



The Highlands Voice

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

Volume 52 No. 6 June, 2019

Groups threaten litigation if problem not corrected

Endangered Species Threatened by Mining

By John McFerrin

The West Virginia Highlands Conservancy, along with the Sierra Club, the Center for Biological Diversity, and Ohio Valley Environmental Coalition have sent a notice of intent to sue to the United States Fish and Wildlife Service, the U.S. Office of Surface Mining and the West Virginia Department of Environmental Protection informing those agencies of violations of the Endangered Species Act. The groups contend that the agencies are not doing enough to protect endangered species and that West Virginia is issuing mining permits that threaten endangered species.

Legal Background

Congress enacted the Endangered Species Act in 1973 to provide for the conservation of endangered and threatened fish, wildlife, plants and their natural habitats. Under the Act, agencies are required to insure that any action "is

not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined ... to be critical."

The "actions" which the agencies have to make sure do not threaten or endanger species include permitting of, in this case, coal mines. When the agencies make decisions on, in this case, coal mining permits, it must meet its obligations under the Endangered Species Act.

The notice of intent to sue is a common part of environmental statutes. It embodies the assumption that agencies or violators of statutes only need have their failure to comply pointed out to them and they will make things right. No litigation needed. In practice, the violators know what they are

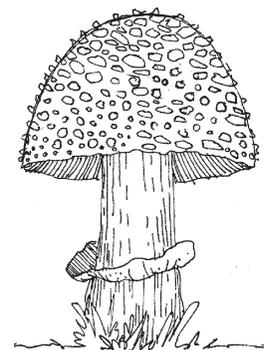


Photo by Zachary Loughman, West Liberty University

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Thoughts from our President

By Larry Thomas

The Fernow Experimental Forest is 85!

During 2019, the Fernow Experimental Forest (Fernow) is celebrating its 85th anniversary. Established March 28, 1934 to address water quantity, water quality and timber quality issues, forest health and clean water are still a focus, but 85 years later, data from the Fernow are also contributing to issues that were not identified in 1934, such as biodiversity, endangered species management, carbon sequestration, atmospheric deposition and climate change.

As part of the celebration, the Northern Research Station scientists conducted a tour on Saturday, May 4, which I attended. Melissa Thomas-Van Gundy (daughter in law of our own Jim Van Gundy) and Mary Beth Adams did a wonderful job leading the celebration, which included a presentation about the Fernow, a visit to a weir pond to learn about the watershed research conducted on the forest, a 1-mile walk along the Zero Grade Trail to see the longest running forestry study on the forest, and hands-on demonstrations of forestry tools.

After the presentation, we hiked up to the weir on Watershed 1. Mary Beth explained that the weir is a stream gauging station built in 1951 and that it is one of five original experimental watersheds of the Fernow. The timber stand on Watershed 1 was cut during 1957-58 using the “loggers choice” method without implementing best management practices to protect water quality. Using this method, all trees larger than six inches in diameter were cut. As a result, water quality was seriously impacted during the first year after the logging occurred. Turbidity, a measure of sediment in the water, increased as much as 2,000 times higher than on a control watershed. Turbidity improved and returned to pre-logging levels by the end of two years after the logging. Annual streamflow also increased due to the logging by 12 to 19 percent during the first three years, mostly during the summer months. Storm peak flows increased, while storm flow volumes increased 13 percent.

Next, we traveled up the mountain to the Zero Grade Trail, passing the reservoir which was the primary source of water for the residents of Parsons until 1996. Melissa explained that the Zero Grade Trail provides access to some of the oldest research and forest management demonstration areas in the eastern United States. Cutting treatments and an uncut control were established in 1949. The current objective is to quantify long-term stand dynamics as affected by the different cutting treatments. Cutting treatments are:

- Control: Uncut since the early 1900s.
- Commercial clear-cut: This area was harvested in 1948. All merchantable timber (11 inches and greater in diameter) and pulpwood (5 to 10 inches in diameter) were removed, leaving only sapling-sized trees.
- Diameter-limit: Every 20 years all trees 15 inches and larger are harvested from the area.
- Single-tree selection: This area is harvested every 10 years. Fewer trees are removed each harvest which favors shade-tolerant species such as sugar maple in the understory.

The current objective is to quantify long-term stand dynamics as affected by the different cutting treatments.

Walking along Zero Grade Trail, observing the different cutting treatments, we were also treated to seeing many of the wildflowers of the Fernow. They were Trillium, Jack-in-the-pulpit, Wild geranium, Squirrel corn, Stonecrop and Wood anemone. Also, for the first time, I got to see Running buffalo clover.

Riding around, I was curious as to how the forest is recovering from foliar injury of the trees damaged by the aerial release of drilling fluids on May 29, 2008, from the B800 gas well that we visited to observe the damage. From a layman’s perspective, I thought that the forest appears to be recovering from the incident. Also, I learned the well has now been capped.

It is important to note that scientists at the Fernow Experimental Forest have:

- Contributed to design of Best Management Practices that protect water quality while also permitting forest operations.
- Developed two-age management as an alternative to clearcutting and provided demonstrations of different types of forest management, such as even-age and uneven-age management.
- Explored prescribed fire as a means to sustain central Appalachian mixed-oak forests and better understand fire effects on some wildlife species.
- Answered transcontinental questions about ecosystem properties related to climate change as part of the national experimental forest network.
- Contributed to the Central Appalachian Forest Vulnerability assessment in light of anticipated global changes in climate over the next century.
- Hosted scientists and students from around the world, throughout the U.S., and from local universities.
- Provided hydrological and stream chemistry data for the past half-century that are freely available on the internet and are one of the most commonly downloaded Forest Service data sets nationally.
- Demonstrated that the upland woodland salamander community is resilient to low to moderate intensity prescribed fires.
- Contributed to demonstrating that the central Appalachian Mountains provide important winter habitat for golden eagles.

Returning, we celebrated the anniversary with refreshments. It was a great learning experience.



Mining and Crayfish (Continued from p. 1)

doing and either think it is legal or intend to go on doing it anyway. The notice of intent is just the lawyerly way of saying, "we're serious about this and if you don't change we will sue."

The Species Involved

The species directly involved are the Big Sandy crayfish and the Guyandotte River crayfish. Historically the Big Sandy crayfish's range included streams throughout the upper Big Sandy River basin, covering ten counties in Kentucky, Virginia and West Virginia. It is now restricted to six isolated subpopulations.

The historical range of the Guyandotte River crayfish included streams throughout the Upper Guyandotte River basin in Wyoming County and parts of Logan and Mingo counties in West Virginia. The best available information indicates that this species now exists in two streams in Wyoming County.

Like most threatened and endangered species, these two are in peril because of loss of habitat. In discussing the loss of habitat, the Fish and Wildlife Service noted erosion and sedimentation from mining, timber harvesting, unpaved roads, and off-road vehicles. It also cited general water quality problems such as chemical drainage from mine lands, sewage discharges, and runoff from roads.

While both the range and number of individuals of the Big Sandy crayfish has been reduced, it is listed as a species that is threatened with extinction. The Guyandotte crayfish's range and the number of individuals is so restricted that it is listed as endangered.

Why We Care

With any litigation under the Endangered Species Act, someone always says, "It's just some little bird/bug/fish that nobody would miss were it to disappear." As a general matter, this is legally and factually irrelevant. The Act protects all species; it does not distinguish between popular and unpopular species. The natural world is a huge, complicated system. If it is to work properly, all the pieces must remain in place.

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. They 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.

Cindy Rank explains it this way, "The practice of avoiding, ignoring, minimizing, altering or otherwise overriding the rules of the game — the laws and regulations meant to protect waters of West Virginia — has for years led to the ongoing demise of our most valuable headwater streams and harming the people who rely on those waters for personal use and recreation. Protecting tiny critters like the Guyandotte and Big Sandy crayfish may seem insignificant or silly to some, but what we do to the least of our fellow travelers we ultimately do to ourselves."

WVHC and Crawdads: a little history

This is not our first involvement in crayfish protection. Then President Cindy Ellis mentioned some of this history in her column for the June, 2015, issue of *The Highlands Voice*:

But crawdads have suffered recently. Human activities, including mountaintop removal mining, have contributed to major silting and pollution problems in streams, which have reduced mudbug populations. West Liberty University professor Zachary Loughman notes, "Globally crayfish are considered one of the most endangered animal groups on the planet."

This was recognized more than a decade ago. So environmental groups joined in an effort to petition the Fish and Wildlife Center to move to protect crawdads...and a long list of other creatures locked in a backlog of inaction. The West Virginia Highlands Conservancy was one of the signatories. That petition was then reinforced by a lawsuit to further prod protections and some crawdads are being awarded assistance following settlement of the suit.

Most recently, as an outcome of that settlement, two in-state crayfish are awaiting finalization for inclusion on the Federal List of Endangered and Threatened Wildlife. This will be the first time species are listed as a result of threats due to mountaintop removal coal mining. Our readers have long known and realized the harms due to MTR; a crawdad may lead the way to helping stop those harms. What hurts the crawdads hurts all of us downstream too, and this new listing may be a tool to block the dangers.

One species to be listed is the Big Sandy Crayfish, found in Virginia, Kentucky---and, in West Virginia, in McDowell and Mingo Counties. The other is the Guyandotte Crayfish, found, worldwide, only in Wyoming County, West Virginia.

The Highlands Voice is published monthly by the West Virginia Highlands Conservancy, P. O. Box 306, Charleston, WV 25321. Articles, letters to the editor, graphics, photos, poetry, or other information for publication should be sent to the editor via the internet or by the U.S. Mail by the last Friday of each month. You may submit material for publication either to the address listed above or to the address listed for Highlands Voice Editor elsewhere in this issue. Electronic submissions are preferred.

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.

Highlands Conservancy Comments on Biological Impairment Regulations

By John McFerrin

The West Virginia Highlands Conservancy has joined with the West Virginia Rivers Coalition and other groups to comment on regulations on how West Virginia determines how clean streams have to be. The whole process is arcane but important.

It is settled, both as a matter of law and of public expectations, that we should have clean water. The controversies arise over exactly what “clean” means. Just as the term “clean room” means something different to parents than it does to teenagers, there are ongoing controversies over exactly what “clean” means. This is the latest chapter in that ongoing controversy.

The cleanliness of water is measured in two ways: numeric standards and narrative standards. Numeric standards have to do with concentrations of pollutants, things such as so much of a pollutant per liter of water. They would be expressed in something such as 3 milligrams per liter of iron, 1 milligram per liter of aluminum, etc. Narrative standards are descriptions of what streams are used for, whether they are fishable, swimmable, etc.

The particular narrative standard involved here is the one that says that the water must support aquatic life. It is based upon the common sense assumption that we can tell how clean the water is by looking at what can live in it.

In looking at what can live in waterways, we can't physically count every bug in every stream. We have to count samples of bugs in samples of streams and draw some conclusions from that data. What the Highlands Conservancy, the Rivers Coalition, etc. are commenting on is the method that the West Virginia Department of Environmental Protection uses to do that sampling.

It is also important to look at what kinds of life we search for. The method that the groups suggest would insure that the sampling finds the insects, crustaceans, and invertebrates that are the foundation of a healthy ecosystem. Without them, the entire food chain breaks down. Loss of invertebrate populations is an early signal that pollution is damaging life in a stream. If the state moves to assessing stream life based on fish or the ability to support fish, not only will West Virginia be at the bottom for the weakest narrative quality standards in the country, but it will be severely limited in accurately measuring the health of its waterways.

The comments focus on the Department's use of outdated sampling methods. For several years the United States Environmental Protection Agency has been recommending an updated method of sampling and using that sampling to determine the health of streams. The Department wants to keep using the older method; the groups want it to update to the newer, more accurate method.

There is also controversy over the threshold that must be reached before a stream is considered impaired (not clean enough). The current sampling method

assign streams a score, based upon what aquatic life is found. The method the Department of Environmental Protection wants to use leaves it unclear whether certain streams are impaired or not.

Why do we care?

Starting with “how clean is clean” and moving on to different measures of water quality and then to how we count bugs, this all starts to sound like the splitting of hairs that we have already split twice. It isn't.

Accurately determining whether streams are impaired (whether they can support life) is important in a couple of ways. First, the Department of Environmental Protection has a duty to keep lists of streams that are “impaired” (not meeting water quality standards). If a stream is on the list, the DEP then has a duty to take steps toward correcting whatever is impairing the stream. If it cannot accurately assess the aquatic life in a stream, it cannot tell whether a stream is impaired. If it cannot know which streams are impaired, it cannot know which streams need attention.

Second, whether or not there is biological impairment can determine whether polluters can be held accountable. If a polluter is causing biological impairment, that can be the basis for an enforcement action. Unless there is an accurate method to measure biological impairment, this is impossible.

Somebody cares

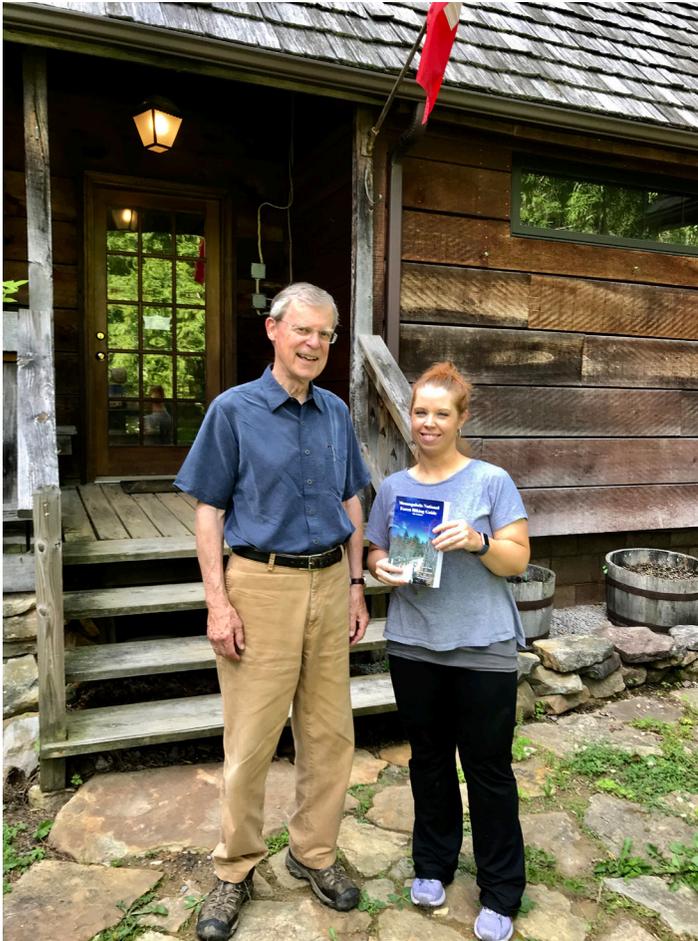
This attention to how we sample and how we determine biological impairment stems from a bill passed by the West Virginia Legislature. Legislative forensics could probably determine whose fingerprints are on that bill. The smart money is on it being one of West Virginia's polluting industries.



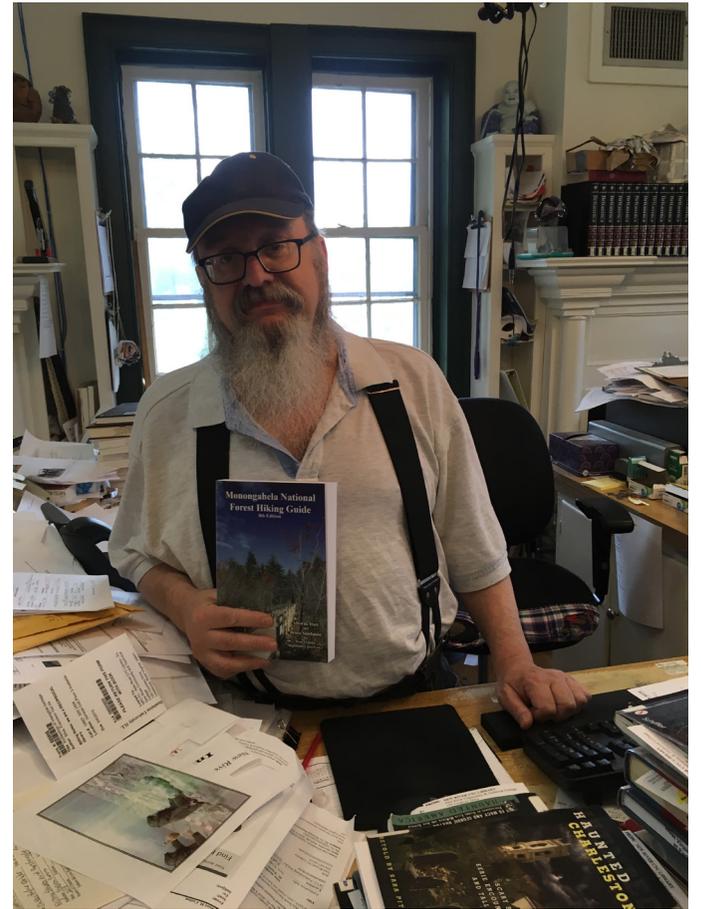
One of the wee beasties that a biological monitoring program would find.

Handing Out Hiking Guides

We have been giving copies of the eighth edition of the Monongahel Forest Hiking Guide to local libraries. Here is some of what that looks like:



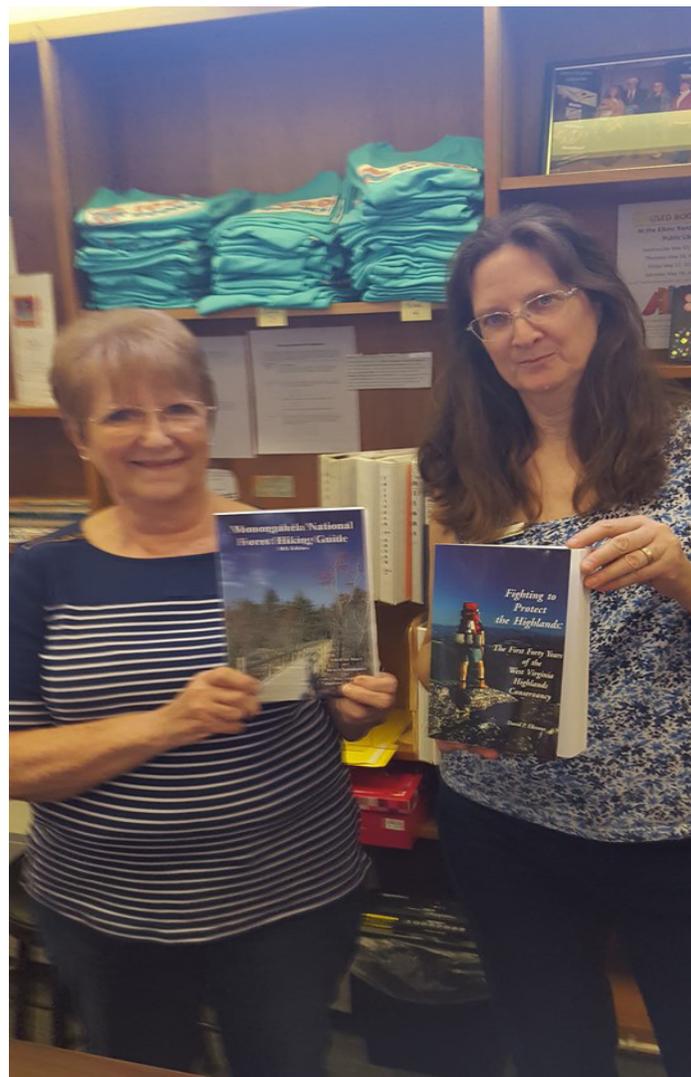
Hugh Rogers with Jerianne Davis, Director, in front of Helvetia Public Library



Bob at the Lewisburg Public Library



Elwood and Connie at the Hillsboro Public Library



Books to the Elkins Public Library

An Appreciation of ‘Possums

By John McFerrin

Opossums—those not especially cute, often seen as road kill creatures—are now being recognized as the nemesis of another not cute, not cuddly creature. They eat ticks.

Ticks have never been contenders for the title of anyone’s favorite wild beast. Their practice of blood sucking did little to endear them to humans. When they started gaining a reputation as a carrier of disease they lost all hope of making it onto anyone’s list of favorite species.

I have always had a grudging admiration for ticks because they are so resilient. When you find one crawling up your leg, looking for a promising spot for lunch, you can pick it off but they are devilishly hard to kill. They are too leathery to smush, too flat and too tough to stomp on. I usually end up doing catch and release or flushing to a watery grave.

Of course, we all like ticks in the abstract. The natural world is a huge, complicated system. If it is to work properly, all the pieces must remain in place. This includes ticks. Yet as much as we all like ticks in the abstract, we want them to make their contribution to the health and stability of the natural world someplace other than where we are.

In their quest to endear themselves to humans (assuming they care about such things), opossums suffer in a couple of ways. The first is that, when they do have human contact, they are usually dead. As I think back, in my entire life I have seen five living opossums. I see that many dead ones on the side of the road every month.

Then there is the way they look. A skinny, naked tail does not help. Skinny, naked tails are the province of rats and other creatures who have few human friends. Opossums are not the least bit cuddly; they have all those teeth which often give them what looks like a grotesque smile.



Then there is the pointy nose and non-existent forehead. There is a common and widely accepted theory that humans prefer animals with more prominent foreheads. Because human babies and young children have foreheads that are proportionately larger than do adults, the prominent forehead is perceived as a child like feature, making the animal more appealing. Animals with pointy noses and sloping foreheads are less appealing. This explains, among other things, why Mickey Mouse has such a prominent forehead compared to his wild brethren. (Incidentally, Mickey’s nose shrank and his forehead grew as he evolved from the mischievous scamp of his early career to the Disney establishment spokes-mouse he is today).



Yet, for all the physical features that make it hard for opossums to appeal to humans, there is one thing that should endear them to humans: they eat ticks. While many animals eat ticks, opossums are the champs, the Roach Motel of the arachnid world. Ticks climb onto opossums, hoping for a meal, but they don’t check out.

Opossums are good groomers. When they find a tick, they eat it.

Researchers at Syracuse University have studied the matter, as have others. The researchers captured five different species and infested them with ticks. They then counted the ticks that fell off and determined the number that were eaten. They concluded that the opossums ate over 95% of the ticks that tried to feed on them. This was well ahead of the success rate in killing ticks of any other animal studied. They concluded that an opossum can capture and kill over 5,000 ticks per week.

So consider the opossum. The funny looking and decidedly non-cuddly little creature spends its days waddling around, eating ticks, doing its part to maintain the huge, complicated system that is the natural world. While it is at it, it helps protect the generally unappreciative humans from disease. Not a bad days work.

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Patron		\$250	\$500	\$500
Mountaineer		\$500	\$750	\$1000

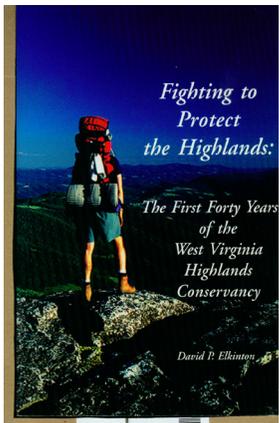
Mail to West Virginia Highlands Conservancy, P. O. Box 306, Charleston, WV 25321

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.

Plugging Old Gas Wells: Small Steps Forward but Not There Yet

By David McMahon

Orphaned oil and gas wells have always been a problem. Wells need to be plugged at the end of their useful lives to prevent oil and gas and surface pollution from leaking into groundwater and onto the surface and into the air. The very existence of these wells and the threat of these issues devalues surface owners' land.

One way that wells become orphaned is when a driller with lots of assets (generally a driller that is drilling new wells and who can therefore pay for the plugging of old wells), transfers their old wells to a driller who will just milk what gas production the old wells have left and then go out of business, instead of plugging the wells that are barely producing themselves.

This is largely how we got the current 4,500 orphaned wells. (And there are 8,000 additional wells that still have a bonded operator, that have not produced gas in a year, and that should already, by law, have been plugged. Many, many of these will become orphaned.) This can happen because under current law drillers are not required to plug wells if they are producing any gas at all.

Drillers only have to post a \$50,000 "blanket bond" for all their wells no matter how many they have; for some drillers this is only \$25 per well.

The problem got potentially worse when a company called Diversified began doing business in West Virginia. It (and its subsidiaries including Alliance and Core) is exploiting these weakness in our laws and using them as an exploitive business model. Diversified is buying up declining, older, conventional vertical wells from the drillers developing horizontal wells to the Marcellus and other shale formations.

Diversified is promoting to its investors on a stock exchange in Great Britain that it can keep milking these wells for 15 years. After that its wells will no longer be "commercial" — i.e. not even producing enough gas to pay to operate themselves — let alone pay for plugging. It has purchased 17,000 wells in West Virginia alone and we estimate about 10,000 of those wells will become orphaned starting in 30 years — 2049.

Three bills were introduced that would have provided enough money to begin to plug orphaned wells and at least put dent in the problem.

House Bill 2779

House Bill 2779 was introduced to provide money to plug orphaned wells; it would have generated enough money to plug 200 orphaned wells in the first year or two and 30 or so a year thereafter. The bill would have used money held by the circuit courts for missing and unknown mineral owners in the partition cases to plug orphaned wells. It also would have used money held for missing and unknown mineral owners in missing and unknown owner lease cases.

After passing the House, and being approved by two committees in the Senate (all without a whiff of opposition), HB 2779 was ambushed on the last night of the session on the Senate floor.

There are speculators (the ones that usually make a living buying minerals at tax sales) who go to surface owners who don't know they might someday get those royalties being held in circuit court. These speculators offer to buy the unknowing surface owner's land without telling them that they could be coming into lots of money plus title to their underlying minerals.

This legislative ambush was organized mostly by these speculators, and came with only 6 or 8 hours left in the session and not enough time to find any middle ground or clear up the confusion, ultimately killing the bill.

Senate Bill 665

The second bill introduced was an expedited permitting bill. It would have plugged maybe 40 to 70 wells a year. It had the next best chance of passing. The horizontal drillers wanted it. It would have given the drillers the option to get a faster permit if they paid an extra \$20,000 permit fee for the first well on the pad, \$10,000 for the permits for other wells on the same pad, and a \$5,000 permit modification fee. As a result of our advocacy the big horizontal drillers put in the bill that half that money would go to plug orphaned wells, while the other half would go to increase Department of Environmental Protection permitting staff.

However, some of the big drillers played games in the House and got the fees reduced to \$10,000, \$5,000, and \$5,000 respectively, even after the House Energy Committee chairman offered a compromise of \$15,000, \$7,500, and \$5,000. As a result the Senate, voted to amend the fees to \$30,000 for the first well, and \$15,000 for each addition well on the same pad. Everyone expected the House Energy Chairman was going to concur with further amendment back to \$20,000, \$10,000, and \$5,000.

Instead, the House leadership refused to concur and rejected the Senate amendment bumping the fees back to \$10,000, \$7,500, and \$5,000. It is unclear whether this would have been enough to fund the staff increases needed because this meant more drillers would take advantage of it but pay less money to increase staffing. The House's last action was communicated to the Senate with only an hour or so left in the session, killing the bill.

House Bill 2673

A third bill that would have provided money to plug orphaned wells was proposed by the Independent Oil and Gas Association (IOGA). Last year they proposed a bill to just eliminate the 5% severance tax on their low producing wells that were being made unprofitable by the Marcellus Shale drillers. Because of our advocacy on orphaned wells, this bill this ended up reducing the severance tax on "low producing" from 5% to 2.5% and dedicating that remaining 2.5% severance tax to plugging orphaned wells. The average cost to the Department of Environmental Protection to plug an orphaned well is \$65,000. Industry estimated the bill would generate \$3.5 million, and plug 53 wells a year. The Finance Committee estimated \$8 million, and 125 wells per year. This bill passed! We were just about to send out an update highlighting this, when without warning, the Governor vetoed the bill.

Veto and Special Session

For a time it appeared that HB 2673 would be considered as part of a special session. Rumors to this effect proved to be unfounded as the bill did not appear on the Governor's list of bills to be considered in the special session.

Bottom Line

In the end there was lots to be disappointed about. No bill moved that would have prevented more wells from becoming orphaned. On the other hand, thanks in parts to the contacts some

(More on the next page)

Plugging Old Gas Wells (Continued from p. 8)

of you made when we asked you, we may get some money from at least one bill to start plugging wells and putting a dent into the existing problem.

Importantly we did enormous consciousness raising causing the small and big drillers to put orphaned well plugging money into THEIR bills. We had the pro-business State Journal running a front page article and even an editorial that supported us. We also have two Energy Committee chairs that are really upset with industry not only on these bills, but on other bills including one that mineral owners wanted that would make it easier to clear up courthouse records of expired leases of their minerals, and another that would have altered the way partition suits are used against mineral owners.

So we may yet get something this year. And we are well positioned for next year. In our lobbyists' experience it takes three years to get a bill passed in West Virginia. The first year just gets attention to it and is used to deflate opposition by alarmists. The second year the bill moves, but problems emerge and lessons are learned. The third is the charm. This year was the second year for the bill that passed and was vetoed (HB 2673), the second year for WV-SORO's that died in the Senate on the last night (HB 2779), and the first year for the expedited permitting money bill that died on the last night. And even if it is the first year for the bill to require "plugging assurance" to prevent future orphaned wells, we are encouraged for it passing next year.

Note: A slightly longer version of this story previously appeared in *Surface Owners' News*, a publication of the West Virginia Surface Owners' Rights Organization. It has been updated to reflect developments since the date of publication.

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.

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.

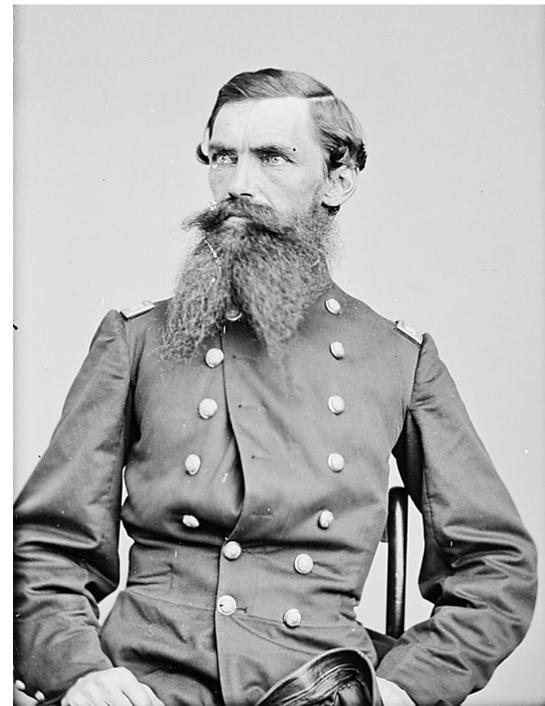
Still in need of something to read

Another Side of Porte Crayon

We are all familiar with Porte Crayon (pen name of David Hunter Strother) for his iconic drawings of what is now the Monongahela National Forest and nearby lands. There is a peak named for him there as well as a trail.

Drawings of peaks and forests were not, however, his only interest. For an idea of what he was up to otherwise, consider the article in *American Heritage*. <https://www.americanheritage.com/content/eyewitness-describes-hanging-john-brown>

>



David Hunter Strother, the man who--had he not gained fame as a writer and illustrator--might have gained fame for his epic facial hair.

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.

Pollinators in the Environment

By Sam Golston, Master Beekeeper

Most of us are oblivious to insects and consider them a nuisance. We try to eliminate them from our surroundings. As a Beekeeper for over thirty years, I have observed what I consider the most important insect and that is the honeybee. The media has educated us as to its decline and with possibilities of why it is in a downward spiral. This decline is critical because insects are the krill and plankton equivalents of our land food web. The quantity and quality of our food supply is dependent on pollination. Pollination allows for plant replication and as well adds to the ever evolving plant diversification and resilience.

Insects are phenomenal creatures. Michael S Engel, author of the book *Innumerable Insects*, points out some very interesting facts. They do, at least for now, outnumber us all, their success is due to rapid species generation and that is why the pesticide industry goes deeper into a chemical warfare to keep up. As a species, the author states that insects were the first to transition to land, fly, sting, display camouflage, evolve into societies, develop agriculture, abstract language, and become descendants of diversification.

The honeybee has evolved in its three-four million year existence into a remarkable creature. Will it survive the pesticide industry's attack on targeted invasive insects, which can adversely affect them as well?

The other assault is foreign trade, which has introduced other imported invasive species of insects that the honeybees in America were never historically exposed to. As a result, the varroa mites have destroyed feral and domestic colonies by feasting on the fat of the honeybees. The beekeeping industry has been fighting this destructive mite since the late nineteen eighties with limited success.

In West Virginia we are blessed with an abundance of fields and woodlands geographically removed from the pesticide assaults and forage areas lost to intensive farming practices. We do not have the problems that the midwestern states deal with. Our main problems here center around the mites and invasive beetles.

Here are some items non Beekeepers can do to help all pollinators.

1. Create areas on your property to plant pollinator friendly flora and not mow so intensively.
2. Avoid weed killers.
3. Petition the Department of Highways and utility companies not to spray herbicides and mow only once per year.
4. Become a Beekeeper!



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DIRECTORS-AT-LARGE (Terms expire October 2019)

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 LeJay Graffious, P.O. Box 69, Bruceton Mills, WV 26525, lejay@oldhemlock.org
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 FRIENDS OF THE LITTLE KANAWHA: Cindy Rank, 4401 Eden Road, Rock Cave, WV 26234, (304) 924-5802, clrank2@gmail.com
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 ALLEGHENY HIGHLANDS ALLIANCE: Dr. Wayne C. Spiggle, 3987 Knobley Road, Keyser, WV 26762, 304-726-4868, wspiggle@mac.com
 SHAVERS FORK COALITION: Jeff Witten, President, PO Box 2777, Elkins, WV 26241, (304) 362-5330, shaversforkcoalition@gmail.com

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MISCELLANEOUS OFFICES

WEB PAGE – DIGITAL PUBLISHING: Dan Radmacher, (540) 798-6683, dan.radmacher@writingleft.com

ADMINISTRATIVE OFFICES

MEMBERSHIP SECRETARY: Dave Saville; PO Box 569, Morgantown, WV 26507; WVHC50@gmail.com; 304-692-8118

HIGHLANDS VOICE EDITOR: John McFerrin, 202 Van Tassel Court, Morgantown, WV 26508, (304) 291-8305, johnmcferrin@aol.com

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.

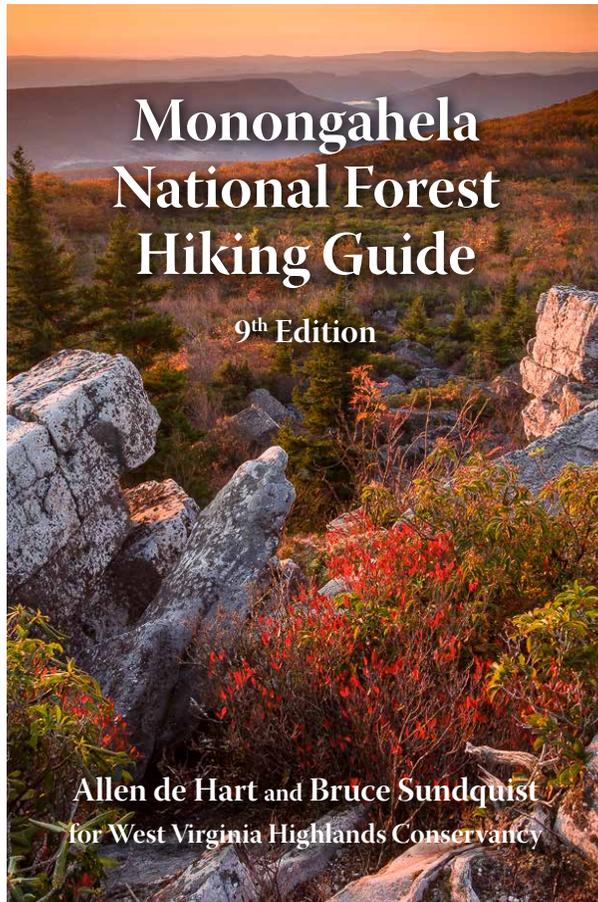
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OR

**Order from our website at
www.wvhighlands.org**



VOICE AVAILABLE ELECTRONICALLY

The Highlands Voice is now available for electronic delivery. You may, of course, continue to receive the paper copy. Unless you request otherwise, you will continue to receive it in paper form. If, however, 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. The electronic Voice is in color rather than in black and white as the paper version is.

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.

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 ♥ 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