



The Highlands Voice

Since 1967, The Monthly Publication of the West Virginia Highlands Conservancy

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The other shoe drops

EPA and Corps of Engineers Leave Waters Unprotected

By John McFerrin

The United States Environmental Protection Agency and the United States Army Corps of Engineers have narrowed the definition of the “waters of the United States” (WOTUS) under the Clean Water Act. In doing so, they eliminated protection for hundreds of miles of United States waterways and wetlands that had been protected.

This is the latest development in an ongoing controversy that has been going on since the federal Clean Water Act passed in 1972. That Act prohibited discharge of pollution into the “waters of the United States.” The Act left unsaid what exactly that phrase covered.

There was no doubt that rivers and major streams were covered. The trickier part comes in figuring out how far beyond major rivers and streams the jurisdiction of the Clean Water Act extended. Big rivers are just the sum of smaller tributaries and the

discharge of groundwater. The smaller tributaries are just the sum of even smaller waterways, including some that don’t run all the time (called ephemeral streams). Sixty percent of streams are dry

for part of the year but then connect when it rains. Any pollution dumped into those waters could affect key ecosystems. Should they be protected?

Then there were wetlands. Some are adjacent to major rivers; some drain to larger rivers, or even not so large streams and rivers. Most are hydrologically connected to larger bodies of water. What about them? Are they “waters of the United States”?

There have been various attempts to clarify the term, including some by the United States Supreme Court. The most recent (before now) was in 2015. For a more detailed discussion



(More on p. 3)

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Thoughts from our President

By Larry Thomas

Old man winter certainly has been kind to the highlands with milder weather and little snow to date. However, who can predict Old Man Winter's plans for February and March? As I look out my windows at the trees on the very top of Allegheny and North mountains, which seem frozen in time, my thoughts once again turn to the many issues that WVHC addressed during 2019. WVHC worked through partnerships with other organizations on specific issues, continued monitoring issues such as mountaintop removal mining and valley fills and gas pipelines proposed or under construction, reviewed and filed comments for proposed projects in the national forest and continued participation as a member of the West Virginia Environmental Council. The list continues to grow as we move ahead.

Monongahela National Forest Watershed Order of Entry Partnership Meeting

January 30, Monongahela National Forest Supervisor Shawn Cochran and members of the Forest Leadership Team invited forest partners and stakeholders to a roundtable discussion in Elkins. Shawn and the Team shared detailed information about the forest service's new strategic plan for comprehensive management of the Forest, which will assist in providing consistent and predictable outputs into the future. Kent Karriker, Chairman of the West Virginia Highlands Conservancy's Public Lands Committee and I attended.

The Forest Service's Watershed Management Order of Entry Strategy Revealed

The Monongahela National Forest has developed a watershed-based order of entry strategy to provide an efficient National Environmental Policy Act (NEPA) review and decision-making process. The purpose of the effort is to implement the 2006 Revised Forest Plan and to move the forest toward the desired future conditions, as laid out in the Plan. This approach will take the guess work out of planning and provide opportunities for aligning projects with partners and stakeholders. With this strategy, the Forest can sustain two large-scale NEPA projects simultaneously, one on each zone.

The roundtable provided an opportunity for partners and stakeholders to begin to identify shared stewardship opportunities for their organization's involvement in each watershed and how we can all work better together, celebrate what has been working well, and brainstorm solutions for challenging issues.

Supervisor Cochran welcomed the group and presented opening remarks followed by an overview of the United States Department of Agriculture State and Private Forestry presented by Field Representative Joe Koloski. We then broke into two groups for presentations and discussions with the District Rangers of the North and South zone projects. Afterwards, we returned for a general discussion about what we learned in the small group discussions. The forest service representatives gave suggestions for how partners and stakeholder can get involved and partners and stakeholder gave suggestions to and asked questions of the forest service. We then had a discussion of next steps.

Detailed information, in the form of handouts, concerning each watershed district in the North and South zones and the projected entry years for each watershed starting with year 2020 through 2030 was presented, showing the total project acreage and the total acreage for each watershed along with historical and other information about the forest. Both the handouts and the discussion showed a strong emphasis on commercial timber harvesting, which is consistent with the Forest Service's recent push at the national level to speed up and

expand the timber harvesting. Forest restoration and sustainability are also management goals.

There was a lot of enthusiasm evidenced in the group, indicating that participants appreciated the opportunity to learn about the Forest Service's plans.

United States Fish and Wildlife Service Announcements

Big Sandy crayfish and the Guyandotte River crayfish, January 28, 2020

The U.S. Fish and Wildlife Service (Service) announced that it will publish an Endangered Species Act proposed rule in the *Federal Register* to designate critical habitat for the Big Sandy crayfish (*Cambarus callainus*) and the Guyandotte River crayfish (*Cambarus veteranus*). The proposed critical habitat rule will be open for a 60-day public comment until March 30, 2020. If the Service finalizes this rule as proposed, it would extend the Act's protections to these species' critical habitat. The Service also announced the availability of a draft economic analysis (DEA) of the proposed designation of critical habitat for the Big Sandy and Guyandotte River crayfishes.

Rusty Patched Bumble Bee, January 23, 2020

The U.S. Fish and Service prepared a draft recovery plan for the rusty patched bumble bee, and the plan is now available for review and comment. The Service listed the bee as endangered under the Endangered Species Act (ESA) in 2017. The ESA requires the agency to prepare recovery plans for listed species. This plan provides a road map for conserving the rusty patched bumble bee and the habitat it needs to survive.

Candy Darter Protected as Endangered, November 20, 2018

Following a review of the best available scientific information, peer review and public comment, the U.S. Fish and Wildlife Service listed the Candy Darter as endangered under the Endangered Species Act. The Darter is found only in five watersheds in Virginia and West Virginia, and nearly half of the populations documented since 1932 have disappeared.

The Service is also proposing critical habitat designations for the Darter in the five watersheds in which it lives. Critical habitat designation would not impact landowner activities that do not involve federal funding or require federal permits.

West Virginia Northern Flying Squirrel, January 21, 2020

The U.S. Fish and Wildlife Service has completed a monitoring report confirming that the West Virginia northern flying squirrel, removed from the endangered species list in 2013 due to recovery, remains well distributed across its range and continues to be found at new, expanded and historic sites. In the first five years since delisting, partners across 22 organizations protected, created or restored 7,455 acres of red spruce-northern hardwood forest, which is the squirrel's habitat. The report covers 2013-2018, and the agency will develop and release a second report covering the following five years. Post-delisting monitoring is intended to verify that a recovered species remains secure from risk of extinction after the protections of the Endangered Species Act no longer apply. The primary goal is to ensure the species' status does not deteriorate, and if a substantial decline in the species (numbers of individuals or populations) or an increase in threats is detected, to take measures to halt the decline.

2020 continues to be another busy year for the Conservancy board and its committees and we will keep you informed, as events occur, through the *Voice*.

POTUS abandons WOTUS (Continued from p. 1)

of the rule and its history, see the January, 2019, issue of *The Highlands Voice*.

Now the Environmental Protection Agency and the Corps of Engineers have issued a new rule narrowing the definition of “waters of the United States.” Nationally, the proposed rule removes protections for millions of acres of wetlands and small streams. In West Virginia, we are particularly concerned with protections for headwater streams, including intermittent and rain dependent streams. It makes a difference in the regulation of mountaintop removal mining. Some of the streams that are being filled are headwater streams that would no longer be protected under the proposed rule.

West Virginia is the headwaters for two of America’s great rivers, the Ohio and the Potomac. Together these rivers provide drinking water, as well as water for business and recreation, to millions of Americans. Because these headwaters are the originating source water for so many states and their people, there is a federal role to protecting these headwaters. The proposed changes could put many of these waters at further risk.

Over half of West Virginia’s 1.8 million residents rely on public water systems for their drinking water that originates in part in intermittent, ephemeral or headwater streams. These are the very types of streams which would not be protected under the proposed rule.

The new rule is the final step in a long rulemaking process. Like all major rules, this one had to be made available for public comment. Many, many people (including the West Virginia Highlands Conservancy) opposed the new rule.

In spite of all of the opposition, this outcome was as predictable as the ending of a Hallmark movie special. President Trump campaigned on narrowing the protections of the Clean Water Act. He had been in office for a month when he made an Executive Order directing this change. The EPA and the Corps went through the motions but the ending was pre-ordained.

Another predictable result: there will be litigation. Stay tuned.

Finding Out What You Think

The Climate Change Committee for the Highlands Conservancy is developing a survey of our members on climate change. The purpose of the survey is to understand what members believe are the causes of climate change, measures that members may support in addressing climate change, and what action members think the Highlands Conservancy should take on climate change. This is the first time in our history that we have used a survey such as this.

The printed version will appear in next month’s *Voice*. Very shortly after the printed *Voice* appears, we will email the survey to all members for whom we have a valid email address. We will use Survey Monkey. Please feel free to send in either the version printed in the *Voice* or respond to the email version. All responses will be kept strictly confidential. We sincerely hope that you will participate but if you don’t want to simply delete the email from Survey Monkey and do not respond to the printed version.

Thanks.

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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.

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.

Applications now open**WHERE'S WALDO ?****Low Cost Environmental Summer Camp Invites New Campers, Counselors in June 2020**

Last year, Appalachian Headwaters, a new nonprofit organization [*see accompanying side bar], created Camp Waldo, an environmentally focused summer camp in southern West Virginia. The goal of the camp is to connect kids from the region with the environment through outdoor learning and exploration. Campers engage in ecology and environment programs daily, learning to understand our ecosystem and to become wise stewards of the earth's natural resources.

Campers and counselors are invited to apply to join a three-week overnight camp from June 13 – July 3rd. Welcome are any children, boys and girls, who are currently 3rd-6th graders. Specific information and applications are found at www.campwaldo.org.

Additional Details

Where: Camp Waldo takes place at a recently renovated historic camp in the big bend of the Greenbrier River, approximately 15 minutes from Hinton, West Virginia. There is a large dining hall, stages, sports fields, a basketball court, archery range, a garden, a greenhouse, and honey bee yards. Recently renovated cabins accommodate two counselors and eight campers. Each cabin has two private bathrooms with private showers.

What: This summer there will be a three-week overnight camp from June 13 – July 3rd with around 104 campers, 26 counselors, and several administrative staff. Campers will spend each morning in an ecology program, designed to connect the campers and staff with nature and thoughtful environmental stewardship. Campers will also enjoy activities like creative writing, music, visual art, theater, basketball, soccer, archery, chess, yoga, gardening, and beekeeping. Campers will explore the outdoors through activities like camping, backpacking, and paddle trips.

Who: Both campers and counselors are invited to join Camp Waldo this summer.

- **Campers:** Applications are sought from current 3rd-6th graders, both boys and girls. There is only one session in 2020, but plans are afoot to continue expanding the camp in the future, adding more capacity, increasing the age range, and adding a second session. The charge to families is \$200 for the entire three-week session of the camp - significantly less than the actual cost (less than 10%) of running the camp. **Reduced or even entirely waived fees are available for any family that cannot afford it.**
- **Counselors:** Applications are welcome from college students or soon to be college students. Each Camp Waldo counselor is expected to be present from June 4th – July 3rd. All counselors are paid \$1,500 and provided with housing, three hot meals a day, and ten days of staff training. There will be opportunities for paid internships after camp concentrating on organic farming, native plant horticulture and honey bees.

How: More information, photos, and camp applications are available on the website: www.campwaldo.org.

Our Connection with Camp Waldo

By Cindy Rank

A great number of mining and water related legal challenges pursued by WV Highlands Conservancy over the past 20-30 years have aimed at curtailing the pollution emanating from mines throughout the state.

As large scale and Mountaintop Removal Mines continued to be permitted, WVHC - together with co-plaintiff groups OVEC, Sierra, WV Rivers –successfully challenged many individual operations that were violating requirements of federal and state law with regard to unpermitted discharges of selenium and other constituents that cause biological impairment of local streams.

Many of those actions resulted in settlement agreements that directed substantial amounts of money to non-profit organizations whose goals involve protecting West Virginia land and water resources, preventing further pollution, and increasing awareness of the importance of these resources.

Our legal representatives (e.g. lawyers with Appalmad, Public Justice and the Sierra Club) have won precedent-setting court cases and negotiated costly settlements that require companies to pay hundreds of thousands of dollars towards conserving natural areas and treating polluted water. To date funds have gone to the West Virginia Land Trust, the Land Use and Sustainability Law Clinic at WV University School of Law, and most recently to the newly established non-profit Appalachian Headwaters.

Substantial amounts of funding have given the **West Virginia Land Trust** a needed boost and have enabled the organization to grow its staff and significantly increase the number of acres of land it now protects (currently over 10,000 acres), creating outdoor recreation opportunities, safeguarding drinking water supplies, protecting scenic views, preserving historic sites and family farms. <https://www.wvlandtrust.org/>

The **WVU Land Use and Sustainable Development Law Clinic** partners with the Land Trust on land conservation initiatives and works with other non-profits and government agencies on land transactions, facilitating conservation of hundreds of acres of land. Working in five counties, legal services include title examinations, contract drafting, drafting of title opinions and negotiations. <https://landuse.law.wvu.edu/about>

Appalachian Headwaters is a 501(c)(3) organization begun in 2016 to develop sustainable economic opportunities while restoring damaged ecosystems in central Appalachia. Specifically, the organization is working to restore productive native hardwood forests and improve water quality on former surface mine sites in the region. Its Appalachian Beekeeping Collective and Native Plant Horticulture Initiative programs focus on teaching and supporting people in the region as they learn to participate in growth industries. It is also working to help displaced or underemployed workers to earn income while repairing our natural environment. A new program started last year is Camp Waldo, a summer camp for youth located in Summers County, WV on the banks of the Greenbrier River. www.campwaldo.org and <https://appheadwaters.org/>

Legislative Update (More or less)

With the West Virginia Legislature now in session there are several bills of interest. A monthly publication such as The Highlands Voice is not the best source for news on such things. Things change too quickly; there are too many twists and turns. By the time news comes out in a monthly publication things may have changed half a dozen times. Even considering these limitations, here are some of the bills of interest: **Plugging Old Gas Wells**—Right now West Virginia has thousands of old oil and gas wells that have been completely abandoned. There are thousands more which are not producing either nothing or not much and will almost certainly be abandoned in the next few years. Wells that have reached the end of their useful lives need to be plugged. If they are not, they pose a continuing threat to air and water.

Right now there is no effective mechanism for addressing this problem but there are proposals to fix it. House Bill 4090 would reduce the severance tax on low producing gas wells and dedicate the money to plugging abandoned wells. House Bill 4091 would give drillers the option of paying an increased permit application fee. In exchange, they would get faster permit processing. Part of the money from the increased application fee would go to a fund to plug abandoned wells.

For more about the extent of the problem and last year's legislative efforts to fix it, see the June, 2019, issue of The Highlands Voice. For more about the science of abandoned wells and the problems they cause, see the August, 2019, issue.

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 standards and oversight of the Aboveground Storage Tank Act. Now there is a proposal (House Bill 4079) that would exempt those tanks.

All Terrain Vehicles—There is an idea floating around the Legislature that we should create trails for off road vehicles on public lands. At press time no bill had been introduced. The December, 2019, issue of The Highlands Voice had a story about some indications that a bill would be introduced as well as a discussion of the issue.



Camp Waldo Campers

Note: A picture of some Senators might have gone better with the story on this page. Even if these belong with the story on the previous page, this is WAY better.

The Modern Jobs (MoJo) Act-- It would encourage 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 MOJO 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. **Clean Drinking Water Act**—it aims to identify and reduce exposure to 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. ([House Bill 4542](#)).

Power Purchase Agreements—Right now all electricity in West Virginia is produced by and sold by large utility companies such as American Electric Power. They are regulated by the Public Service Commission. 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. (Senate Bill 611).

Landfill Closure—Right now the West Virginia Department of Environmental Protection has a fund which it uses to close old landfills. Currently there is a fee to dump in a landfill; the fee is divided between the local Solid Waste Authorities and this fund used to clean up old landfills. House Bill 4443 would change how the money from the dumping fee is divided. Last year the Governor vetoed a similar bill because he thought it would leave the Department of Environmental Protection with less than the money it needed to clean up old landfills.

Timbering in state parks—Two years ago there was a proposal to allowing timbering in state parks. It was a major controversy as the people rose up and the idea was abandoned. Now there is a quiet proposal that may be nothing. Or it may be a harbinger of something to watch. House Bill 2043 creates a fund into which money from timbering in state parks is deposited and directs how it is to be spent.

Under current law, the only timbering which is allowed in state parks is incidental to construction. Since construction is rare, perhaps House Bill is just a way to make sure that the small amount of money generated from construction related timbering is divided fairly. On the other hand, it may be an indication that somewhere there is lurking a proposal for timbering in state parks.

Tax breaks for gas companies—this bill would give a tax credit to any natural gas liquids producer, natural gas liquids storer, natural gas liquids user or natural gas liquids transporter. (House Bill 2412; Senate Bill 520)

Polystyrene containers—this bill would ban the use of polystyrene containers, such as those used in restaurant to go containers. (House Bill 4565)

This is only a list of proposals that are before the Legislature. Things change too quickly and the forces that move the Legislature are too varied to include anything helpful on present status, prospects, etc. To keep up, you can go to the Legislature's website to track of officials and laws that interest you. It is <http://wvlegislature.gov/>

In addition, you can subscribe to legislative updates through the West Virginia Environmental Council at <https://wvecouncil.org/> and through the West Virginia Citizens Action Group <https://wvcag.org/>

More Questions for Mine Testing Facility

By Ellie Bell

The Highlands Voice, May 2019, mentioned that a branch of the Center for Disease Control (CDC), the National Institute of Occupational Safety (NIOSH), is exploring a plan to relocate the Underground Mine Safety Research Facility from the Lake Lynn Experimental Mine near Pittsburgh to a property that borders Snowshoe Mountain Resort and the Monongahela National Forest. NIOSH wants to use the facility for studies and research on mine explosions, mine seals, mine rescue, ventilation, diesel exhaust, new health and safety technologies, ground control, and fire suppression. The proposed project includes an aboveground fire suppression facility and an underground mine.

The May 2019 Voice article summarized some of the big issues that were necessary to address in the final Environmental Impact Statement (EIS). These issues included conducting groundwater and surface water studies including trout stream impacts, surveying the property for caves, sink-holes, seeps, wetlands, and springs, forecasting the potential for invasive species and considering the impacts to recreation and tourism.

The Government Services Administration (GSA) is expecting to have a public meeting by "late January or February" to present the new information gathered from environmental surveys in response to public comments on the Draft Environmental Impact Statement (DEIS). The meeting may correspond with the release of the final Environmental Impact Statement. So, as we wait, I would like to point out some large impacts that can be deduced from the limited information in the DEIS and from the perspective of a neighbor to the facility. These impacts were included in my comments on the DEIS, so they should be addressed in the final EIS.

There are a few details about the history and the geology that are necessary to know first. The location of the 461 acre property entrance is almost four miles from the Snowshoe entrance at the Randolph/Pocahontas County Line on Rt. 219. Owned by the Consortium for Silver Creek, the property holds the headwaters of the Tygart Valley River watershed. The region and the property contains karst geology, with sinkholes, caves, fissures, and underground rivers.

One of the biggest concerns for recreation and tourism will be the impact on northern traffic entering Pocahontas County. In the first four months, an average of 116 dump truck loads of excavated material per day will enter and leave the site in addition to the heavy equipment and material deliveries. That's at least one truck every three minutes traveling on Rt. 219 for four months. After the first four months, there will be 11,600 loads of limestone trucked off the site, averaging sixteen loads per day every day for almost four years.

Rt. 219 is a main artery for guests to enter Pocahontas County and access Snowshoe from the north and east. If this project coincides with Atlantic Coast Pipeline (ACP) construction the impact could be devastating to the guest experience for tourists entering Pocahontas County.

The Atlantic Coast Pipeline is a 42 inch natural gas pipeline currently under construction in the region. If both projects are completed as proposed, the edge of the NIOSH site and ACP will be less than 1.5 miles apart. This was significantly mismeasured in the Draft Environmental Impact Statement. Vibrations of the proposed NIOSH project could upset the already precarious slopes of ACP. Potential gas leaks and explosions related to the ACP are already a legitimate concern among community members, but this project

adds a new layer wherein a truly terrifying scenario could unfold if gas from the ACP traveled through the karst limestone caverns and fissures to interact with explosions at the NIOSH facility.

Residents in the areas directly surrounding the project do not have access to public water systems. Their water comes from wells or natural springs, so this type of project puts the surrounding communities (Mingo, Mace, Dry Branch and potentially others beyond) at risk of losing their drinking water supplies due to pollution or dewatering. Dye tests in the neighboring Elk watershed, less than a mile from the site, were conducted and published by the West Virginia Speleological Survey (Karst Hydrology Atlas of West Virginia, p. 79). The dye from one point was traced to two different major watersheds, both about three miles away. Beyond this map, the groundwater flow is unknown. I have not yet located dye tracing data from the Tygart Valley River watershed. Since the two watersheds contain similar karst features, extensive mapping should be conducted to protect surrounding wells and springs. This would be a sufficient investigation if this were a static project, but the excavation process and the continuous explosions thereafter, present risk of shifts in groundwater cavities changing quantity and quality available in nearby wells and springs in all surrounding watersheds for the life of the facility. This ongoing threat should be addressed.

I feel that it is important to share these major potential impacts so folks can use them as we judge the level of quality in the final Environmental Impact Statement and as we decide how to react as a community. As a neighbor to the project, I am eager to see how the final EIS addresses these major concerns.

All Hail the Real Prognosticators

In most Februaries, *The Highlands Voice* takes note of Groundhog Day, honoring the putative prognosticator of spring. According to an article in *Scientific American*, however, the cute little rodent is lousy at it. It can predict the coming of spring no better than a coin flip.

The real prognosticators are birds, particularly the Eastern Bluebird. While Groundhogs do what they are going to do when they are going to do it, birds use atmospheric conditions to guide their actions. Because of this, they are much more accurate predictors of spring than are groundhogs. To see the whole article, go to <https://blogs.scientificamerican.com/observations/groundhogs-dont-have-a-clue/>



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Patron		\$250	\$500	\$500
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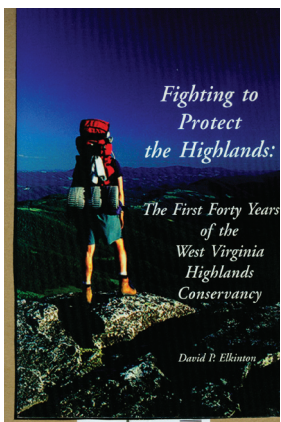
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GET A GREAT HISTORY BOOK

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



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

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

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

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

SUCH A DEAL!

Book Premium With Membership

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

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

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.

Send Us a Post Card, Drop Us a Line, Stating Point Of View

Please email any poems, letters, commentaries, etc. to the VOICE editor at johnmcferrin@aol.com or by real, honest to goodness, mentioned in the United States Constitution mail to WV Highlands Conservancy, PO Box 306, Charleston, WV 25321.

Board Highlights

The West Virginia Highlands Conservancy met in Charleston, with some of the members from more mountainous parts of the state snowed in and unable to attend. The Board did the usual businessy things such as hearing the financial report, approving a budget, etc. One of the notable things was that the annual fund appeal that we have in the fall did unusually well this year.

We also looked some at how we operate, both now and in the future. We pondered some on how to handle sign on letters. Almost daily President Larry gets a request from some organization asking that we lend our support to some effort that the group is undertaking. The support they ask for is signing on to a letter advocating a position. They are almost always something we would support. What should he do?

We are going to try sending all requests to the appropriate committee, which should recommend action to the board – or, on short notice, to the Executive Committee. If the request is for an immediate turnaround, we'll have to decline.

We also made visible progress in shaping the future of the organization. For a long time, there had been unease about our future directions and how we organized ourselves. One response to that unease was the facilitated meeting on that topic in April, 2018.

Now we are considering concrete changes. The budget includes a \$50,000 allocation to the Futures Committee The Committee (Frank Young, Cindy Ellis, and George Hack) is considering a new organizational structure, including a paid director.

There still remain questions about a job description and we still have to advertise for the right person. There are still questions of how we would supervise, whether we could afford the cost of a director year after year, and exact duties. The committee will keep working on this.

Regardless of the outcome of the Futures Committee's efforts, we still saw a need for organizational development. That would include on recruiting younger members and people who'd want to work on committees. To this end, we approved an Organizational Development Committee. Luanne McGovern promptly volunteered. Jackie and Marilyn joined her, and said they would recruit Ellie Bell.

In addition to discussions about business of the organization and about our future structure, we also talked about what we are doing on various issues. Frank Young reported on action at the West Virginia Legislature. He pointed out that up-to-date information on the current session comes out every Friday in the GREEN, published by the Environmental Council (and forwarded to board members by Larry). The Jan. 17 edition lists 100 bills our lobby team is following.

The lobby team's priorities this session are (1) water quality—updating civil and administrative penalties for violations; (2) a Clean Drinking Water Act, to reduce public exposure to toxic chemicals;

(3) the Citizens for Clean Elections bill; (4) a resolution favoring an Environmental Rights Amendment; (5) the Modern Jobs Act proposed by Del. Even Hansen; and (6) legalizing Power Purchase Agreements.

Frank said our support for the lobby team is matched dollar for dollar only by Sierra Club. Rivers Coalition's contribution is both financial and in-kind: Angie Rosser's very active lobbying and advice. Together, this is our team, pushing our priorities.

We discussed a worrisome bill (not yet filed, but expected), Sen. Maynard's pet project to expand off-road vehicle trails, possibly on public lands.

While we were on the subject of legislation, Larry noted that he is seeking an additional representative to the E-Council board, mainly to participate in the weekly conference call when he's not available.



Public Lands Committee: Kent Karriker reported on several Forest Service projects we're monitoring and commenting on. With the current administration, there's more emphasis on "Big Gulp" projects, always incorporating some logging along with habitat restoration, recreation, etc. We have a cooperative relationship with the Forest Service. Although we did file a formal objection to one proposal, they have generally

appreciated our attention to sensitive areas and particular issues. Friends of Blackwater and the Center for Biological Diversity are the other organizations who are paying close attention. Briefly, the projects they/we are currently working on:

Big Rock, in the Gauley Ranger District, S of Webster Springs—after we filed an objection to the original plan, the project was stopped due to presence of the candy darter, a recently-listed endangered species. It is currently on hold.

Panther Ridge, in Marlinton/White Sulphur Ranger District—a "minor victory," said Kent, as the Forest Service sent a multi-page response to our complaints about inadequate analysis of environmental effects. Kent attributed the problem to time pressure.

Beulah, Greenbrier Ranger District—Draft Environmental Assessment out 1 year, no progress.

Spruce Mt. Grouse Management—we decided not to object, after Forest Service agreed to alter the project to reduce impacts to Flying Squirrel habitat.

Grassy Ridge, Cheat-Potomac Ranger District, upper Big Run of North Fork—Larry attended a meeting on this on Jan. 15; it looks OK so far.

Upper Elk River, Marlinton-White Sulphur Ranger District, Gauley Mt.—recent scoping meeting; Mauch Chunk geology is an issue of concern.

(And highlights just keep on coming on the next page)

Canaan Fir, 50 years later

By Dave Saville

In 1970 a young Forestry Professor, Dr. Jim Brown, left WVU to take a job at Ohio State University. He was interested in Christmas Trees. His research spanned several decades. He is best known for his work on West Virginia's Balsam Fir, which has come to be known as *Canaan Fir*.

When the West Virginia Highlands Conservancy began its conservation efforts, in the face of a harmful exotic insect pest, the Balsam Woolly Adelgid, one of the first actions we took was to hold a meeting of the best and brightest minds on the subject. In 1999, with Refuge Biologist Ken Sturm, we organized this meeting, which took place at the newly established Canaan Valley National Wildlife Refuge. With an attendee list which now looks like a who's who of WV Conservationists, among the many who accepted our invitation was Jim Brown. It was at this meeting that our conservation strategy was developed. Dr. Brown was one of the most knowledgeable people on the subject at the time.

In 1981 (pre-adelgid), with his Assistant, Chuck Vrotney, they came to West Virginia and spent weeks collecting seed from hundreds of trees from every location the fir was known to exist. They grew seedlings and conducted research on the progeny for decades to come. The seed was cleaned and stored in Quart Mason Jars, each jar containing the seed from one tree. The cones were collected from two places in Canaan Valley, one on Dolly Sods, Blister Run, and Blister Swamp.

Numerous papers have been published on the matter since then. Dr.

Brown has since retired and interest in Christmas tree production at Ohio State University has waned. We recently got a call from Chuck Vrotney, also retired, who wanted to know if we would be interested in the remaining seed, which has been stored in those mason jars, at 20 degrees F for all



these years. Of course I couldn't resist, so I drove to Wooster, Ohio, where the seed has been stored in the Ohio Agricultural Research & Development Center (OARDC) Seedbank all these years and spent the day with Chuck, and we loaded all the seed into my truck.

Our Balsam Fir restoration work has been taking place in 3 of the 4 locations Dr. Brown and Mr. Vrotney originally studied. Canaan Valley, Blister Swamp and Blister Run (Cheat Mountain). We have collected seed several times over the ensuing 20 years, and have grown tens of

thousands of balsam trees we have planted back. Each source carefully grown from seeds collected at that source where we planted them in restoration projects. We currently have 5,000 trees being grown from Blister Run seed for Planting on Cheat Mountain in 2021, and another 5,000 for 2022. Every year we grow and plant thousands of fir trees in Canaan Valley, where we have also built several large deer exclosures to encourage regeneration.

While our own collections have provided us with plenty of seed for our balsam restoration work in Canaan Valley, and also on Cheat Mountain, our work at Blister Swamp has stalled due to the mortality of all the seed producing trees there from the Adelgids. We are excited to get this seed from Blister Swamp in hopes we can re-start our restoration work there.

It was wonderful to hear the stories from Chuck about traipsing around in the West Virginia wilderness searching for balsam trees, carrying climbing equipment miles to the fir stands to collect the cones. Not unlike many of our own escapades. We will bring all this seed into our own seed lab, do some testing on it, open all the jars so they can get some air to the seed. Eventually seed samples will be sent to the USFS Seed testing laboratory in Georgia for germination testing. All the seed will be repackaged and returned to a seed bank for continued long-term storage. Hopefully we will be able to put some of the Blister Swamp seed into production asap.

More Board Highlights (Continued from the previous page)

Greenbrier SE, Greenbrier Ranger District, along VA border—we participated in scoping, submitted comments, Draft Environmental Assessment is expected soon. One potential snag, as at Big Rock, is the candy darter. Rick Webb has submitted detailed new maps addressing the cumulative impact of project activities on sensitive trout streams.

On Jan. 30, we're invited to a Forest Service long-range planning meeting in Elkins. Kent and Larry are set to go, and we hope Rick can attend.

Plans for the Fall Review are coming along, thanks to the work of Jackie Burns and Marilyn Shoenfeld. The event is scheduled for the weekend after Columbus Day at Twin Falls Resort State Park, in Wyoming County near Pineville and Mullens. They're hoping for 50

people. We have budgeted an amount will cover some scholarships. The theme will be Healthy Waters. Speakers and outings are still being planned.

The new Climate Change Committee has been active. Its Chair, Perry Bryant, Perry reported on the committee's threefold plan: (1) survey our membership; (2) write a monthly column in the *Voice*; (3) meet April 11 at Marilyn's to agree on and draw up a policy statement for the organization. We are going to announce in the February *Voice* that we are doing a survey. Then we will email the survey to those for whom we have updated email addresses. For those for whom we do not have addresses, we will put the survey in the March *Voice*.

A bit of a head scratcher**An Endowment Fund for State Parks?**

By John McFerrin

There is a proposal in the West Virginia Legislature--SB 517—which would create a State Parks and Recreation Endowment Fund. It would collect money from “royalties received from the leasing of state-owned gas, oil, and other mineral rights, beneath the Ohio River and its tributaries.” After some delay while the money accumulated, it would then spend the money on “maintaining, improving, and preserving the state parks, state forests, state rail trails, and recreational facilities.”

On the one hand, an additional source of funding for parks, etc. would be a valuable thing. There is always a great need for maintenance and improvements on our public lands. A stream of income would be helpful.

Questions arise, however, from the source of the income. In West Virginia, all the streams are tributaries of some river. For most of the state, the streams are tributaries of the Ohio River. While there are some streams in the Eastern counties that flow the other way, most of the state is drained by tributaries of the Ohio. The Monongahela, the Kanawha, the Cheat, the Greenbrier, the Little Kanawha, the New, the Gauley, the Tug, the Guyandotte, etc. etc. are all tributaries of the Ohio.

One way of looking at the bill is that it creates a mechanism for directing royalties from activity that would occur anyway to parks and other public lands. Mineral extraction under waterways is already going on. This is a mechanism for making sure that the royalties from that extraction will go to parks, etc. instead of being diverted to other purposes.

Another way of looking at it is that it is a deal with the devil. Mineral extraction—including hydraulic fracturing—beneath any stream is perilous. The water pollution risks that always exist are worse if the hydraulic fracturing takes place under a stream. Does the bill create the possibility that the allure of funding for parks will lure us into unwise decisions on whether we should be allowing fracking under streams?

There is no readily available information about what oil, gas, or other minerals are located under more remote tributaries of the Ohio or how realistic a possibility any extraction would be. In late 2014 West Virginia entered into an agreement to allow horizontal drilling under the Ohio River from well pads located in Marshall, Pleasants and Wetzel Counties.

The West Virginia Highlands Conservancy Board discussed this at its January 19 meeting. After some discussion, it concluded that, while there is some ambivalence about the bill, we would support it.

Leave a Legacy of Hope for the Future

Remember the Highlands Conservancy in your will. Plan now to provide a wild and wonderful future for your children and future generations. Bequests keep our organization strong and will allow your voice to continue to be heard. Your thoughtful planning now will allow us to continue our work to protect wilderness, wildlife, clean air and water and our way of life.

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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.

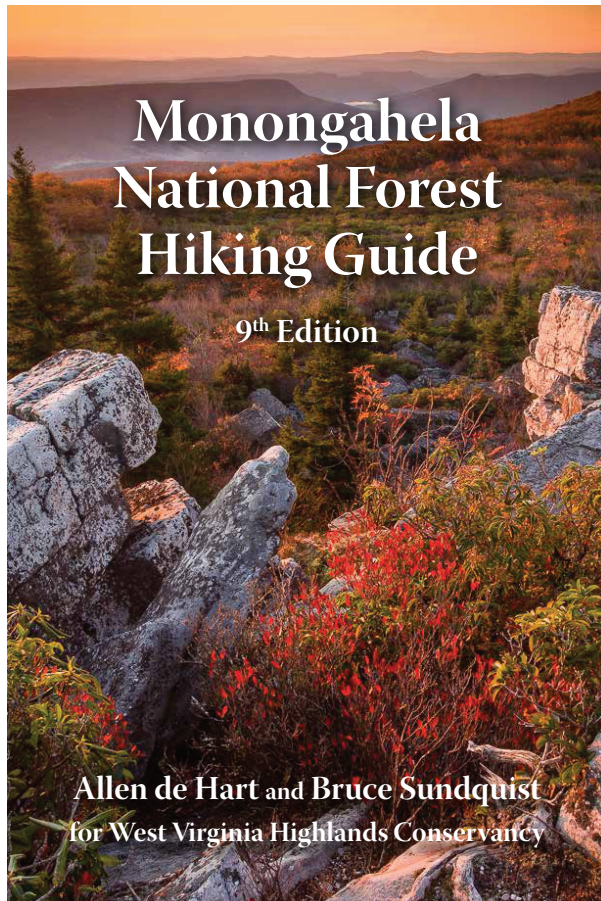
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Allen de Hart and Bruce Sundquist
for West Virginia Highlands Conservancy

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.

The Atlantic Coast Pipeline: an update and what we are doing

The West Virginia Highlands Conservancy (WVHC) provided a grant in the summer of 2018 to support the work of the Allegheny-Blue Ridge Alliance (ABRA) and West Virginia Rivers Coalition (WVRC) of which WVHC and WVRC are members, in overseeing construction activity of the Atlantic Coast Pipeline (ACP) to assure compliance with applicable permit and regulatory requirements of the project. This construction oversight activity is the Construction Surveillance Initiative (CSI), a program created in early 2018 by ABRA. The core of the CSI program is a network of volunteers from communities affected by the ACP in West Virginia and Virginia. The program also involves technical and regulatory monitoring dimensions to help identify and analyze possible construction violations and report them to appropriate regulatory authorities.

Status of the Atlantic Coast Pipeline and Recent ABRA Activities

Construction work on the Atlantic Coast Pipeline (ACP) ceased in December 2019 as the result of the project's permit from the U.S. Fish and Wildlife Service (the Biological Opinion and Incidental Take Statement, in accordance with requirements of the Endangered Species Act) being vacated by the Fourth Circuit Court of Appeals. The agency is working on developing a new permit proposal. But, according to the latest available information, a new Biological Opinion and Incidental Take Statement is still several weeks – and perhaps months – away from being released. Atlantic Coast Pipeline, LLC has said it will not seek to resume construction on the project until a FWS permit has been restored.

The Fish and Wildlife Service permit is one of 8 permits that the ACP does not currently have and legally needs to proceed with construction:

1. Nationwide Permit 12 Verification, Pittsburgh District, U.S. Army Corps of Engineers: suspended by Pittsburgh District, Nov. 20, 2018.
2. Nationwide Permit 12 Verification, Norfolk District, U.S. Army Corps of Engineers: suspended by Norfolk District, Nov. 20, 2018.
3. Nationwide Permit 12 Verification, Wilmington District, U.S. Army Corps of Engineers: suspended by Wilmington District, Nov. 20, 2018.
4. Special Use Permit and Record of

Decision, U.S. Forest Service: vacated by Fourth Circuit, Dec. 13, 2018 *Cowpasture River Pres. Ass'n v. Forest Serv.*, 911 F.3d 150 (4th Cir. 2018).

5. Right-of-Way and Construction Permits, National Park Service: remanded by Fourth Circuit, Jan. 23, 2019, to be vacated by Park Service. Order (Dkt. 51), *Sierra Club v. U.S. Dep't of the Interior*, No. 18-2095 (4th Cir. Jan. 23, 2019).

6. Nationwide Permit 12 Verification, Huntington District, U.S. Army Corps of Engineers: vacated by Fourth Circuit, Jan. 25, 2019. Order (Dkt. 67), *Sierra Club v. U.S. Army Corps of Eng'rs*, No. 18-1743 (4th Cir. Jan. 25, 2019).

7. Biological Opinion and Incidental Take Statement, U.S. Fish and Wildlife Service: vacated by Fourth Circuit, July 26, 2019. *Defenders of Wildlife v. U.S. Dep't of the Interior*, 931 F.3d 339 (4th Cir. 2019).

8. Article 6 Permit, Virginia State Air Pollution Control Board (implementing federal Clean Air Act requirements): vacated by Fourth Circuit, January 7, 2020. *Friends of Buckingham*, 2019 WL 63295 (4th Cir. Jan. 7, 2020).

The most recent permit lost by the ACP was the air permit (#8 on the above list) for the proposed compressor station in Buckingham County, VA. The Fourth Circuit vacated the permit that had been issued by the Virginia Air Pollution Control Board on two grounds: 1) the Board had failed to consider as an alternative to the proposed gas-fueled station one that would be powered by electricity and therefore not produce emissions; and 2) the Board inadequately considered the impact the project would have on the predominate minority community of Union Hill that is adjacent to the station's proposed site. Work on the compressor station cannot proceed without an air permit and the Air Board is not scheduled to meet again until a date to be determined in the Spring.

Another consequential case on the above list (#4) concerns the ACP's crossing of the Appalachian National Scenic Trail: *Cowpasture River Preservation Association, et. al. v. U.S. Forest Service*. The Fourth Circuit vacated the Forest Service permit on several grounds, including a determination that the Forest Service did not have the power to grant permission for the ACP to cross the Appalachian Trail, given that the Trail was on land controlled by the U.S. Park

Service and federal law currently prohibits pipelines from crossing Park Service land. The Fourth Circuit decision regarding the Trail crossing has been appealed by the Forest Service and ACP, LLC and is scheduled to be argued before the U.S. Supreme Court on February 24.

Among the respondent parties being represented in the case by the Southern Environmental Law Center is Highlanders for Responsible Development, a Highland County, VA based citizens conservation group that includes on its Board representatives from Pendleton and Pocahontas Counties, WV. It is also worth noting that the Fourth Circuit decision vacated the Forest Service permit on three additional grounds that have not been appealed to the Supreme Court, including inadequate evidence that the ACP could cross the steep slopes and ridges that are on Forest Service land without creating serious environmental harm.

Recent CSI Activities: October – December 2019

ABRA conducted for the Board a briefing and tour of ACP construction sites in conjunction with the October 19 WVHC Fall Review meeting. The briefing and tour were organized by ABRA staff and volunteers who are part of the CSI program. Since that tour, there have been no major changes in the physical configuration of the ACP. ACP construction has only occurred in the first 40+ miles of the route in West Virginia and a few miles in North Carolina. Other than some tree clearing, no construction has yet occurred in Virginia.

Notwithstanding the absence of construction activity (except for stabilization work), ABRA's CSI program has continued to monitor the route for evidence of any improper activities or environmental violations resulting from the work that has already been conducted (e.g. landslides, sediment runoff, etc.).

Whenever construction activity on the ACP might resume, it is quite possible that it will first do so in the non-mountainous portions of the route, beyond Buckingham County, VA south and southeast, to the North Carolina border and to the Norfolk area, where an ACP spur is planned to be built. In anticipation of that possibility, ABRA has begun to concentrate its CSI

(More on the next page)

More Pipeline Update (Continued from previous page)

organizational efforts on and extend its CSI mapping system for that portion of the route where there are few existing citizen groups involved in the ACP fight.

Plans for 2020

In addition to extending the CSI program into southeast Virginia (as discussed above), ABRA's CSI program is also providing technical support to allied groups in North Carolina that are fighting the ACP. We are also "evangelizing" the CSI program to others in the country. In October, ABRA staff who are involved in the CSI – Dan Shaffer and Ben Cunningham – made a presentation about the program to the Appalachian Environmental Law Conference in Knoxville, TN. They will make a similar presentation about CSI in March to the national Environmental Law Conference in Eugene, Oregon.

ABRA is also working with a prominent photo-journalist on possible articles for national publications about the ACP as well as the CSI program in particular.

Another project underway is a paper analyzing the risks associated with potential landslides along the ACP route through steep slopes in West Virginia and Virginia. The paper, which should be available for distribution by early February, points out that the Central Appalachian Highlands region is the most landslide-prone area of the United States, due to the combination of topography, soil characteristics, and rainfall patterns.

Finally, the CSI program was developed to address the need to monitor construction activity of the ACP. As the program has evolved, it has become clear that the approach to environmental analysis utilized by the CSI is applicable in addressing other environmental issues. At its December meeting, the ABRA Board approved the development of a Conservation Mapping System.

The West Virginia Rivers Coalition partnered with WVHC and ABRA to provide support services for West Virginia pipeline compliance field coordination under the grant. Activities included:

Pipeline Incident Reports

The WV Field Coordinator submitted 35 incident reports to WVDEP during this period.

- Unknown Gathering Line – 1 report: December 17: Wetzel County – Use of unapproved erosion control device.
- Stonewall Gathering Line – 2 reports: December 16-17: Lewis County – failure to operate and maintain erosion control devices, sediment laden water entering stream, conditions not allowable in waters of the state.
- Atlantic Coast Pipeline – 2 reports: December 16-17: Lewis County – Failure to operate and maintain erosion control devices.
- Mountain Valley Pipeline – 30 reports: September 23: Braxton County – sediment laden water entering streams, sediment deposits in stream, conditions not allowable in waters of the state. Follow-up from WVDEP inspector – No Notice of Violation issued; December 16-17: Wetzel, Harrison, Lewis, Braxton, Webster, Greenbrier, Monroe Counties – failure to operate and maintain erosion control devices, failure to modify SWPP when it proved inadequate, failure to stabilize slips, failure to prevent sediment and sediment laden water from leaving the site and entering streams, conditions not allowable in waters of the state.

Events

WVHC Atlantic Coast Pipeline Tour

In partnership with Allegheny-Blue Ridge Alliance, West Virginia Rivers Coalition hosted a Pipeline Tour of ACP with WVHC Fall Review attendees. Approximately 30 people attended the tour. Organized Violation Blitz

In December 2019, the WV Field Coordinator provided support for a coordinated monitoring effort ("Vio-Blitz") in 7 counties. The WV Field Coordinator organized volunteers, provided technical assistance, and reviewed volunteer reports. Ultimately, the effort resulted in submission of 33 incident reports to DEP on 4 pipelines. WV Field Coordinator acted as the DEP liaison for follow-up interactions with inspectors. WV Field Coordinator will continue tracking DEP inspection reports and violations as they are posted to the public database.

Technical Assistance

The WV Field Coordinator provided technical assistance to 1 WVU Student and 1 impacted landowner, including:

- Impacted Landowner – provided stormwater permit modification for Greene Interconnect on MVP.
- Student – provided information on pipeline construction and citizen monitoring efforts for class project.

Technical Comments

The WV Field Coordinator led the analysis and development of technical comments sent to WVDEP on permit for a proposed gathering line that would connect to the ACP, the Pennypacker 401 Water Quality Certification Application. Five other organizations signed on to the comments.

Outreach and Education

The WV Field Coordinator provided information for a citizen action alert this reporting period on the Pennypacker 401 Permit. WV Field Coordinator determined that this pipeline construction could impact the Clubshell Mussel, an endangered species. An action alert was issued regarding this concern, resulting in 146 individual comments on the Pennypacker's 401 Water Quality Certification.

WV Field Coordinator co-authored an online story map describing the work and findings of the "Violation Blitz" conducted in August 2019. This online resource was created in partnership with Trout Unlimited. The report can be accessed at <https://trout.maps.arcgis.com/apps/Cascade/index.html?appid=0459f936e2364667b551ec8daba08504>

Media

The WV Field Coordinator worked with three media representatives during the reporting period:

- Carolyn Nicholas, WVU Journalism student, on pipeline development in WV, permitting issues and citizen monitoring efforts.
- Lyndsey Gilpin, published in [bioGraphic](#) and [Grist](#), on the Atlantic Coast Pipeline. Interviewed with Lyndsey and introduced her to other contacts and took photographer, Steve Johnson, on a pipeline tour to capture photos for the article.

(Finishing up on the next page)

The Forgotten Natural Resource

By Beth Little

The Monongahela National Forest has a natural resource that is ignored. It is darkness – an absence of artificial light at night. Around the planet there are fewer and fewer places where the wonders of the night sky are visible; whereas there are many places on the Mon where the Milky Way can be enjoyed. How many people know what phase of the moon we are in, or notice the bright beauty of the morning or evening stars. As more and more people move to rural areas to retire and put up their dusk-to-dawn lights, the blessed darkness is whittled away. Just as darkness is a natural resource, artificial light is pollution.

The website for the International Dark-Sky Association (www.darksky.org) has extensive information about the benefits of dark skies, and the effects of light pollution:

For billions of years, all life has relied on Earth's predictable rhythm of day and night. It's encoded in the DNA of all plants and animals. Humans have radically disrupted this cycle by lighting up the night. Plants and animals depend on Earth's daily cycle of light and dark rhythm to govern life-sustaining behaviors such as reproduction, nourishment, sleep and protection from predators. Scientific evidence suggests that artificial light at night has negative and deadly effects on many creatures including amphibians, birds, mammals, insects and plants.

Nocturnal animals sleep during the day and are active at night. Light pollution radically alters their nighttime environment by turning night into day. According to research scientist Christopher Kyba, for nocturnal animals, "the introduction of artificial light probably represents the most drastic change human beings have made to their environment." "Predators use light to hunt, and prey species use darkness as cover," Kyba explains "Near cities, cloudy skies are now hundreds, or even thousands of times brighter than they were 200 years ago. We are only beginning to learn what a drastic effect this has had on nocturnal ecology." Glare from artificial lights can also impact wetland habitats that are home to amphibians such as frogs and toads, whose nighttime croaking is part of the breeding ritual. Artificial lights disrupt this nocturnal activity, interfering with reproduction and reducing populations.

Humans evolved to the rhythms of the natural light-dark cycle of day and night. The spread of artificial lighting means most of us no longer experience truly dark nights. Research suggests that artificial light at night can negatively affect human health, increasing risks for obesity, depression, sleep disorders, diabetes, breast cancer and more. Like most life on Earth, humans adhere to a circadian rhythm — our biological clock — a sleep-wake pattern governed by the day-night cycle. Artificial light at night can disrupt that cycle. Our bodies produce the hormone melatonin in response to circadian rhythm. Melatonin helps keep us healthy. It has antioxidant properties, induces sleep, boosts the immune system, lowers cholesterol, and helps the functioning of the thyroid, pancreas, ovaries, testes and adrenal glands. Nighttime exposure to artificial light suppresses melatonin production.

So while we are working to protect old growth, threatened and endangered species, trout streams, and beautiful vistas, we can help protect all these things by protecting darkness. Limiting light pollution also saves energy. Light that is not needed, or too much light is wasted energy.

The Watoga State Park Foundation, a non-profit formed in 2015 to support Watoga State Park, has initiated several projects where volunteers help the park. One project is applying to the International Dark-Sky Association for designation of Watoga State Park as a Dark Sky Area. It is a long and intensive process including technical measurements of darkness, changing out lighting for IDA approved fixtures, and more. Future benefits include star parties in coordination with the Green Bank Observatory.

The Watoga darkness team is partnering with the United States Forest Service and preparing to apply for funding from the SRS (Secure Rural Schools) money to help with education about the importance of darkness.

Darkness should be recognized as a primary natural resource to be protected from light pollution.

More on Pipeline Update, Monitoring (Continued from previous page)

- Michael Sainato, The Guardian, on stream crossing permit status and citizen monitoring efforts.

Meetings and Teleconferences

The WV Field Coordinator participated in 11 coordination/coalition calls with various partners, 1 webinar, and 3 in-person meetings.

Teleconferences

- Mountain Valley Watch hosted by VA Sierra Club: 3
- Pipeline Coordination hosted by Appalachian Voices: 3
- Pipeline CSI hosted by ABRA: 2
- ABRA Steering Committee: 2
- Choose Clean Water Coalition Shale Workgroup: 1

Webinars

- December 11: Visual Assessment Refresher Training. The webinar served to review visual assessment procedures and provide additional assistance to volunteers preparing for field work. Nine volunteers participated in the training.

In-Person Meetings

- September 25: CSI Meeting to plan WVHC ACP tour
- October 2: CSI Meeting to visit ACP sites for WVHC tour
- October 9: CSI Meeting to prepare WVHC presentation for ACP tour

Upcoming Work

- Following up on WVDEP inspections and violations from December's Vio-blitz.

- Developing a report that highlights water quality impacts from pipeline construction.
- Generating support on legislation to increase fines for water quality violations.
- Preparing for Army Corps of Engineers re-issuance of the Nationwide Permit for state certification.
- Preparing for review/comment of WVDEP's reissuance of the stormwater general permit related to oil and gas construction.
- Ongoing support of WV volunteer monitors.

West Virginia Highlands Conservancy is very proud to have provided the grants to help support this invaluable work monitoring the construction activities of the proposed ACP.

Critical Habitat Established for Endangered Crayfish

The United States Fish and Wildlife Service has published a proposed rule to designate critical habitat for the Big Sandy crayfish (*Cambarus callainus*) and the Guyandotte River crayfish (*Cambarus veteranus*).

The Big Sandy crayfish is federally listed as a threatened species and currently lives in specific watersheds of Virginia, West Virginia, and Kentucky. The Guyandotte River crayfish is federally listed as an endangered species and currently lives in specific portions of two streams in West Virginia.

The critical habitat rule proposes to designate a total of 362 stream miles as occupied critical habitat for the Big Sandy crayfish in Kentucky, Virginia and West Virginia. These streams are located in Martin and Pike counties, Kentucky; Buchanan, Dickenson, and Wise counties, Virginia; and McDowell, Mingo, and Wayne counties, West Virginia.

For the Guyandotte River crayfish, the critical habitat rule also proposes to designate approximately 41 stream miles as occupied critical habitat in Wyoming County, West Virginia, and 42 stream miles as unoccupied critical habitat in Logan County, West Virginia.

Because the Big Sandy Crayfish and the Guyandotte Crayfish are protected under the Endangered Species Act, it would already be unlawful to kill them with or without this designation. This designation of critical habitat would mean that a federal agency may not undertake, fund, or allow activity that would destroy or adversely modify critical habitat. If, for example, if a proposed mine or other activity were in the vicinity of a critical habitat, any agency considering issuing a permit would have to avoid adversely modifying the habitat. When faced with possible habitat destruction, the agency involved would be required to consult the Fish and Wildlife Service about the actions they are considering carrying out, funding, or authorizing.

Crayfish are an extremely important component of aquatic ecosystems, in Appalachia and worldwide. They eat and get eaten. They eat smaller plants and animals, keeping streams and wetlands clean and harboring balanced populations.

Crayfish sustain Hellbenders, raccoons, otters, Great-blue Herons, and, most importantly to fisher folk among us--smallmouth bass. Their creation of "chimneys" and tunnels, terrestrial and aquatic, is critical to survival of a very large number of invertebrates, as well as



rodents, snakes, and frogs; so crayfish are a "keystone" species. They're also sensitive to environmental impacts, so their numbers are a good indication of the health of a waterway.

Researchers have only known of these species since the early to mid 20th century. At that time, the upper Big Sandy River and Upper Guyandotte River watersheds were undergoing rapid and widespread changes caused by industrial scale forestry and coal mining. The erosion and sedimentation associated with these activities degraded the streams in the region and made most of them unsuitable for the crayfishes.

Scientific evidence indicates that the Big Sandy crayfish once occurred in streams throughout the upper Big Sandy River basin in Kentucky, Virginia and West Virginia. Likewise, the Guyandotte River crayfish occurred in streams throughout the Upper Guyandotte River basin in West Virginia.

Today, the Big Sandy crayfish is found in six isolated populations across Floyd and Pike counties, Kentucky; Buchanan, Dickenson, and Wise counties, Virginia; and McDowell and Mingo counties, West Virginia. The Guyandotte River crayfish is found in only two streams in Wyoming County, West Virginia.

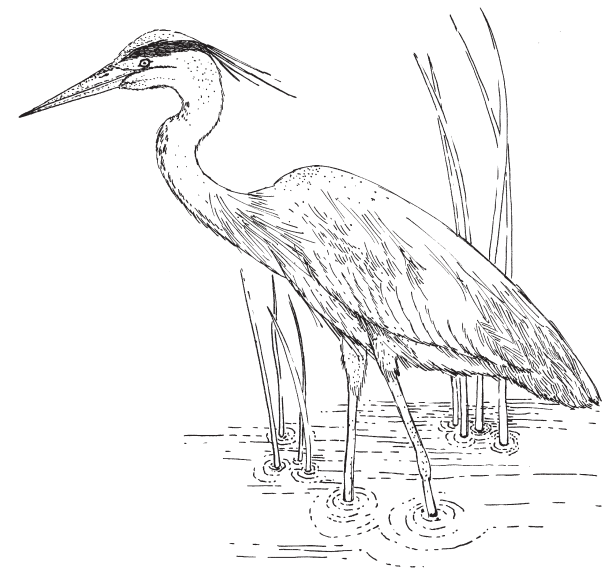
While the intensity of coal mining and forestry has dropped from the historical highs of the 20th century, active coal mining

and commercial timber harvesting are still ongoing in the region and contribute to sedimentation in the streams and rivers.

Other activities, such as natural gas development, highway construction, and ORV use, are increasing and can further degrade stream habitat. Additionally, the small, isolated nature of the populations of both species inhibits gene flow, making them even more vulnerable to extirpation. A single event like a contaminant spill could potentially eliminate an entire population.

At about 3 to 4 inches long, both crayfishes live beneath loose, large boulders in fast flowing streams and rivers. With their olive brown to light green coloring, they blend in well with the stream bottom. They live an average 5 to 7 years, and because they don't reproduce until 3 to 4 years of age, their populations can take a long time to rebound.

The rule is not yet final. The public can comment on the proposed rule until March 30, 2020. Also available is a proposed Draft Economic Analysis of the proposed designation of critical habitat.



The Great Blue Heron ponders a conundrum--hoping no crayfish becomes extinct while at the same time eating as many as it possibly can.

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