

West Virginia Highlands Conservancy
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The Highlands Voice

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Double, double toil and trouble; Fire burn, and caldron bubble

United States Supreme Court Hears Atlantic Coast Pipeline Case

By John McFerrin

On February 24, 2020, the United States Supreme Court heard arguments on a case concerning the Atlantic Coast Pipeline. Now we are left to wait, with nothing to do other than speculate on the possible outcome.

The case itself focuses on the Appalachian Trail. The Trail itself runs from Maine to Georgia. On its way, it passes through the George Washington National Forest. There it is in the proposed pathway of the Atlantic Coast Pipeline. If built, the Pipeline would have to cross the Trail somewhere.

Everybody agrees that the Pipeline would have to get approval to cross the Trail. This case is about who has authority to give that permission. The United States Forest Service, which administers the George Washington National Forest, thinks that it has authority to grant that permission. The United States Court of Appeals for the Fourth Circuit disagrees. It ruled that the Forest Service did not have that authority. It ruled that the Trail is under

the control of the National Park Service. The Forest Service has no authority to give permission to cross. Now the United States Supreme Court is reviewing that decision.

In you want to learn about the actual legal arguments, read the story in the November, 2019, issue of *The Highlands Voice*. Now that we have had the hearing before the Supreme Court, we have not just the arguments but we have things the Supreme Court Justices said that were (or were not) hints on how the Court might rule.

One way to look at this case is that it is just a case of statutory interpretation: did Congress give the Forest Service the authority to give permission to cross the Trail? It's just a matter of looking at the words on the paper and figuring out how they apply here.

As often happens, Dominion brought up what is often called the "parade of the horribles." In this type of argument, one side lists

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Thoughts from our President

By Larry Thomas

Once again activities at the legislature have taken front row in the environmental community. A comprehensive report on the legislature will be included in the April issue of the Voice. A few other items that bear mentioning include:

Supreme Court Hears Battle Over the Atlantic Coast Pipeline

On February 24, 2020 the United States Supreme Court heard oral arguments concerning the Richmond, Va.-based Fourth U.S. Circuit Court of Appeals ruling that blocked the proposed Atlantic Coast Pipeline path under the Appalachian Trail. At issue is the U.S. Forest Service authority to grant a special-use permit that would allow the pipeline developers to construct a segment underneath a section of the Appalachian Trail located near Reed's Gap, Virginia. The proposed pipeline would transport natural gas from West Virginia across 600 miles to sites in Virginia and North Carolina.

During the one-hour hearing, both sides presented their arguments and responded to numerous questions from the justices.

After the hearing, it was reported that The Supreme Court appeared ready to remove the obstacle to construction of the Atlantic Coast Pipeline, with a majority of justices expressing skepticism about a lower court ruling that tossed out the key permit needed for the pipeline to cross under the Appalachian Trail.

The decision in the case is not expected until late spring.

Brine from Oil and Gas Wells is Shown to Contain Radioactive Material

The January 21, 2020 Rolling Stone article "America's Radioactive Secret" is a very eye opening story about an Ohio man named Peter who took a job trucking waste for the oil-and-gas industry and what he learned during his tenure crisscrossing the expanse of farms and woods near the Ohio/West Virginia/Pennsylvania border, the heart of a region that produces close to one-third of America's natural gas. He was hauling a salty substance called "brine," to treatment plants or injection wells, where it's disposed of by being shot back into the earth. Brine is the naturally occurring waste product that gushes out of America's oil-and-gas wells to the tune of nearly 1 trillion gallons a year, enough to flood Manhattan, almost shin-high, every single day.

In its investigation involving hundreds of interviews with scientists, environmentalists, regulators, and workers, Rolling Stone found a sweeping arc of contamination — oil-and-gas waste spilled, spread, and dumped across America, posing understudied risks to the environment, the public, and especially the industry's own employees. There is little public awareness of this enormous waste stream, the disposal of which could present dangers at every step — from being transported along America's highways in unmarked trucks; handled by workers who are often misinformed and under protected; leaked into waterways; and stored in dumps that are not equipped to contain the toxicity. Brine has even been used in commercial products sold at hardware stores and is spread on local roads as a de-icer.

The very long article is well worth your time to read and can be found at <https://www.rollingstone.com/politics/politics-features/oil-gas-fracking-radioactive-investigation-937389/>.

Reporting on the Atlantic Coast Pipeline Found to be Woefully Lacking

All three states crossed by the Atlantic Coast Pipeline have a dearth of local newspapers, according to a University of North Carolina report. West Virginia has three counties without a newspaper; Virginia has seven. In about half of the 25 counties along the Atlantic Coast Pipeline route, print news comprises a single weekly paper; several weekly or daily papers cover more than one county. These areas are also overlooked by the national media.

Pipeline reporting—concerning permits, protests, hearings, lawsuits, and risks—are not consistently covered in national and state newspapers or newspapers in neighboring counties, if they're covered at all.

The result is misinformation and confusion about the status of this massive energy project that affects tens of thousands of people, several endangered species, and a variety of fragile ecosystems, giving ample space for powerful campaigns by Duke and Dominion, the pipeline's developers and buyers of its natural gas, as well as industry-aligned lobbyists and politicians, to shape the pipeline narrative. In some cases, property owners have been caught unaware of their rights or legal options when Dominion came knocking to claim eminent domain.

Certainly, those most affected by the proposed project deserve to know.

Happening in the National Forest

Last month I talked about the roundtable wherein Monongahela National Forest Supervisor Shawn Cochran and members of the Forest Leadership Team invited forest partners and stakeholders to discuss and share detailed information about the forest service's new strategic plan for comprehensive management of the Forest, which is designed to assist in providing consistent and predictable outputs into the future. Since the roundtable WVHC has received information concerning the following.

1. District Ranger, Jack Tribble, of the Greenbrier Ranger District of the Monongahela National Forest, has prepared a final Environmental Assessment (EA), draft Decision Notice (DN) and Finding of No Significant Impact (FONSI) for the Beulah Wildlife Enhancement Project. The project area is approximately 2,287 acres and is located approximately two miles south of the town of Glady in Randolph County, West Virginia. The Beulah Wildlife Enhancement project encompasses a wide spectrum of activities focused on wildlife habitat enhancements, forest health, and stream and riparian habitat. The final EA, draft DN, and FONSI are available on the Monongahela National Forest website under Land & Resources Management/Projects (Beulah Wildlife Enhancement Project) at <https://www.fs.usda.gov/project/?project=51533>. Deadline for filing an objection is April 6, 2020.
2. The Marlinton – White Sulphur Ranger District is interested in receiving input on the Upper Elk Project. The 41,026-acre project area is in Pocahontas, Randolph and Webster counties and is centered around the vicinity of Slaty Fork, WV. The main objectives for the project are to improve forest health and resiliency, restore and manage spruce and hardwood forests, improve

(More on the next page)

More from President Larry (Continued from p. 2)

existing range allotments, enhance wildlife and stream habitat, and improve sustainable recreation opportunities. Comments are due February 21, 2020. Information can be found at the following link by selecting Upper Elk: <http://www.fs.usda.gov/projects/mnf/landmanagement/projects>

3. The Monongahela National Forest will be conducting prescribed burns on about 1,500 acres in Pendleton, Randolph, and Pocahontas counties from March through May, weather permitting. The purposes of these burns are to re-establish fire's natural role in the forest ecosystem, improve forest health and wildlife habitat, and reduce the threat of catastrophic wildfires.

The areas planned for prescribed fires this spring include:

Big Mountain – west and southwest of Cherry Grove in Pendleton County

Middle Mountain – south of Huntersville in Pocahontas County

Cheat Summit Fort – west of Huttonsville in Randolph County

This year the Forest Service will also be burning brush piles at various locations in Pocahontas and Pendleton counties to enhance grazing allotments and improve wildlife habitat. Pile burning may take place at any time of the year, when conditions permit.

Each burn area will be closed to the public on the day of the burn and may be closed for several days after to ensure public safety. Signs will be posted on roads near all prescribed burn areas before and during burning. Residents and Forest visitors may see and smell smoke for several days. If you encounter smoke on the highway, slow down, turn on your vehicle's lights and drive appropriately for the conditions.

Prescribed fires are conducted under specific weather conditions and designed to accomplish pre-determined forest management goals. Monongahela National Forest follows strict guidelines for conducting prescribed burns, and takes into consideration environmental factors such as temperature, humidity and wind. If any environmental conditions are not within limits, the burns will be postponed.

Local radio stations will be alerted to burn activities ahead of time. When burning begins, information, photos, and maps will be available at <https://inciweb.nwcg.gov/>.

The WVHC Public Lands Committee will be reviewing the projects and providing comments as appropriate.

March promises to be another busy month for the Conservancy and we will keep you informed, as events occur, through the Voice.

More on APC and the Supremes (from p. 1)

the horrible things that would result from a certain decision. The “horribles” can range from people would be inconvenienced to the end of the world as we know it.

In this case, Dominion brought up the horrors that would happen if pipelines could not cross trails. Would the Appalachian Trail set up an impenetrable barrier, stretching from Maine to Georgia, that would block all pipelines, thwart energy development, ruin our national economy, prevent Dominion from making money, etc.?

After the argument, legal observers (aka entrail readers) inferred from the questioning and the comments of some of the Justices that the Court was accepting Dominion's argument that upholding the ruling of the Court of Appeals for the Fourth Circuit would have serious, intolerable consequences.

Some of the Justices also seemed to be buying a related argument: had Congress intended to do something as dramatic as set up the Appalachian Trail as a barrier to all pipelines, it should have been more explicit about it. Instead of, as here, implying the Park Service's authority in two different statutes, Congress should have simply said what it was doing.

Both sides professed confidence in the outcome. From Dominion, “We're pleased with how oral arguments went today. We believe we've made a strong case, and we look forward to the Supreme Court's ruling in the coming months.” The lawyer for the citizens living along the proposed route just said that the law was “clear” that the citizens should prevail. It is impossible to tell if either of these is a true prediction and who is just whistling past the graveyard.

A decision is expected in late spring or summer.

The West Virginia Highlands Conservancy is a non-profit corporation which has been recognized as a tax exempt organization by the Internal Revenue Service. Its bylaws describe its purpose:

The purposes of the Conservancy shall be to promote, encourage, and work for the conservation—including both preservation and wise use—and appreciation of the natural resources of West Virginia and the Nation, and especially of the Highlands Region of West Virginia, for the cultural, social, educational, physical, health, spiritual, and economic benefit of present and future generations of West Virginians and Americans.

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The Highlands Voice is always printed on recycled paper. Our printer uses 100% post consumer recycled paper when available. The West Virginia Highlands Conservancy web page is www.wvhighlands.org.

A Little Legislative News

As *The Highlands Voice* goes to press the West Virginia Legislature is going into its final week. Committees are committing, deals are being cut, politics is being played, etc. etc. Nobody knows how things are going to turn out. Much of what is known now will change several times by the end. Next month, when the dust has settled, we will have a recap.

In spite of these limitations, there are a few things that it is possible to report on.

Above Ground Storage Tanks

There was the bill that would exempt above ground storage tanks. Right now, storage tanks that are directly upstream from public drinking water intakes or where a released contaminant will reach the intake within five hours must meet the standards and oversight of the Aboveground Storage Tank Act. There was a proposal (House Bill 4079) that would exempt those tanks.

That proposal did not make much progress, or at least not enough progress to have much chance of passing. Although nothing is ever certain, it appears that the proposal will not pass and the tanks will remain regulated.

Solar Power

There were two initiatives to encourage the use of solar power: the Modern Jobs Act and the bill allowing Power Purchase Agreements.

The Modern Jobs Act would have encouraged solar facilities by removing them from the control of the Public Service Commission. Under present law, someone who wished to produce and sell electricity would be classified as a public utility, subject to the Public Service Commission. Under the Modern Jobs Act (House Bill 4172), someone could build a solar farm on an old strip mine and sell the electricity to a large industrial user free of the control of the Public Service Commission.

Fairly early in the session idea behind the Modern Jobs Act morphed into a proposal that would have allowed public utilities to

build a defined amount of solar powered capacity and be regulated by the Public Service Commission. This proposal had the support of the West Virginia Department of Commerce; it thought it would be easier to recruit some businesses to West Virginia if we could offer them a renewable energy option.

The second initiative would have allowed Power Purchase Agreements. This bill would allow a company to install renewable energy facilities on a small scale (such as a single building) without being regulated by the Public Service Commission.

Early in the session it looked as if the son (or nephew, or second cousin) of Modern Jobs Act would ride administration support to passage; it also looked as if the Power Purchase Agreements bill quietly wither and die. Now, both have disappeared into the Mystery Hole that is the West Virginia Legislature. There are rumors that one is being held hostage in exchange for the other, it will probably be up in the air until the last minute.

Clean Water

There was a bill which aimed to identify and reduce exposure to a class of chemical toxins known as polyfluoroalkyl substances, or PFAS. These substances are “forever chemicals” and accumulate in the environment. A main source of exposure to PFAS is through contaminated drinking water.

That bill did not pass but there was still progress. There is a Resolution that would accomplish some of the things that the bill would have. It would require the West Virginia Department of Environmental Protection and the West Virginia Department of Health and Human Resources to sample untreated, water supplies at locations across the state for the presence of toxic chemicals. The data from the study will help regulatory agencies better protect public health and ensure the water we drink is safe.

So, that’s it for now. There is still plenty going on; we will see what happens.

Crackers and Missing Mountains. Tales within tales.

By Marion Harless, West Virginian

More taxpayer dollars are going to subsidize construction of huge air-polluting gas cracker plants. Gas and oil are cracked to make stock for plastic. Plastics are smothering us and the planet. If we really need more plastics, we can make them from wood, plants, and even coal, we can start mining them from landfills. Think of the jobs!

Many chemical components such as mineral oil, glycerin, propylene glycol, ethylene glycol, and acetic acid can also be cracked out. But many nut and seed oils can substitute for mineral oil. Glycerin can be made from plants and some still is. We don’t need propylene or ethylene glycol for

antifreeze, nor to make soft coconut or as a component of vitamin pills. Acetic acid is vinegar, easily made from apples, grapes, or almost any fermented material.

Pulitzer Prize winner David McCullough first published *The Lonely War of a Good Angry Man* in the December 1969 issue of *American Heritage*. The good angry man was Kentuckian Harry Caudill, himself the author of *Night Comes to the Cumberlands* (1962) and *My Land is Dying* (1963), among his many writings detailing the seemingly futile fight against strip mining in the Appalachian Mountains.

The piece is included in McCullough’s *Brave Companions: Portraits in History*,

published by Simon & Schuster Paperbacks in 1992. He recalls asking Caudill why he stayed in Letcher County.

After smiling at his wife, Caudill related an anecdote dating back to a post Civil War feud involving Claib Jones. Claib was pinned down in his cabin by hours of firing. A pause in the shooting brought his opponent’s wife to ask Claib to surrender. Caudill thought Claib’s response was wonderful. The old fighter said, “No. We want to fight on a little longer anyway.”

Caudill surmised that that was the way he and Anne felt; they wanted to fight on a while.

Exactly.

Join Now !!!

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Membership categories (circle one)

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Other	\$15		
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Associate	\$50	\$75	\$100
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Patron	\$250	\$500	\$500
Mountaineer	\$500	\$750	\$1000

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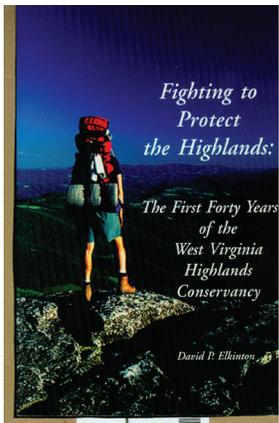
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West Virginia Highlands Conservancy
Working to Keep West Virginia Wild and Wonderful

You may also join on-line at www.wvhighlands.org

GET A GREAT HISTORY BOOK

For the first time, a comprehensive history of West Virginia's most influential activist environmental organization. Author Dave Elkinton, the Conservancy's third president, and a twenty-year board member, not only traces the major issues that have occupied the Conservancy's energy, but profiles more than twenty of its volunteer leaders.



From the cover by photographer Jonathan Jessup to the 48-page index, this book will appeal both to Conservancy members and friends and to anyone interested in the story of how West Virginia's mountains have been protected against the forces of over-development, mismanagement by government, and even greed.

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

To order your copy for \$15.95, plus \$3.00 shipping, visit the Conservancy's website, wvhighlands.org, where payment is accepted by credit card and PayPal.

Or write: WVHC, PO Box 306, Charleston, WV 25321. Proceeds support the Conservancy's ongoing environmental projects.

Tell a Friend!

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

Person you wish to refer: _____

Address: _____

Email _____

Your name: _____

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

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

SUCH A DEAL!

Book Premium With Membership

Although *Fighting to Protect the Highlands, the First 40 Years of the West Virginia Highlands Conservancy* normally sells for \$15.95 plus \$3.00 postage. We are offering it as a premium to new members. New members receive it free with membership.

Existing members may have one for \$10.00. Anyone who adds \$10 to the membership dues listed on the How to Join membership or on the renewal form will receive the history book. Just note on the membership form that you wish to take advantage of this offer.

Weeks Act Helped Create Monongahela National Forest

By Robert Beanblossom

One of the most important pieces of environmental legislation ever enacted by Congress was the passage of the Weeks Act on March 1, 1911. Named for its chief sponsor, Congressman John Weeks, R-Mass., it was to have a profound effect on West Virginia by providing the statutory authority to create the Monongahela National Forest in 1920. This year marks the 100th anniversary of the forest.

The U.S. Forest Service was established in 1905 and placed in charge of the millions of acres of forest lands that had been set aside from the public domain in the West. However, there was no legal means to purchase private lands for public use and virtually all forest land east of the Mississippi River was in private hands. Nor was there a mechanism to provide federal financial assistance to the various states to assist with implementing needed forest fire control programs. The Weeks Act accomplished both.

Prior to the Act, several bills had floundered in Congress. In an effort to build support for the legislation, states began passing bills to demonstrate their willingness to allow the federal government to purchase land within their boundaries. West Virginia was at the forefront of this movement and the Legislature passed such an act on Feb. 26, 1909, thereby consenting to the purchase of lands which in the opinion of the federal government were necessary for the establishment of a national forest.

Several more years of debate were to follow, but when the Weeks Act finally became a reality, action was swift. Within a week a National Forest Reservation Commission had been appointed and had met for the first time. In anticipation of the law, the Forest Service had been diligently working for many months prior to identify large tracts, primarily on the headwaters of navigable streams, suitable for purchase. These areas, known as "purchase units," required Commission approval and included land that was to become the Monongahela.

Consent was granted and the very first tract of land acquired in West Virginia was the Arnold Tract, simply known as "Purchase Case No. 1." On Aug. 7, 1911, Mr. and Mrs. Thomas J. Arnold, of Elkins, offered to sell 7,200 acres in Tucker County to the federal government. The deed for this land, signed Nov. 26, 1915, represented a sizable and valuable first acquisition. Other properties were acquired over the next few years; and by 1920 enough land had been purchased to officially recognize a new national forest. On April 20, 1920, President Woodrow Wilson signed the proclamation establishing the Monongahela National Forest.

West Virginia officials also responded to the bill's other provision providing federal funds for forest fire protection and entered into an agreement with the federal government on Oct. 16, 1913. The Forest Service, under the terms of this agreement, provided \$5,000 and West Virginia agreed to a like amount. Statewide fire protection efforts began in earnest. In addition, the Weeks Act also created the George Washington and Jefferson National Forests in neighboring Virginia with their purchase unit boundaries dipping over into the state.

Currently, over a million acres are held in trust by the U.S. Forest Service in West Virginia's three national forests. Arguably, these lands comprise the very best West Virginia has to offer. It is hard to visit one of these national forests today and imagine what it looked like at the turn of the century. Indiscriminate logging, rampant wildfires, grazing, the introduction of the chestnut blight and other destructive forces had devastated the landscape.

Take Canaan Mountain in Tucker County as an example. Destructive logging followed by numerous forest fires had literally consumed everything down to bare rock. Crews operating under Forest Service direction worked day and night hauling peat and muck from unburned areas of Canaan Valley to be used in planting Norway spruce on Canaan Mountain. About two bushels of peat were required for each tree planted and about 300,000 trees were planted in this manner. Now abundant forests grow where destruction once reigned.

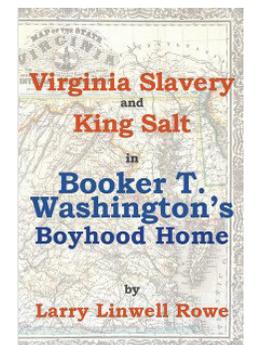
Under federal stewardship and management, these forests today provide watershed protection, outdoor recreation, timber, critical wildlife habitat and other ecological goods and services to their owners — the people of the United States.

Robert Beanblossom, a member of the Society of American Foresters, retired after a 42-year career with the West Virginia Division of Natural Resources. He is currently the volunteer caretaker at the Cradle of Forestry in America in west North Carolina.

Note: This article previously appeared in *The Charleston Gazette*.

Special Discount for WVHC Members

Larry Rowe of Malden, WV, is offering his book *Virginia Slavery and King Salt in Booker T. Washington's Boyhood Home* at a special rate for West Virginia Highlands Conservancy members. Its regular retail price is \$29.95. He is offering it to WVHC members for \$8.00.



A prominent educator, author, orator and advisor, Booker T. Washington has become a favorite son of West Virginia. He was born in Virginia, and his family moved to Malden during his youth, where he first attended school. In the book, Mr. Rowe tells the story of Washington's boyhood heroes and how he observed them start a black middle-class community in Malden during the first generation after the abolition of slavery.

To take advantage of this offer, call Mr. Rowe at 304-925-1333 or 800-542-6079. Mention that you are a WVHC member for the special rate.

ClimateWise

Sequestering carbon dioxide is essential if the world is going to avoid the worst impacts of climate change. Many scientists estimate that in order to stay at a “safe” level of warming, that carbon dioxide levels should stabilize around 350 parts per million. Last year we reached 410 ppm. In short, there is already too much carbon dioxide in the atmosphere, and we need to sequester carbon dioxide now. Sequestration can be accomplished naturally, by growing trees for example, or through technology.

Trees and other plants are a wonderful carbon sink. In the process of photosynthesis, plants remove carbon dioxide, the most prevalent manmade greenhouse gasses and a major contributor to climate change, and store or sequester the carbon in leaves, branches, roots and the soil.

Different ecosystems sequester carbon differently. Carbon is stored above ground in the living vegetation and below ground in the soil. The above-ground and below-ground storage pools are both important, but in most terrestrial ecosystems, more carbon is stored in the soil. Wetlands, arctic ecosystems, conifer forests, and grasslands are generally the most effective at storing carbon. These ecosystems store large quantities of carbon in the soil, where it is resistant to decay due to lack of oxygen (wetlands), cold temperatures (arctic and some coniferous ecosystems), acidic conditions (wetlands and conifer forests), or the fact that much of the carbon has been converted to soot (grasslands).

The age of a forest matters too. Young forests with trees between 4” and 16” in diameter will take more carbon dioxide out of the air on an annual basis, while mature stands with trees having a diameter greater than 18” have a larger pool of stored carbon. Although the amount of carbon pulled out of the air annually slows down as forests age, research shows that mature and old-growth forests continue to sequester carbon indefinitely, and the large amount of carbon already stored makes older forests critically important for keeping that carbon locked away.

As important as trees are to sequestering carbon dioxide, some of the carbon dioxide is released back into the atmosphere as leaves, branches and trunks rot, when trees are burned, or when harvested wood products are discarded. For example, the recent Australian forest fires are expected to push carbon dioxide levels to their highest concentration since the beginning of the industrial era. This new carbon dioxide put into the atmosphere will be captured by growing trees and other vegetation. In turn, this vegetation will rot or burn and the carbon dioxide released back into the environment. This is what is known as the carbon cycle.

Technology can also be used to sequester carbon dioxide. Carbon capture and sequestration and carbon capture and utilization capture carbon dioxide in the flue gasses at power plants and then sequester it or utilize the carbon. By far the most frequent use of this captured carbon dioxide is for enhanced oil recovery. (How climate friendly is that?) There may be other uses for captured carbon dioxide, including building material, carbon fiber, polymers, and fuel.

Carbon capture and sequestration is expensive and consumes enormous amounts of power. Appalachian Power Company tried it at their Mountaineer plant in New Haven, West Virginia. Although the process could remove 90% of the carbon dioxide, it almost doubled the cost of electricity and took up acres of land. Eventually, APCo abandoned the project.

Some see carbon capture and sequestration as a waste of time and money and the last gasp of the coal industry. Yet the United Nation’s Intergovernmental Panel on Climate Change has said that developing this technology is essential if the earth is going to avoid the worst impacts of climate change. This technology will also be needed to reduce carbon dioxide from hard to decarbonize industries: namely steel and cement. And if the United States could make this technology feasible, we could export the technology to China and India who have shown little interest in moving beyond coal-fired utilities.

There is another technology to remove carbon dioxide, called direct air removal. Rather than trying to capture carbon dioxide in the flue gasses, direct air capture removes carbon dioxide from the ambient air. It too is currently too expensive to operate, and there is uncertainty that carbon dioxide can be safely stored underground for hundreds, or even thousands, of years. Yet, it may become a vital technology in addressing climate change.

Planting trees -- even President Trump supports planting a trillion trees over the next decade -- is an important strategy. Beyond trees, we will need negative emission technology if the earth is going to avoid the worst impacts of climate change.

NOTE: The Highlands Conservancy is participating in several tree plantings activities. To learn about how to participate, see the information on p. 11.

Editor’s Note: This is the first of a series (possibly monthly) of columns on climate change from the Conservancy’s Climate Change Committee. The committee is comprised of Perry Bryant (Chair), Jackie Burns, Kent Karriker, Hugh Rogers, Marilyn Shoenfeld, Larry Thomas, Jeff Witten, and Frank Young.

And while you’re thinking about climate change...

Go ahead and fill out the survey on the next two pages. It doesn’t take that long and will help us figure out what West Virginia Highlands Conservancy policy should be.



The West Virginia Highlands Conservancy wants to know...

The Highlands Conservancy wants your opinion on climate change: what are the causes, what public policies should be adopted to address climate change, and what would you like to see the Conservancy do to address climate change. This is a first. The Highlands Conservancy has never surveyed its members before. Please send the completed survey to

Perry Bryant
1544 Lee Street
Charleston, WV 25311

Thank you.

WVHC Survey on Climate Change

- Based on what you have read or heard, which of the following comes closest to your views on climate change? (Circle the one that comes closest)
 Climate change is caused predominately by human activity
 Climate change is just a natural phenomenon
 Climate change is part of a natural cycle, but is intensified by human activity
 Don't know

- How concerned are you personally about climate change? (Circle the one that comes closest)
 A great deal A fair amount Only a little Not at all

- How likely do you think each of the following will occur due to climate change? Would you say: very likely, fairly likely, not too likely, not at all likely?

	Very likely	Fairly likely	Not too likely	Not at all likely
Harm to wildlife and their habitats	_____	_____	_____	_____
Coldwater trout habitat becomes degraded	_____	_____	_____	_____
Storms become more severe	_____	_____	_____	_____
More droughts or water shortages	_____	_____	_____	_____
Damage to forest and plant life	_____	_____	_____	_____
Rising sea levels	_____	_____	_____	_____

- How big a difference can each of the following make in reducing the impact of climate change? Would you say a big difference, a small difference, almost no difference, or no difference?

	Big difference	Small difference	Almost no difference	No difference
Regulations to restrict power plant carbon dioxide emissions	_____	_____	_____	_____
Market-based initiatives such as placing a price on carbon or a cap-and-trade initiative	_____	_____	_____	_____
International agreements to limit emissions	_____	_____	_____	_____
Tough fuel efficiency standards for cars and trucks	_____	_____	_____	_____
More people driving hybrid vehicles	_____	_____	_____	_____
People restricting carbon footprints by eating less red meat	_____	_____	_____	_____
People or nonprofit organizations planting more trees	_____	_____	_____	_____

5. For each of the following statements, tell us if you strongly agree, agree, disagree, strongly disagree, or don't know.

	strongly agree	agree	disagree	strongly disagree	don't know.
The Highlands Conservancy is doing enough to address climate change	_____	_____	_____	_____	_____
The position of the Highlands Conservancy on climate change is very clear to me	_____	_____	_____	_____	_____
I trust the Highlands Conservancy to provide full and accurate information about climate change	_____	_____	_____	_____	_____

6. What should the Highlands Conservancy be doing to address climate change? Please check all that apply.

Increase climate change content in <i>The Highlands Voice</i>	_____
Increase content on the Highlands Conservancy's website	_____
Produce more science-based material	_____
Develop and publish a Highlands Conservancy Climate Change Policy statement	_____
Include more climate change discussion at the Board meetings	_____
None of the above, we already have enough climate change material	_____

7. Please check all activities in which you think the Highlands Conservancy should be involved.

Planting Red Spruce trees and other restoration activities that make ecosystems more resilient to climate change	_____
Providing educational materials on climate change	_____
Advocating for legislation to reduce greenhouse gas emissions	_____
Advocating for governmental policies for resilience and adaptation to the impacts of climate change	_____

8. Where do you get information about climate change? Please rank top sources from 1 to 5 in order with 1 being the most important.

Television	_____
Newspapers and magazines	_____
Internet	_____
Highlands Conservancy	_____
Citizens' Climate Lobby	_____
Other organizations	_____
Friends and family	_____

9. How active are you in the Highlands Conservancy? (Circle one)

Very active	Somewhat active	Not very active	Not active at all
-------------	-----------------	-----------------	-------------------

10. What is your gender? (Circle one)

Male	Female	Prefer not to say
------	--------	-------------------

11. What is your age? (Circle one)

Under 25	25 to 45	45 to 65	65+	Prefer not to say
----------	----------	----------	-----	-------------------

12. Do you consider yourself a (check all that are applicable):

Democrat	_____
Republican	_____
Independent	_____
Conservative	_____
Moderate	_____
Liberal	_____
Others	_____
Nonvoter/not interested in politics	_____
Prefer not to say	_____

Checking in with the Northern Flying Squirrel

By John McFerrin

The United States Fish and Wildlife Service has done a review of how the Northern Flying Squirrel (*Glaucomys sabrinus fuscus*) is faring. It found that the Squirrel is hanging in there.

The Northern Flying Squirrel has a long history of varying degrees of protection under the Endangered Species Act. The U.S. Fish and Wildlife Service (Service) first placed the West Virginia northern flying squirrel on the endangered species list as an endangered species in 1985. At the time, the threats identified included: species rarity; habitat loss; human disturbance; and competition with, and transfer of, a lethal parasite from the more common southern flying squirrel.



In 1990, the Fish and Wildlife Service did a recovery plan for the West Virginia northern flying squirrel. This plan is a series of steps that the agency is supposed to take to help the species recover to the point that it can safely be taken off the endangered species list.

By 2008, the Fish and Wildlife Service determined that the squirrel was, in fact, doing well. It kicked it off (or “delisted” it, as they say) the list of endangered species.

In response to the delisting, several environmental groups said, “Hold your horses! The squirrel still needs protection.” (There were lawyers involved so they said it in more words and in a less colorful way.) The groups filed suit in the United States District Court. The District Court agreed; the squirrel was put back on the list. Then the Fish and Wildlife Service appealed to the United States Court of Appeals. The Court of Appeals ruled that the Fish and Wildlife Service was right in the first place so the squirrel was kicked off the list again. This was in 2013.

The squirrel was not, however, just rudely kicked out of Endangered Species Act protection, told to spread its little patagia and fly away. The Fish and Wildlife Service prepared another recovery plan, designed to help the squirrel recover. It was supposed to monitor the squirrel for ten years; if it was not thriving it could put it back on the list.

2018 was five years from the time the recovery plan was adopted in 2013. The Fish and Wildlife Service decided to see how the squirrel is doing.

Much of the Fish and Wildlife Service’s study is devoted to studying the availability of squirrel habitat. Flying squirrels respond in the same way as do the ghosts of early 20th Century baseball players: if you build it, they will come. The Fish and Wildlife Service looked at what flying squirrel habitat had been available at the beginning of the study period and how much had been gained or lost.

During the five years that the Fish and Wildlife Service monitored habitat gain and loss, it documented 284 acres of habitat loss. The most significant loss in habitat came from the construction

of Corridor H between Davis and Bismarck, West Virginia. This habitat was low quality habitat.

The loss of habitat was more than offset by the gain in habitat elsewhere. The Nature Conservancy, the United States Forest Service, the Central Appalachian Spruce Restoration Initiative (CASRI), the Canaan Valley National Wildlife Refuge, and the West Virginia Department of Natural Resources had all had red spruce planting programs or designed other programs in a way that enhanced stands of red spruce. Collectively, this resulted in 983 acres planted and 4,762 acres restored.

In order to determine if improved habitat resulted in more squirrels, the Fish and Wildlife Service counted squirrels, using such things as monitoring nest boxes and trapping squirrels. With the help of the West Virginia Department of Natural Resources and the Monongahela National Forest, the Fish and Wildlife Service determined that the squirrel was present in the majority of the places where it was known to exist. In addition, they found it in several places where it had not been known to exist in the past.

On the whole, the Fish and Wildlife Service is pleased with the prospects for the Northern Flying Squirrel. When it was delisted in 2013, the Service was supposed to monitor it for ten years, see how it was doing, and put it back on the endangered species list if it was not persisting. Halfway through, it appears that its habitat is expanding and there are more squirrels than there were five years ago.

What’s West Virginia Highlands Conservancy Got to Do with It?

The West Virginia Highlands Conservancy is one of twenty two members of the Central Appalachian Spruce Restoration Initiative (CASRI) and shares its mission of restoring red spruce habitat. CASRI was recognized in the Forest Service’s report for its role in recovery of the Northern Flying Squirrel:

Members of Central Appalachian Spruce Restoration Initiative have made significant progress to date working together to conserve and restore the red spruce-northern hardwood ecosystem. During the remaining years of implementing the Post-delisting Monitoring Plan and beyond, we encourage CASRI to continue this great work, especially planting trees and restoring the red spruce/northern hardwood ecosystem in priority areas, moving toward the goals of increasing the amount of young forest, advancing development of mature forest, and increasing habitat patch sizes and connectivity.

Fun with Words

Even if they are called flying squirrels, they don’t actually fly. They stretch out the folds of skin that stretch from front legs to hind legs and glide. These folds are called the patagia, from the Latin *patigium*, meaning the border of a tunic. The singular form was adopted directly from the Latin as the singular patagium; patagia is the plural form.

SPRUCE UP YOUR WORLD

ROLL UP YOUR SLEEVES AND PLANT TREES!



Why Plant Trees With CASRI?

In just a few hours you can help us restore wildlife habitat, fight climate change, protect rare species, sequester carbon, and save the world. It's a pretty good payoff for a spring day spent in a beautiful place! CASRI is dedicated to restoring red spruce ecosystems across the high elevation landscapes of Central Appalachia

Cranesville Swamp Preserve, MD

Friday, April 17 & Saturday April 18 10 AM – 4 PM

Register on our Facebook page. This planting takes place over 2 days, volunteers can come for one or both days. For more information, please contact Deborah Landau at dlandau@tnc.org or Bridget Moynihan at bridget.moynihan@tnc.org.

Canaan Valley State Park

Wednesday, April 22 • 10 AM – 4 PM

Celebrate Earth Day 2020! For more information, please contact our Volunteer Organizers—Karah Jaffe at Karah.Jaffe@tnc.org or Patrick Hecht at Patrick.Hecht@tnc.org.

Canaan Valley National Wildlife Refuge

Saturday, April 25 • 9 AM – 4 PM

Meet at the Canaan Valley NWR Visitor Center. Access to planting sites via land. For more information contact Dawn Washington at Dawn_Washington@fws.gov or 304-866-3858 ext. 3013

Canaan Valley National Wildlife Refuge

Saturday May 16 • 9 AM – 4 PM

Registration is required. Access to planting site via the Blackwater River. Canoeing and Kayaking experience a must. Meet at the Canaan Valley NWR Visitor Center For more information contact Dawn Washington at Dawn_Washington@fws.gov or 304-866-3858 ext. 3013



Images courtesy of USFS



Please Note

There may not be facilities at the planting site. We recommend packing water and a lunch. Wear sturdy shoes/hiking boots that you don't mind getting wet. Pack dry socks/a change of clothes for the ride home – you won't regret it!

We provide tools and training at all planting events.

RSVP on our Facebook page so we know you're coming!

New Designation for the New River?

There has been some activity on the proposal by United States Senators Joe Manchin (D-WV) and Shelley Moore Capito (R-WV), to change the New River Gorge's designation from the "New River Gorge National River" to the "New River Gorge National Park and Preserve."

The Senators' goal in proposing this change is to make the area more attractive to tourism. The proposal assumes that if the area is labeled as a National Park people would believe that it offers more recreational opportunities.

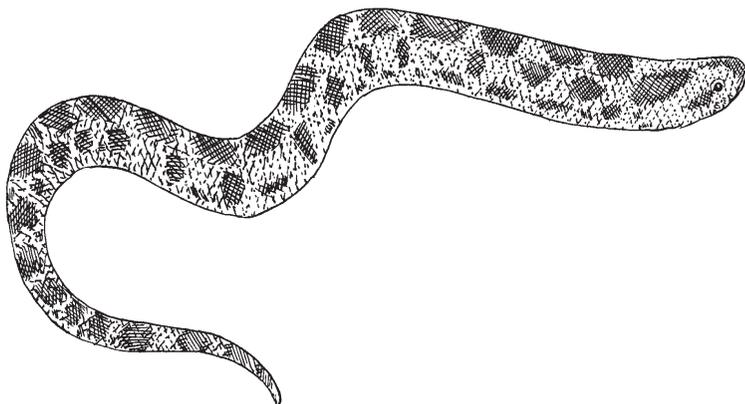
Right now there are about 72,000 acres under federal control. Most of this is currently open to hunting although there are parts where hunting is not allowed because they are close to high use areas. Under the proposal, more than 7,000 acres of the Gorge's land would be redesignated as a national park. The national park part would include Sandstone Falls, the town of Thurmond, the Grandview area, and the Canyon Rim and Sandstone visitor centers.

Hunting would not be allowed in the part redesignated as a national park. Since hunting was already prohibited in parts of that area, the net loss to hunting would be about 5,000 acres. When the redesignation was first proposed last fall, Senators Manchin and Capito held an informational meeting at the Canyon Rim Visitors' Center. Now the bill making the redesignation has been assigned to the Senate Energy and Natural Resources Committee. It recently held a field hearing in Beckley where it heard testimony from the public.

From the people who spoke, it appeared that support and opposition was about evenly split. The main opposition appeared to come from hunters concerned about the loss of hunting land. Others expressed concern about the need for adequate staffing, maintenance, and infrastructure for a park. The proponents hope that a park designation would result in more park visitors. If this happens, then there will be bigger need for infrastructure. One speaker noted that there are already overflowing parking lots and overcrowded boat launch sites. If the park designation results in the increased number of visitors that its supporters suggest and those problems are not addressed, they will only get worse.

The proponents of the park designation spoke of it as an economic development opportunity. A representative of West Virginia Tourism Commission said that a park designation would be easier to market and expected an increase in visitors with the new designation. She promised a marketing campaign if the new designation became effective.

Senator Capito said she expected a vote on the bill to make the change to take place later this year.



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Mon National Forest Hiking Guide

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

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

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

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

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

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

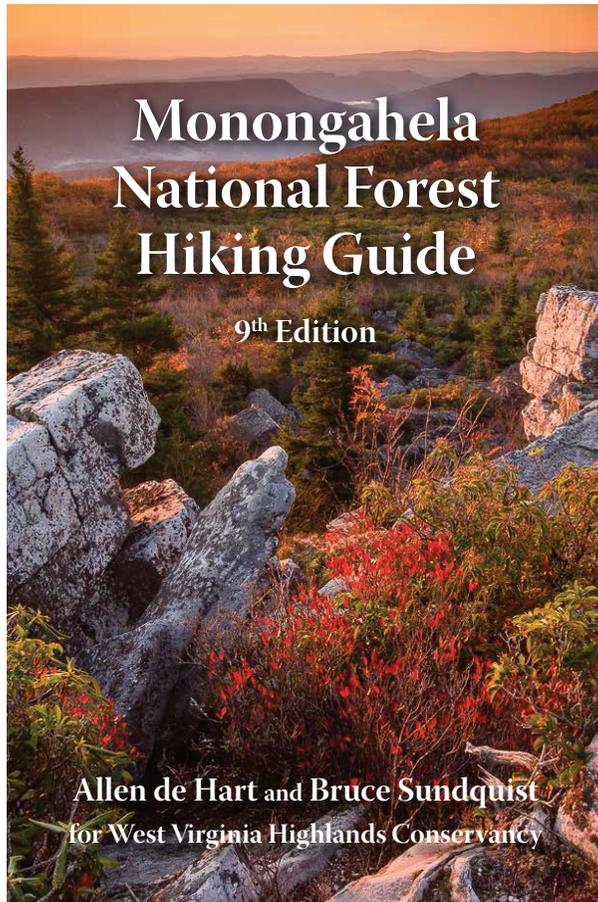
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The Highlands Voice: It's Not Just for Reading Any More

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

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

BUMPER STICKERS

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



Also available are the new green-on-white oval *Friends of the Mountains* stickers. Let us know which (or both) you want.

Changes to the Clean Water Rule Have Big Impacts on the Ground

By Kurt Fesenmyer

High in the headwaters of Back Creek in the Blue Ridge Mountains of Virginia are several small streams that only run after it rains.

Those “ephemeral” tributaries to Back Creek, a wild brook trout stream that also holds browns and rainbows, intersect with the proposed 600-mile route of the Atlantic Coast Pipeline, a project that would transport natural gas from central West Virginia up and across the Appalachians to the East Coast in Virginia and North Carolina.

This is an ephemeral tributary to Snakeden Branch of Difficult Run, an important Potomac River tributary in Fairfax County, Va.

Last week, the Environmental Protection Agency announced a new rule that will remove Clean Water Act protections for as much as six million miles of “ephemeral” streams, along with millions of acres of wetlands—a rollback to levels not seen in generations.

The little Back Creek headwater tributaries provide perfect examples for understanding what is at stake with this decision.

Permitting under the Clean Water Act is designed to help avoid, minimize, and mitigate the risks of pollution from development projects, such as those documented by Trout Unlimited volunteers for a recently released report.

Pipeline construction involves clearing land, moving earth and trenching through or drilling under streams and wetlands—all of which can have lasting impacts to downstream water quality and fisheries.

Take, for example, the 2 million gallons of drilling mud contaminated with diesel fuel spilled into an Ohio wetland in 2017. Or the widespread sedimentation events that smothered streams following rains on recent pipeline construction sites across central Appalachia.

The proposed Atlantic Coast Pipeline crosses 23 tributaries above Back Creek. Eighteen of the crossings are on “perennial” or “intermittent” streams, streams that flow year-round or seasonally due to springs, elevated groundwater levels, or snow melt. These streams will remain protected under the EPA policy.

But five adjacent ephemeral streams will lose protection—despite the fact that they still deliver water and nutrients—and potential pollution—downstream into Back Creek after rains.

A report commissioned by Trout Unlimited documents a number of pollution events related to pipeline construction in the East. The elimination of Clean Water Act protections for ephemeral streams will impact permitting requirements for such projects and could further increase risks of such massive infrastructure projects.

That water then flows into the South, South Fork Shenandoah, Shenandoah and Potomac rivers, crossing three states and the District of Columbia on its way to the Chesapeake. Along the way, those waters pass by some two million people in 30 towns and cities, provide habitat for trout, smallmouth bass, striped bass, and oysters, and support outdoor recreation, from angling to boating to swimming.

Trout Unlimited and our partners have invested millions to improve the water quality in the watershed.

“A Nation’s River,” a Trout Unlimited film, highlights work TU and partners are doing in the Potomac River watershed.

We know that those five streams—along with 77 other stream crossings in the path of construction—are ephemeral waters that will lose protection, because a survey crew for the pipeline company walked the route and classified the streams. They found no flowing water, but evidence of clearly defined beds, banks, and high water marks. For issuing permits and determining Clean Water Act jurisdiction, ground surveys like these are the only way to identify the individual streams subject to the rule.

But national maps are available for evaluating the landscape-scale scope and potential impacts of the new rule across the country. EPA chose not to use these maps, effectively declaring a new rule with no consideration of the scope or potential impacts of the change.

Last year, Trout Unlimited analyzed the U.S. Geological Survey’s National Hydrography Dataset and topographic maps to try to understand what would happen under the new policy. These are the

best available maps for identifying streams, and while they cannot be used to say whether a particular water will be protected or not by the Clean Water Act, they can help us reach broad conclusions about national coverage of federal regulations.

Crews in Ohio work to address the aftermath of a pipeline spill. Pipeline paths cross many ephemeral streams, and removing Clean Water Act protections to such streams will exacerbate risks to larger streams.

Our research suggested that more than six million miles of streams—half of the U.S. total—will lose Clean Water Act protections, since they only run after rain or snow events.

In arid Southwestern states like Arizona, the proportion of streams losing protections likely exceeds 80 percent.

Ephemeral streams like the tributaries to Back Creek flow into every watershed. To explore the pattern of ephemeral streams in your local watershed, and learn more about what you can do to protect clean water, visit TU’s Standup website. TU is continuing the fight against this move by the EPA to weaken the Clean Water Act.

As Chris Wood, TU’s president and CEO, put it last week, “Headwaters and wetlands are some of the most important components to our network of streams and rivers. They’re like the capillaries in our bodies. If they’re unhealthy so is everything else. Americans should not, and will not, allow our water to be jeopardized in this way.”

Note: *The Highlands Voice* has had several stories on the narrowing of the Clean Water Act, including the February, 2020 issue. This focuses on how it affect fish. It first appeared in *Trout*, the publication of Trout Unlimited. To see the story, go to <https://www.tu.org/blog/changes-to-the-clean-water-rule-whats-at-stake-on-the-ground/> The original story has links to several sources of additional information. It also has pictures; two of the pictures are related to pipeline construction. Instructive but not much fun to look at.

A Little Action at the Pump Storage Project

By John McFerrin

Although the details about the project are not yet available, there have been some developments in the proposed pump storage project near Bismark in Grant County. The developers have appeared before the Grant County Commission and, after a brief discussion, received its endorsement.

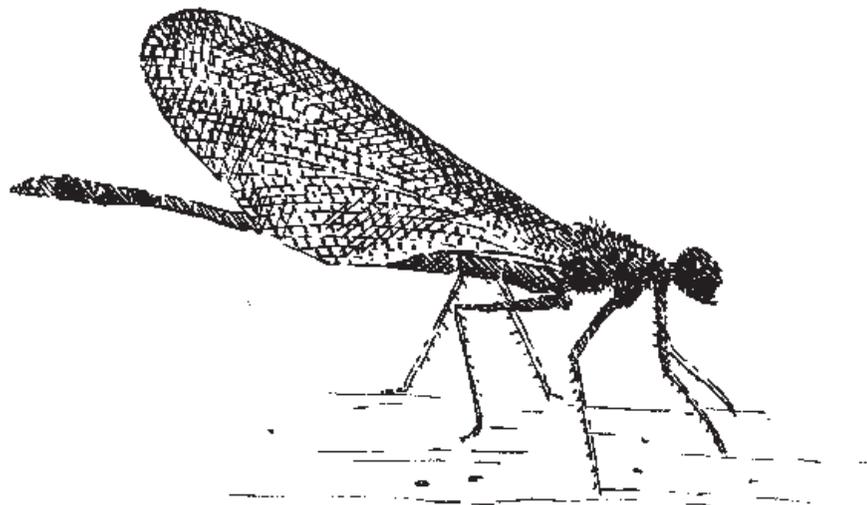
Even if the endorsement of the Grant County Commission has little significance, it did make the project more visible. People are starting to talk. Questions are just now being asked in the community: What are likely impacts to Greenland Gap? Falls Gap? The Falls community? What impacts from drilling for the long underground penstocks?

While the endorsement of the Grant County Commission has some significance, it is not the body which will decide whether the project is ultimately built. That would be up to the Federal Energy Regulatory Commission.

On February 3, 2020, the Federal Energy Commission issued a preliminary permit for the facility. While a preliminary permit is a step on the road to actual construction, it is a baby step compared to everything that is yet to come. It does not allow any earth disturbance. It just allows the applicant to conduct feasibility studies and gather information that would be necessary to complete an application for the permit that would actually be necessary to build the project. The preliminary permit points out that, as a matter of law, it does not authorize Freedomworks, LC, to enter into or conduct any tests on any land it does not own without permission.

This proposed project, called the Ulysses Pumped Storage Hydropower Project location would involve constructing two reservoirs, one on Mill Run, a tributary of Stony River, and another on the North Fork of Patterson Creek.

A pump storage project is designed as a way to, in effect, store electricity. It consists of two reservoirs, an upper reservoir and a lower reservoir. They are connected by huge underground tubes called penstocks. At times when an electricity generating facility—be it a coal fired power plant, a wind farm, an array of solar panels, or anything else—is producing more electricity than there is demand for, it uses the excess electricity to pump water to the upper reservoir. When there is more demand for electricity, the water flows by gravity, through turbines, from the upper to the lower reservoir and generates electricity.



Such a system has the potential to be useful in storing electricity from solar and wind facilities when they produce electricity at times other than when there is a demand for it. To date, its primary use has been to store electricity from conventional power sources such as coal or nuclear power.

The developer of the project, FreedomWorks, LLC, has not firmly indicated the source of the electricity is proposes to store. Its application notes the presence of Dominion Power Resources and First Energy powerlines in the area. It does not mention the coal fueled power plant at Mt. Storm although its proximity makes it a likely candidate as the source of the electricity. The application does mention the Ned Power Wind Farm and the Greenland Gap Wind Farm although it is far from making a commitment to these facilities. It only says that it intends to “evaluate” using transmission lines from those facilities.

In describing the public benefits of the project, the application says this:

The benefits of the proposed Ulysses Pump Storage Project are directly in keeping with the State of West Virginia’s Energy Plan to become the leader in transitioning the United States to a new energy future by supporting new renewable energy projects that create jobs and maximize the States natural resources.

It is impossible to know whether this is a genuine commitment to renewable energy or just the kind of thing that one says these days when hoping to have a project approved. If this is an accurate representation of West Virginia’s Energy Plan, someone should tell the Legislature. It does not appear to know about this Plan.

Even at this early stage this project is the subject of some controversy. The West Virginia Highlands Conservancy and the West Virginia Rivers Coalition both filed comments on the preliminary application. While neither organization opposed the project absolutely, both pointed out that the project would not be free of environmental consequences. The Rivers Coalition was particularly strong in pointing out the vague and unspecific nature of the project’s commitment to renewable energy. In its view, if the project only facilitated more coal burning its environmental value is limited.

The West Virginia Division of Natural Resources also made comments. It said that the project likely would eliminate the trout fishery in the two affected streams, could impact numerous rare species, and would be constructed in an area that contains known caves.

The United States Department of the Interior also weighed in. The tone of its comments could best be described as cautiously pessimistic. It did not definitively say that the adverse effects would occur. It just kept saying that the project would affect waterways and had the “potential” to harm several endangered species, nesting birds, Bald Eagles, etc. It suggests studies.

In issuing the preliminary permit the Federal Energy Regulatory Commission did not address any of these issues. Instead, it relied upon its application process for the full permit to construct and operate the project. It is confident that the process requires that adequate studies be done and information provided to address these issues.

HIGHLANDS CONSERVANCY BOUTIQUE



- ▶ The baby shirts are certified organic cotton and are offered in one infant and several toddler sizes and an infant onesie. Slogan is "I ♥ Mountains Save One for Me!" Onesie [18 mo.]---\$25, Infant tee [18 mo.]---\$20, Toddler tee, 2T,3T,4T, 5/6---\$20
- ▶ Soft pima cotton adult polo shirts are a handsome earthtone light brown and feature the spruce tree logo. Sizes S-XL [Shirts run large for stated size.] \$ 25.00, 2XL \$26.50

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

The same items are also available at our on-line store: www.wvhighlands.org

T- SHIRTS

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



HATS FOR SALE

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

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

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