establish standards for PFOAs and other "forever chemicals"), the Modern Jobs Act (HB 2287, to promote solar development on mine lands), a ban on styrofoam containers (HB 2647), the Local Energy Efficiency Partnership Act (HB 2812), and my favorite, the Bottle Bill (HB 2105, to establish a deposit on beverage containers).

Parkersburg's Water Cited in the News

Consumer Reports has published a study on the safety of U.S. tap water that cites several dangerous contaminants found in public water systems around the nation. The study cites PFAS as especially troubling, affecting at least 2337 communities in 49 states.

Parkersburg is front and center in this section: "Investigation into the health effects of PFAS exposure is ongoing, but some of the strongest evidence about their potential risks comes from research of about 69,000 people in and around Parkersburg, W.Va. The research—part of a settlement between DuPont, which makes some PFAS, and residents of the community—was depicted in the 2019 movie 'Dark Waters.'"

The notoriety of West Virginia's drinking water is especially ironic after a session during which state legislators voted to allow more contaminants in state water. Given the Legislature's focus in recent years on tourism and economic development, one wonders how skillfully our policymakers are evaluating the implications of their votes!

The entire Consumer Reports study can be found at www.consumerreports.org/water-quality/how-safe-is-our-drinking-water.

Many other really bad bills were introduced, but did not pass.

Keep your eyes out for a legislative scorecard later this year so you can find out how your state Delegates and Senators voted, who stood up for clean air and water, and who sold our health and safety at the behest of polluters. Until then, to find out how your delegates voted, go to the WV Legislature web page and click on "Bill Status." Enter the bill number, and scroll down to see the link to the roll call votes in the House and Senate. Doing this is an essential step to let legislators know you are paying attention to how they voted. 🍃



Dwarf larkspur (*Delphinium tricorne*)
photographed in the Core Arboretum in
Morgantown. Spring is a great time to see
a rainbow of wildflowers blanketing the
West Virginia hills and valleys.

PHOTO BY BETH ROTA.

Fossil Fuel Divestment Gains Momentum

BY JIM KOTCON

The Sierra Club and allied groups are promoting divestment from dangerous fossil fuel projects—so are the big banks listening?

In conjunction with over two dozen groups led by the Private Equity Stakeholder Project, the Sierra Club is urging major investors to adopt a three-part policy:

- 1) Develop a net-zero energy portfolio. Ensure that the majority of new capital investments go to renewables by 2025, and all investments are in renewables by 2030.**
- 2) Ensure a just and equitable transition for fossil fuel workers and the communities impacted by current fossil fuel holdings.**
- 3) Disclose political spending and whether campaign contributions align with investor expectations on corporate climate lobbying.**

Significant progress is already underway. America's largest investment firm, BlackRock, recently pledged to achieve net-zero emissions across its entire portfolio by 2050. In response, the second-largest investment firm, Vanguard, is also pledging carbon neutrality by 2050. Both major WV utilities, FirstEnergy and American Electric Power, have adopted goals to be carbon neutral by 2050. A report by the Institute for Energy Economics and Financial Analysis documents over 100 major financial institutions (those having assets over \$10 billion) that have adopted divestment from coal, and increasing numbers are also divesting from gas.

And a recent report from BlackRock disclosed an important financial reason: Institutions that divested from fossil fuels outperformed those that did not.

What You Can Do?

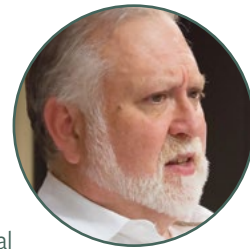
A Sierra campaign pushing for Mountain Valley Pipeline Divestment has been underway since spring 2021. Major banks such as Wells Fargo, Chase, and Bank of America are providing significant funding, perhaps with *your* money, to MVP's parent company. You can contact them to ask them to divest, and learn other steps you can take, at: actionnetwork.org/forms/put-your-money-where-your-heart-is-week-of-action.

Check out the **MVP Divest Coalition Tool Kit** to see what else you can do.

As the transition to renewables accelerates over the next few years, coal and gas are set to be the biggest losers. And that transition, driven primarily by market forces, will move even faster if the Biden Administration is successful in passing its infrastructure bill (which promises major investment in fossil fuel-dependent communities) and adopts other regulatory efforts to address climate change.

We all know this is coming; the remaining questions are whether the transition happens fast enough to avoid the worst effects of climate change, and whether fossil fuel advocates stall a just transition and thereby deny workers and affected communities the opportunity for a clean energy economy. 🌱

A NEW WAY WITH THE WV New Jobs Coalition



BY BILL PRICE
Senior Organizing
Manager

There are many ways to diversify an economy. You can go out and recruit similar industries to take the place of current jobs, you can work to train folks to install solar, you can get people to grow crops such as hemp or lavender. You can teach people how to code, put a lot of investment into call centers, and even entice people with money to move to the state.

All of these approaches have been or are currently being used, and this article does not suggest that they are without merit. But even when doing all of that, it does not change the economic model, nor does it change the way we think of economic development. Basically, there's a need to flip the development model upside down.

The current model that is often used is *top-down* development, which looks like this: Private or government-funded investments come in. These investments go to "decision-makers" who determine who will benefit and how, and the development is *placed* in communities without much consideration of what the people living in those communities desire.

Instead of that traditional model, what if we started by listening intentionally to what the community wants? Then those investments, particularly investments that are taxpayer-funded, can go to community-based people who can implement them. Decisions

are made based on real input from local communities, and economies are rooted in the people rather than in politics. I believe that by approaching economic transformation in this way, we can also address the climate crisis and embrace the new economy.



That's why Sierra Club is a part of the WV New Jobs Coalition and why we endorse the THRIVE Act. We believe that we have a historic chance for Congress to pass a transformational economic recovery and infrastructure package that puts 15 million people to work in good, union, family-sustaining jobs, even while cutting climate pollution in half by 2030 and advancing racial, Indigenous, gender, environmental, and economic justice. It's called the THRIVE Act.

The climate crisis, the pandemic, racial injustice, mass unemployment, and economic distress all demand action. The THRIVE Act envisions a *bottom-up* transition with a minimum of 50% of the funds going to those on the front lines of systemic racism, the climate crisis, and economic insecurity, so they can be on the frontlines determining what a new economy looks like. Please support the THRIVE Act as a model of a new way of doing development that includes all of us. For more information about the WV New Jobs Coalition and the THRIVE Act, go to www.newjobsww.org. 🌱



From the Co-Chair | CONTINUED FROM PAGE 2

We're in the spotlight right now in West Virginia. Our state's senior U.S. Senator, Joe Manchin, is a critical vote and the chairman of the Energy & Natural Resources Committee. Everybody, it seems, wants to know what's on our minds. I can't speak for every West Virginian, but I can tell you what's on my mind: good-paying union jobs in a 21st-century renewable, sustainable, and restorative economy; access to health care for all as a human right; quality education (including higher education) as a public good; utilities and transportation infrastructure (including broadband, water, sewer, roads, bridges, high-speed rail) that isn't crumbling; completely legal recreational and medicinal cannabis and expunged records from the idiotic war on drugs. This is just to name a few.

We can do this! Past does not have to be prologue. Speak out and tell your representatives in Congress, the state legislature, and your county and municipal governments that you aren't a commodity to be exploited. You are a West Virginian to be served by them! The Sierra Club West Virginia Chapter stands with you. *Montani Semper Liberi!* 🌱

What Can One Person Do: Defend Against Invaders!

In the following addition to Aileen Curfman's series on personal environmentalism, the fictional Brianna learns about the dangers of introducing invasive species.

"Grandpa, I love your farm!" exclaimed Brianna.

"It's not much of a farm," Grandpa sighed. "When your great-grandma and great-grandpa bought this place in 1968, they were going to raise everything they needed. They bought it cheap from a mining company. Turned out, the mining company's idea of reclamation was to bury the topsoil under the rubble. They tried to plant vegetables, but the soil was too poor. So, they bought a few hens and sold the eggs. They sold some honey from the beehives on the hill. When I came along, they dusted off their WVU degrees and got teaching jobs. We got along all right, but there's not much here."

"But smell those beautiful little white roses!"

"Those are multiflora roses. County agents used to give them out for free. They grow anywhere. Seemed like a good idea to plant

them on an old strip mine that wouldn't grow much. Now they're everywhere you don't want them."

They strolled through the hay field. "This grass has just about taken over," Grandpa sighed. "Stilt grass. Not even the deer will eat it. I stopped raising my own beef when I realized I was spending more on feed than I would spend for steaks and burgers."

At the edge of the farm pond, they paused in a grove of tall trees. "Gosh, Grandpa, you used to just have one tree down here. Now there are a dozen."

"Tree of heaven," Grandpa said with a grimace. "Cut one down, get six saplings. And thousands of seeds on each tree. No good for anything, even firewood. The oaks died when the gypsy moths came through, so these have plenty of places to grow."

"Well, at least you can sit in the shade and fish. Remember all the bluegill we caught the year I turned five?"

"Gone, all gone, and all my fault." Grandpa

sighed again. "I had some leftover minnows, so I dumped them in the pond. They turned out to be golden shiners. They grew bigger than the bluegill and ate up all the food. The poor bluegills starved."

"Grandpa, you're making this place sound awful! It's green, it's beautiful, and I love it!"

"So do I, Brianna. That's why I'm clearing out a few corners. I started some oak seedlings. I cleared out some of the stilt grass and found hay-scented ferns trying to grow. I'm fishing out as many of those golden shiners as I can. And I told your daddy I couldn't give him any firewood, so he wouldn't spread gypsy moths to your neighborhood.

Most important, whatever I plant next, it will be something that grew here before everything else was brought in."



BY AILEEN CURFMAN



Ailanthus (tree of heaven).

COURTESY OF MARYLAND BIODIVERSITY PROJECT..

Invasive species are here to stay, but they don't have to destroy the places you know and love.

Learn how to support your native species and curb the spread of these invaders here:

- **AUDUBON:**
tinyurl.com/audubon-native-plants-matter
- **WVDNR:**
tinyurl.com/wvdnr-invasive
- **NOBLE:**
tinyurl.com/noble-fish
- **DON'T MOVE FIREWOOD:**
dontmovefirewood.org



Multiflora rose.

COURTESY OF WIKIPEDIA COMMONS.



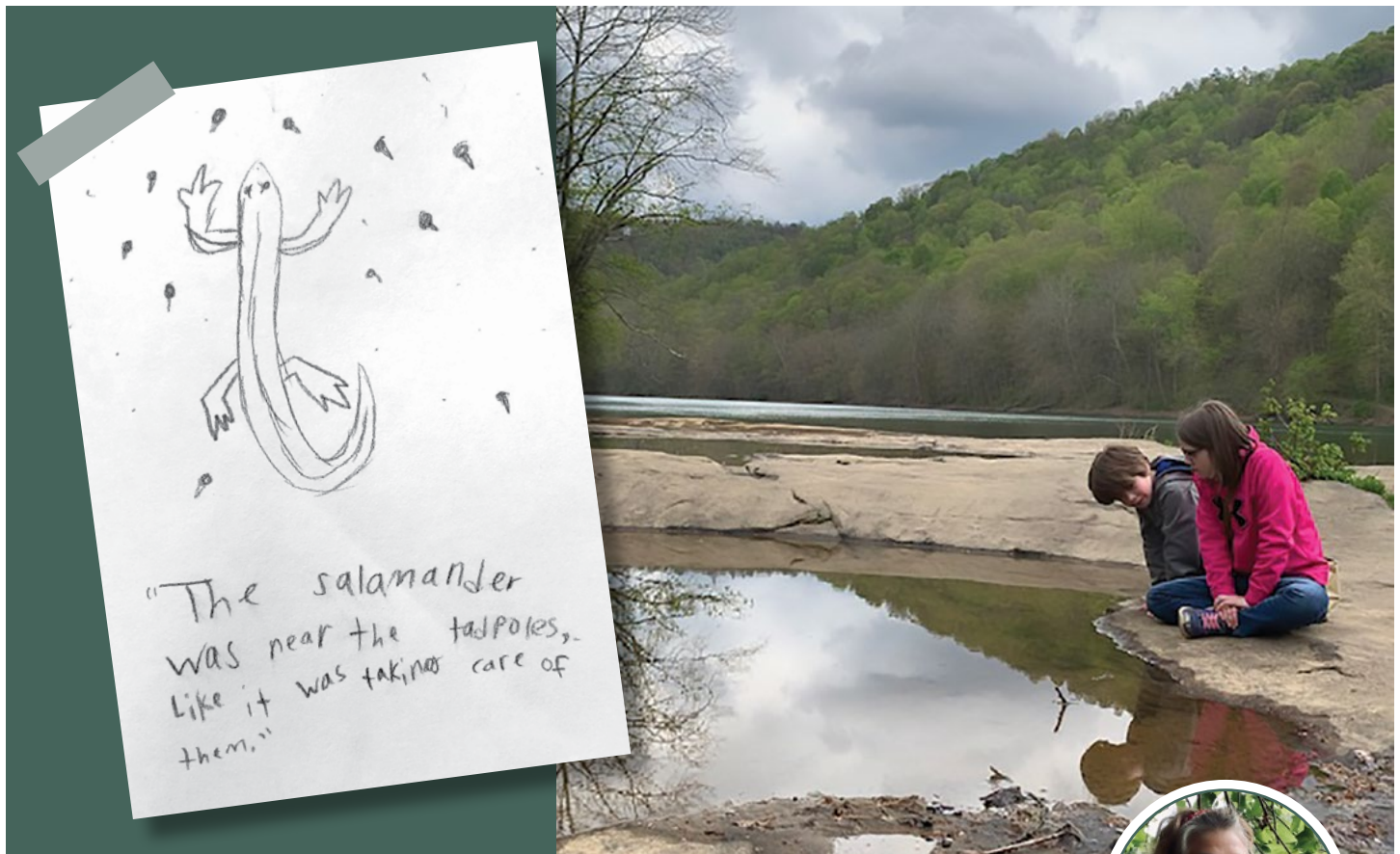
Japanese stiltgrass.

COURTESY OF USDA NATIONAL INVASIVE SPECIES INFORMATION CENTER.



Golden Shiner.

COURTESY OF U. CALIFORNIA DAVIS.



Connecting with Nature through Journaling



BY ADRIENNE EPLEY BROWN

Nature journaling is a mindful way to connect with nature. A nature journal can contain stories, observations, or reflections inspired by time spent in nature. It can include sketches and art. Nature journaling helps us recognize and remember details in nature that we might have otherwise missed. A nature journal can help lead us to a deeper connection with nature by making an outing intentional. Setting an intention enhances awareness and creates purpose to our time outdoors. It can also help improve identification skills.

There are various types of journaling in nature, including field journaling and memory journaling. Field journaling involves physically taking the journal out to the field—writing and sketching outdoors. In contrast, when memory-journaling, we remember our experiences outside and sketch them

or write about them after returning home. I use a combination of these techniques by sketching in the moment and adding color from memory. I will sometimes take a photo to trigger my memory later.

How does one begin a nature journal? Start with a sketchbook dedicated to the activity. This dedicated book provides a sacred space and makes journaling intentional for you. It says, “I am open to the experience of nature journaling,” and also allows you to see your progress with entries in order and in the same place. The sketchbook does not have to be expensive. My hardbound nature journal has no bells nor whistles and cost \$5. I carry this nature journal, a pencil, and a small sharpener in my pack while walking through the woods. If I choose to use color, I will do that at home later.

There is no right or wrong way to journal.

Prompts can help to direct a journal-keeper to a starting point. My internal prompt is typically, “What is grabbing my attention today and why?” To what I observe with my eyes I will often add something that pops into my imagination. A prompt for a more structured journal-keeper might be, “What am I noticing about the season today?”

Storytelling is one way that humans can process the natural world in a journal. When my daughter journals she often writes a story, perhaps with sketches, about what she perceives when walking or observing.

I have always been fond of photography but only recently began to draw. My poor art skills held me back from this hobby until I accepted that it doesn’t matter what my art looks like. It’s the process. I realized that I was much more observant while sketching, even though the final product might be



Top from left: The author's children observed tadpoles at Valley Falls in late April. Her daughter's resulting nature journal page is shown. PHOTO BY ADRIENNE EPLEY BROWN. Killdeer nest on the WVU campus. Killdeer are ground nesting birds who will distract predators away from the nest by feigning a broken wing and crying "killdeer." PHOTO BY BETH ROTA. Dutchman's breeches at Core Arboretum in Morgantown. PHOTO BY ADRIENNE EPLEY BROWN.

Below: Great white trillium at Core Arboretum in Morgantown. PHOTO BY ADRIENNE EPLEY BROWN.

less attractive. I discovered an increase in awareness and depth while sketching.

There is a wealth of information on the internet and in books on journaling. There are many types, styles, and themes that I have yet to learn. There are Facebook groups and blogs dedicated to nature journaling. John Muir was an avid nature journal-keeper, and Sierra Club has multiple resources on this topic. I intend to organize a nature-journaling Meetup once COVID-19 restrictions are lifted. I hope to see you there, and we can exchange ideas!

RESOURCES:

The Sierra Club Guide to Sketching in Nature, by Cathy Johnson, Thriftbooks

www.sierraclub.org/pennsylvania/blog/2020/05/how-start-nature-journal

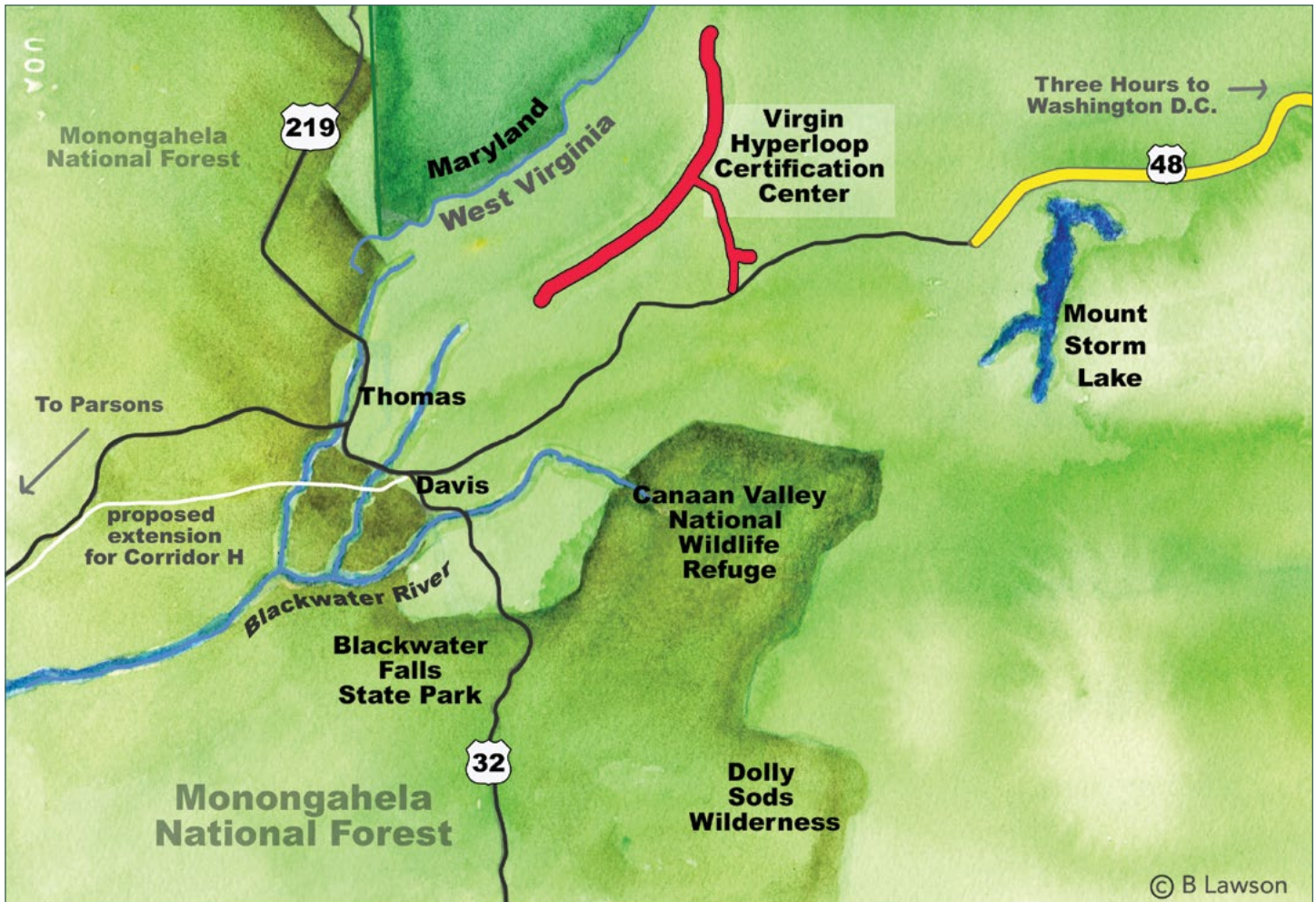


Virgin Hyperloop: Viable Public Transportation or Science Fiction?

BY BETSY JAEGER LAWSON



Diversifying West Virginia's economy and moving away from fossil fuels has been a rallying call for years. So last October, when Virgin Hyperloop Certification Center chose an 800-acre tract in Tucker and Grant Counties for their home, West Virginian politicians salivated, especially as it wouldn't cause a direct conflict of interest with coal. What is it, and what will it mean for West Virginia?



How will commercial development impact one of the best natural areas of West Virginia? COURTESY BETSY JAEGER LAWSON.

Hyperloop travel is like flying with Chuck Yeager but at ground level, inside a levitating pod in a vacuum tube. Rocket scientist Robert Goddard first introduced the idea of a train in a vacuum tube (vactrain) in 1904 but never realized the concept. Tesla CEO Elon Musk resurrected the concept in 2013 but open-sourced it.

Magnetic levitation (maglev) technology uses two sets of magnets: one set to repel and push the train up off the track, and another set to move the elevated train

ahead. An aerodynamic train design and lack of ground friction accounts for speeds up to 374 mph. First developed in England, maglev systems now only operate commercially in Japan, China, and South Korea. A maglev train has been proposed to run between Baltimore and Washington DC. Passengers could travel between these two points in 15 minutes, relieving traffic-choked roads while also reducing carbon emissions, but it would consume Patuxent Wildlife Refuge and much of the Beltsville, Maryland agricultural study

area. The proposal is undergoing a federal review process now, but there is much public opposition.

Virgin Hyperloop One (VHO) would combine vactrain and maglev technology. Eliminating both air and ground resistance would allow the pod to travel at the speed of sound (about 761 mph), consuming 5-10 times less energy than airplanes. VHO also hopes to integrate solar panel technology on the tubes so that, depending on the climate, the integration of solar technology could generate two-thirds

of a route's projected energy needs. Sounds good! What's the downside? To achieve and sustain that supersonic Mach One speed requires the vacuum tubes to remain level and straight for long distances. The tubes would have to rest on pylons or else travel through tunnels below ground to avoid urban areas, curves and gradient changes. Tubes between cities would stand dozens of feet above ground to avoid power lines or highway overpasses. Terrain, acquisition of public rights-of-way, and environmental features like waterways, endangered species, historic sites, and communities present constraints. Tunnels would greatly increase the cost, and, like gas pipelines, come with other problems.

Since there is no existing infrastructure for this fifth mode of travel (after cars, trains, planes, and boats), the construction cost of the pylons, vacuum tubes, vacuum pumps, pods, stations, and rights-of-way could be \$6 billion for a 350-mile loop. Critics suggest the price could run as much as \$100 billion for a 350-mile loop. Moreover, it would not integrate easily with other transportation systems. Crucial questions to consider are whether the construction of an entirely new system would eat up more greenspace, and whether roadways and parking garages could be reduced? Will hyperloop tickets be

affordable enough for most people?

How comfortable will Mach One speed be for the average traveler? The pods will have no windows or escape hatches, no toilets, and will carry little luggage. Access points would be limited and similar to interstate highway on-off ramps. Further, the tubes would be easy targets for terrorists. If the airless tubes are breached, air will rush in at the speed of sound, and everything inside could implode. In the event of a breakdown, passengers will be trapped—possibly a long distance from a station. Tubes both above and below ground would require constant maintenance. Because this form of transportation is as yet unrealized, there are many unknowns.

As for West Virginia, the Hyperloop Certification Center will serve as a research, development, and testing site for the company as it works to perfect the hyperloop concept. Virgin representatives estimate 150-200 engineering and technician jobs will be filled along with 13,000 local jobs in construction, manufacturing and maintenance. WVU, Marshall, and the WV Community and Technical College System are also involved in the project.

The biggest negative impact here would be the increase of development in the Thomas-Davis-Blackwater area. Commercial

development could destroy what is attractive about the area now. Thomas and Davis have become a significant arts destination in our state, thanks to artists who have rehabbed the old buildings there for dynamic new galleries — a better model, perhaps, for economic development.

The Biden Administration's American Jobs Plan includes \$80 billion for Amtrak to expand service and make needed repairs. Making Amtrak reliable, accessible, and electric seems like the commonsense answer for the future of public transportation, not the exotic sci-fi dreams of wealthy entrepreneurs. 🍃

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**DEADLINE FOR THE 2021 FALL ISSUE:
 AUGUST 7**

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



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Jefferson County Solar Ordinance Weakened in Round #2



BY GAIL KOHLHORST



In fall 2020 the Jefferson County (WV) Commission approved a solar zoning ordinance after several county staff workshops to review the issue, a study by the Planning Commission, and input from the community, including the Eastern Panhandle Sierra Club Group.

The ordinance allowed large-scale solar farms to be developed in rural and other zones in the county. It required a 200-foot setback from property lines and from state roads, vegetative buffers or opaque fencing, stormwater management compatible with state and local requirements, and a decommissioning plan.

Several months later, responding to a lawsuit of county landowners and inquiries from industry, the county revoked the ordinance and began the hearing and review process over again. On April 12 the Commission passed by a three-to-one vote a revised ordinance that reduced many of the earlier requirements and ignored much of the public input it received. Setback requirements

were reduced from 200 to 50 feet. In a reversal of the Planning Commission's recommendations, no decommissioning or bonding agreements are required at this time.

Jefferson County Vision published the following statement in response to the County Commission's actions: "The Jefferson County Commission ignored the vast majority of the public input they received, immediately granted the wishes of a developer, and approved the Solar Zoning Ordinance Amendment with a few changes, none for the better ... What happened is, sadly, not an aberration in our local government, but proof that elections have consequences and that vigilance of the citizens must be constant. Supporting environmental groups is one way to help, but every citizen has to be involved to have good government."

The Eastern Panhandle Sierra Club welcomes solar farms to Jefferson County and surrounding areas. We will continue to monitor Commission activities relating to the environment and provide input whenever possible. 🍃

Sierra Club Supports OVEC Staff in Their Attempt to Unionize

Staff at the Ohio Valley Environmental Coalition (OVEC) are in the midst of a strike to unionize with the Industrial Workers of the World (IWW). The WV Chapter of the Sierra Club has written a letter of support for this effort to the OVEC board.

"In an era where workers' rights are under attack more than any time since before the Great Depression," the letter states, "it is imperative that those of us in the environmental movement ensure that our own nonprofits uphold the very values we claim to represent. This is especially important in a state like West Virginia that has historically been a leader in the labor movement."

Sierra Club staff voted to unionize with the Progressive Workers Union in 1992.

The Chapter's letter continues, "By recognizing their staff's union efforts, the OVEC board can show that they trust and support their staff to work collectively to keep Appalachia thriving while encouraging all non-profits in the state to ensure a just working environment for their employees."

Club Outings Still On Hold, but WV State Parks Open

At the time of this writing, the Sierra Club has still not announced a post-pandemic reopening of in-person outings and gatherings, though we hope to have those allowed in the coming months—almost certainly with new protocols and safety measures. Watch on our website and social media pages for the word.



BY CHRIS CRAIG

In the meantime, increased vaccination rates and new information about safety during outdoor activities may give you more confidence to get out and explore on your own. West Virginia State Parks provide good places to start those adventures.

State Parks offer camping and cabin accommodations in all parts of our state, with 1500 campsites at 27 state parks and forests, and 300 cabins ranging from rustic to plush. Lakes and rivers abound in West Virginia's state parks, so swimming, rafting, boating, and fishing are found a short distance away for nearly everyone in the state.

Trails beckon bicyclists to rides ranging from single-track to long-distance rail trails. And you'll also find a wide range of hiking in the Mountain State's parks and forests. There are short, easy nature or historic loops and challenging climbs to scenic vistas. Wildlife abounds in our state parks and varies according to region and terrain. At Chief Logan State Park you can even book an elk tour.

The website wvstateparks.com is a great place to start to plan your adventures. There you can search for parks in your area, or you can search for the activities that interest you and see where they take you.

We all look forward to the day when Club outings will again allow us to hike or paddle with friends old and new. Until then, get wild and wonderful in the Mountain State's public lands.



Above: WV Sierrans enjoyed hiking at Pipestem Resort State Park during the 2019 Sierra Fest. PHOTO BY ED WHEELLESS.

Below: Cacapon State Park has a variety of trails great in all seasons, here in March 2018. PHOTO BY CHRIS CRAIG



Corrections

There were two editorial errors in the Longview II article in the spring 2021 issue of the *Mountain State Sierran*. Longview is downstream, not upstream from Morgantown. The Longview CEO, and not the investors, requested the PILOT agreement from the Monongalia County Commission. The *Mountain State Sierran* regrets these errors.



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CHANGE SERVICE REQUESTED

Summer 2021



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Chapter ExComm Meeting

The next meeting of the WV Chapter of Sierra Club Executive Committee will be held online at

10 am – 3 pm, Saturday, July 17.

Contact Co-chair Aileen Curfman at acurfman@gmail.com for an invitation and the link.



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