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Methane: Can We Plug the Leaks?

By John McFerrin

One of the reasons to use natural gas instead of coal is that, when burned, natural gas releases less carbon dioxide. Producing energy from natural gas releases about 44% less carbon dioxide than producing the same amount of energy from coal.

While this may appear an overwhelming advantage for natural gas as an energy source, methane leaks may be diminishing that advantage. Fortunately, there are efforts going on to reduce those leaks. Unfortunately, there is much more that remains to be done.

In the short term, methane is a much more potent greenhouse gas than is carbon dioxide. Some of the difference is offset because methane does not linger in the atmosphere as long as carbon dioxide does. Still, methane is a supercharged global warming pollutant that is 87 times more potent than carbon dioxide over a 20-year time scale.

In the United States, the oil and gas industry is the largest industrial source of methane pollution—releasing 33 percent of all methane emissions in 2014. The onshore oil and gas production sector's methane emissions totaled more than 48 million metric tons of carbon dioxide equivalent, or CO₂e, in 2014. This is the equivalent of 14 coal-fired power plants powered for one year, according to the method EPA uses to calculate emissions equivalency.

These estimates are based upon the Green House Gasses Reporting Program, administered by the Environmental Protection Agency. It only requires reporting from those who emit more than

25,000 tons of CO₂e in a year. As a result, small emitters are unaccounted for and the actual total is larger.

The most prominent effort to address this problem is the new rules promulgated earlier this year by the Environmental Protection Agency. The final standards for new and modified sources are expected to reduce 510,000 short tons of methane in 2025, the equivalent of reducing 11 million metric tons of carbon dioxide. Natural gas that is recovered as a result of the rule can be used on site or sold. EPA estimates the final rule will yield climate benefits of \$690 million in 2025, which will outweigh estimated costs of \$530 million in 2025. Reductions in VOCs and air toxics are also expected to yield benefits. EPA was not, however, able to quantify those benefits.

The standards also are expected to reduce 210,000 short tons of ozone-forming VOCs in 2025, along with 3,900 tons of air toxics, such as benzene, toluene, ethylbenzene and xylene. Ozone is linked to a variety of serious public health effects, including reduced lung function, asthma attacks, asthma development, emergency room visits and hospital admissions, and early death from respiratory and cardiovascular causes. Air toxics are known or suspected to cause cancer and other serious health effects.

While this is an important step, this effort is incomplete because it only covers new and modified sources. The newly published rules do not address existing sources. This is important

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Ramblin' the Ridges

By Cynthia D. Ellis

Deluge

The water poured through. On the last weekend in June, flood waters roared through homes, towns, roads, and parks and forests in many areas in West Virginia. The pounding downfalls were deemed "Once in 1000 Years" storms. And the damage was tremendous. People here were deeply shocked, but before long they turned to relief and clean-up actions. The internet and social media allowed for quick checks of "safe" folks and of resources to give and receive help. And our mountains and recreation areas were not forgotten. As the life, death, and property reports grew, they were joined by some messages for campers, hikers, travelers and any who might have wanted to visit their favorite outdoor locations...or volunteer to help take care of damaged places. We do hope the best for the people and places we love.

The National Park Service is one steward of such places. But not long before the calamitous floods, the National Park Service was the subject of a number of negative commentaries. These revolved around a revision of an NPS Directive Order which may change how parks deal with corporate sponsorship. According to critics, revisions to Directive Order #21 will open the door for corporate logos and more all over our National Parks. NPS counters that it is simply being realistic for underfunded parks, and they will enact safeguards. "The NPS brand will be protected." But, the revision could be a big change. One worry is the placement of corporate brands. "The new

rule would allow corporate logos on things like signs, brochures, posters and banners, digital media, some exhibits and even NPS vehicles," says one opponent. Charleston newspaper writer Rick Steelhammer had fun with this idea and applied it to our state. He predicted Dollywood Sods, Endless



Wal-Mart climbing area, and Ocean Spray Cranberry Wilderness. The new policy will exclude ads for tobacco, e-cigarettes and drones; so they might be spared the sarcasm.

The deadline for comments on this revision has passed and its timeline now includes its review this month and, by August 16--- "Deliver Final Draft to Director for Signature."

Perhaps, this is when we wish that any elected officials who might have influence over such agencies had fewer ties to corporations themselves...so that

we who want properly funded and ad-free parks, monuments, memorials and battlefields could be reassured.

But when it comes to those politicians, criticism and humor abound too. Plenty of pictures have circulated with corporate logos photo-shopped onto clothing of congressmen and judges--- to jab at the abundance of untraceable funds now supporting office holders. Will parks be free of corporate influence if senators and representatives are not?

Environmental groups are working on this. We know that the long arm of corporate meddling often reaches into matters of preserving land, water, air, and communities, and does so in ways that many see as detrimental. It may seem harder and harder for citizens to make a difference, but we remain inclined to try. Primarily, we should know who donates to candidates and election winners...to whom allegiance is owed. That allegiance should be to the protection, as much as possible, from climate forces and manmade effects that bring about floods of water; and to preparedness for such catastrophes. And that allegiance should not be to inundations of money of obscured origin.

Outside Online [Online magazine's digital format] notes, "Allowing companies to cobrand America's national parks is a very real form of privatizing them--- extracting value of the public good selling it off to the highest bidder. The soul of the parks shouldn't be for sale."

Neither should the souls of the women and men who are our public servants.

Hold the Date for the Fall Review

The Fall Review of the West Virginia Highlands Conservancy will be October 21, 22 & 23 at Camp Virgil Tate - Camp and Conference Center - Charleston, WV. This year it will be held jointly with the West Virginia Environmental Council. The joint planning committee is working hard on the program which will be announced shortly. In addition to all the other activities, the Fall Review will include the Highlands Conservancy's annual meeting. We look forward to seeing you there.

More About Leaks (Continued from p. 1)

because after the EPA's methane limits for new and modified sources go into effect, methane pollution from 75 percent of the wells and oil and gas infrastructure in the United States will remain unregulated at the federal level.

Fortunately, the Environmental Protection Agency has begun gathering information about existing sources. This is the first step in a rulemaking that would result in existing sources being regulated.

There are a couple of features that make this a problem that is potentially easier to solve than other problems. First, the pollutant is valuable. Unlike other pollutants which must only be captured and

gotten rid of, natural gas can be sold. This offsets the cost of compliance at least to some degree.

Second, some companies are already doing it. Companies who emit more than of methane per year must report emissions to the Environmental Protection Agency. The Center for American Progress recently released a compilation of the reports, listing companies and their emissions.

The striking feature of the report is that there is no correlation between production and emissions. Often the companies with the highest production were not the ones with the highest emissions. Companies with the lowest production did not have the

lowest emissions. The compilation was of reports for 2014, the most recent data available.

The report also shows great disparity in emissions per well, with the emissions per well from the biggest emitter being over three times greater than emissions per well from the tenth biggest emitter.

From this, it is possible to infer that some companies are better at controlling emissions than others. If this is true, then the techniques and equipment necessary to limit emissions must exist. At least part of the problem could be solved if the worst performing companies could come up to the standards of the best performing ones.

Horse may be out of the barn and out of sight but we're fixing the door anyway

Fixing Problems With "Self-Bonding"

By John McFerrin

There are efforts underway to fix problems with West Virginia's (and the rest of the country's, for that matter) system of self-bonding for coal mines.

Under West Virginia and federal law, mining companies are required to post performance bonds to assure that reclamation is completed. If the company disappears, the Department of Environmental Protection would forfeit the bond and pay for the reclamation. Historically, bonds were posted by insurance companies or some other financial institution. Companies would pay the premiums; if the bond had to be forfeited, the financial institution would pay.

There is an alternative called "self bonding." Under that alternative, the mining company in effect becomes the financial institution. It tells the Department of Environmental Protection that it has plenty of money so that if reclamation is ever needed it can pay. If it meets financial standards set forth in the regulations, it is approved for "self bonding" and doesn't have to post a bond backed by an insurance company, etc.

We have an example of this in Alpha Natural Resources. Back in the day, when it was profitable, it convinced the Department of Environmental Protection that it had plenty of money and did not need to post

a bond. Its promise ("self-bonding") was sufficient. Now it is in bankruptcy.

Alpha is only one local example. Nationally, over fifty coal companies have filed for bankruptcy in the past few years. Approximately \$3.75 billion in reclamation responsibilities in nine states are covered by self-bonded promises, promises that will only be fulfilled if the companies are and remain solvent. The shrinking coal markets and financial difficulties that follow make it likely that many of these promises will not be fulfilled.

What the Office of Surface Mining is doing

Now there are efforts to fix this. The first is that the federal Office of Surface Mining is now considering what it should do about this. It has asked for comments on how it should proceed. Several groups, including the West Virginia Highlands Conservancy, have joined in making comments.

In their comments, the groups suggest that the Office of Surface Mining improve the regulations but not ignore all the things it could be doing under existing regulations.

The groups have suggested that OSM not use possible new rules as an excuse to not do things it could do under existing rules.

In addition to things it could do under existing rules, the groups also suggested ways the rules could be made more effective by additional rulemaking.

What Congress is doing

The Office of Surface Mining is not the only one concerned about the problems that self-bonding can cause. Congress is currently considering Senate 3066 and House of Representatives 5500. They would prohibit self-bonding nationwide. As mine plans are renewed, they would require the conversion of current self-bonds to surety or collateral bonds as mine plans are renewed or modified, and improve the bonding program by shoring up capitalization and collateral requirements.

They were introduced in June, 2016, and referred to the House Subcommittee on Energy and Mineral Resources and the Senate Committee on Energy and Natural Resources. They were introduced by Senator Maria Cantwell (D-WA) and Representatives Matt Cartwright (D-PA), Debbie Dingell (D-MI) and Raul Grijalva (D-AZ).

It's the Year of the Cicada, but Why?

By John McFerrin

They're everywhere, they're everywhere. Flying, buzzing, falling on sidewalks, blamming into cars and people. It is the year of the cicada.

Morgantown residents were treated to the Magicicada Festival. Sponsored by the West Virginia University biology department and held in the Core Arboretum, it offered all manner of cicada related activities. You could do cicada origami, make yourself a cicada costume (two small red balloons and a headband to mimic red cicada eyes), learn about cicadas, and even eat some.

Although the eating part was advertised as prepared by "great local chefs," I didn't see anybody in a poofy hat, speaking French, etc. What they did have was cicadas baked into a cookie as well as something like trail mix. It had blueberries, nuts, little crackers, and cicadas (head, wing, and legs removed).

I took a cookie and a big scoop of the mix. My scoop had three or four cicadas in it. I can report that the cicadas don't really have much taste. Once you get past the idea that you are eating bugs, it is fine. The ones in my scoop were all adult males so, when I bit down, they felt hollow. National Geographic had a story about eating cicadas <http://news.nationalgeographic.com/news/2013/04/130515-cicadas-recipes-food-cooking-bugs-nation-animals/>. The internet is thick with recipes if that is your taste.

So how can you tell you are eating an adult male? With the male, the abdomens are hollow. Just like drums, guitars, and many other musical instruments, they need something hollow to make all that noise. For a cicada, the woods are one giant pick up scene. No noise, no girlfriend.

The females, on the other hand, have their abdomens stuffed full of eggs. They would not feel hollow in the mouth.

Coming down the path leading to the festivities, I met someone who warned me, "Don't eat the cicada cookies. They are making me sick." He didn't look like a sooth sayer (no beard, no staff, no crooked finger to wave) so I plunged ahead. The cookies were tasty enough. They will never replace chocolate chip but they were edible. The body parts were visible, like the raisins in oatmeal raisin cookies.

My verdict on eating cicadas: they are not bad. There are so many of them that if they are to your taste you could have quite a feast, at least once every seventeen years.

But why are there so many? And why only once in seventeen years?

The huge numbers are a species survival strategy. Individually, they have nothing that would help them survive. They are slow; they don't bite or sting; they have no prickles, no hard shell. They don't have coloring that would help them hide or blend in. They are, as it were, sitting ducks for any predator that comes along.

The only thing they have is numbers. Because they emerge all at once, they overwhelm their predators. There are so many of them that even the most voracious of predators could not eat them all. Even after predators eat their fill, there will still be plenty left to lay eggs, etc. This strategy only works if they all emerge at the same time.

But why every seventeen (or thirteen in the case of some broods) years? Why not a nice round number like ten, or an even dozen?

Nobody knows for sure but a prominent theory comes from the intersection of evolutionary theory and mathematics.

The animals that prey on cicadas have peaks in their populations as well, peaks that are often cyclical. Some populations might have a four year cycle; others might have a five, six, or ten year cycle. Populations will rise to a peak and then crash.

For cicadas, it is advantageous to emerge other than in a year when predators are

at their peak. While there are enough of them that the species would probably survive even if they emerged when predator populations are peaking, it is better if they avoid those years.

This is where the mathematics comes in. Both seventeen and thirteen are prime numbers. They cannot be evenly divided by any other number except themselves and one. By having a cycle that is a prime number, the cicadas are more likely to avoid years when predator populations peak. A twelve year cicada cycle would synchronize with predator cycles that are three, four, or six years. By have cycles that are prime numbers, the cicadas are much less likely to emerge when any predator population is peaking.

Evolutionary theory holds that any behavior which provides an advantage will survive and continue. Cicadas may have at one time emerged willy nilly, not on a seventeen or thirteen year cycle. Those who emerged in peak predator years had a poorer chance of surviving; the ones who emerged in the prime number years became dominant. *The New Yorker* had a most interesting article on this theory <http://www.newyorker.com/tech/elements/the-cicadas-love-affair-with-prime-numbers>

So how do they know when it is time to emerge? They are up to eight feet under the ground, it's dark, cell service is lousy, and they have a brain the size of a pinhead. How do they know when seventeen years have passed?

Like the reason for the duration of the cycle, nobody knows but there are theories.

There is data to suggest that cicadas know when a year has passed. During the time they are in the ground waiting for time to emerge, cicada nymphs feed on the juice of tree roots. The quality and quantity of the juice changes as the tree goes through the year.



(More on the next page)

More about Cicadas (Continued from p. 4)



Adult cicada undergoes its final molt. Many gourmants insist that cicadas captured at this moment are the most flavorful and satisfying cicadas.

If the cicada nymphs detect those changes, they could know when a year has passed.

Researchers have tested this hypothesis by planting cicada nymphs on the roots of trees in a greenhouse. Then they manipulated light and water so that the tree went through more than one cycle in a calendar year. The cicadas did not emerge when the appropriate number of calendar years had passed. Instead, they emerged when the tree they were feeding on had gone through the requisite number of cycles.

But how do they know? Assuming that they cicadas know when a year has passed by monitoring root juice, how do they know when seventeen years have passed? Some of them don't. Most years there are a few who get confused and emerge other than in the thirteenth or seventeenth year. There are so few of them that the ones who manage to avoid being eaten can't find each other to reproduce.

Yet the overwhelming majority do figure it out. They count to seventeen, emerge to overwhelm predators and reproduce so that the whole cycle starts all over again. The question of how they count still has everybody stumped.

Note: This is the first in a series called "Cicada Chat", a regular feature of *The Highlands Voice*. The next installment will appear in 2033.

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.

Trains were running on time

Legislature Changes Water Rules in Special Session

By John McFerrin

For the West Virginia Legislature, 2016 was the year of the deficit, the year when there was a huge gap to fill and no agreement on how to fill it. The Legislature argued about this during the regular session and could not reach agreement. They went into special session, with seemingly endless speeches, posturing, blather, offers, counter offers, proposals, etc. Finally, finding themselves eyeball to eyeball with the deadline—when the state would have to shut down—they finally reached a compromise. Now we have a budget and can go ahead.

Budget deficits are hard. Nobody wants to raise taxes. Everything the state does has a constituency, somebody who will be upset if it is cut out. Nobody wants to blow all the state's savings on a one time fix for a budget deficit.

While doing a budget—including fixing a deficit—is hard, one thing is apparently easy: doing a favor for a chosen industry.

Both state and federal Clean Water Acts make it possible to add small amounts of pollution so long as the water remains suitable for what we use streams for (aquatic life, recreation, drinking, etc.). West Virginia has rules that control the amount of contaminants that anyone may add to state waters. The rules passed by the 2016 West Virginia Legislature were amendments to those rules. They were amendments favorable to the coal industry.

On June 1, 2016, Governor Tomblin added the rules to the list of items that could be considered in the special session. On June 2, 2016, both the House and Senate passed the bill. There were no hearings, no debate, nothing.

The rules that the Legislature managed to address with such alacrity during the special session had been introduced during the regular session. There had been some controversy, including some questions raised by the United States Environmental Protection Agency. The rules didn't pass.

The Legislature routinely deals with controversial matters which, in ordinary times, it resolves in the regular session. Other than the identity of the chief beneficiary of the rule changes, there was no reason to deal with these rules in special session, a special session which was convened to deal with the budget and where every other item addressed a budgetary issue.

The rules themselves deal with how much aluminum and selenium will be allowed to be discharged into state streams. For some streams, the new standard could allow more than 40 times more aluminum for trout streams and almost five times more aluminum for warm water streams. The new rules would not only allow more selenium but would introduce a complicated and probably unworkable method for measuring it that will make enforcement difficult if not impossible.

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.

Endangered Golden Eagles are at Serious Risk

By Larry Thomas

The United States Fish and Wildlife Service (FWS) has once again issued a draft rule that would allow the industrial wind energy industry to apply for thirty-year permits to disturb or kill federally-protected Bald Eagles and Golden Eagles, representing a six-fold increase from the previous allowance of five years.

Bald and Golden Eagles are protected in the USA under the Migratory Bird Treaty Act (Migratory Bird Treaty Act). The Migratory Bird Treaty Act is an agreement between the USA, Canada, Mexico, Japan, and Russia to protect migratory birds that dates back almost a hundred years to 1918. This statute makes it unlawful to kill most wild birds listed, except under very specific permits and regulations.

There have been some very recent cases where power companies have been fined millions of dollars for the death of Golden Eagles. In these cases it is not only a violation of the Migratory Bird Treaty Act, but in the USA it

is also a direct conflict with the Bald and Golden Eagle Protection Act (BGEPA).

The Bald and Golden Eagle Protection Act was enacted in 1940 and has been amended several times. It provides for criminal penalties if a person, without permits, “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any Bald Eagle ... [or any Golden Eagle], alive or dead, or any part, nest, or egg thereof.” The Bald and Golden Eagle Protection Act defines “take” as “..., wound, kill, molest or disturb” Bald Eagles or Golden Eagles. The definition of “disturb” in the Act means to agitate or bother either species of eagle so that it causes injury to an eagle, or even decrease its nesting productivity through a variety of ways. This includes negative impacts to eagles, even when they are not present. How can that be? Well, if people alter the environment around nest sites while the eagles are not there and the alterations cause the eagles to abandon the area, or even interrupt normal breeding, then the people who altered the

area are held responsible.

A violation of the BGEPA can result in a \$200,000 fine for an organization, and can include a year in prison for a first offense.

The Fish and Wildlife Service has proposed a rule to implement this statute. It is similar to an earlier one that was struck down in the courts.

Here we go again. An analysis of the proposed rule by the American Bird Conservancy states:



“The new eagle-management plan proposed by the Fish and Wildlife Service would give wind energy developers 30-year permits to “take” or incidentally kill protected Bald and Golden Eagles, without requiring the industry to share mortality data with the public or take into consideration such critical factors as proper siting. The so-called Eagle Take Rule, proposed by the FWS, puts many thousands of the nation’s protected Bald and Golden Eagles at unacceptable risk.

American Bird Conservancy successfully sued the government over a previous version of the rule, which a federal judge agreed violated federal environmental laws. Unfortunately, the updated rule, open for public comment until July 5, 2016, is as problematic as the previous one.”

NEPA Conclusion (Excerpt from Ruling)

The Court concluded that Fish and Wildlife Service has failed to show an adequate basis in the record for deciding not to prepare an Environmental Impact Statement—much less an Environmental Assessment—prior to increasing the maximum duration for programmatic eagle

take permits by sixfold. See *Klamath Siskiyou Wildlands Ctr.*, 468 F.3d at 562 (“[N]ot only did [the agency] fail to conduct an EIS . . . , it did not even conduct an EA.”). While promoting renewable energy projects may well be a “worthy goal, it is no substitute for the [agency’s] obligations to comply with NEPA and to conduct a studied review and response to concerns about the environmental implications of major agency action.” *Kraayenbrink*, 632 F.3d at 492. Accordingly, the Court holds that FWS violated NEPA’s procedural requirements and that the Final 30-Year Rule must therefore be set aside and remanded to FWS for further consideration.

Fish and Wildlife Service tries again

In response to the Court’s ruling, the Fish and Wildlife Service proposed a revised rule. The revised rule contains many of the same flaws found in the rule that the Court rejected.

“In a letter sent to FWS, American Bird Conservancy spells out serious concerns about the revised rule. It would

increase the number of eagles that can be killed by wind energy and other facilities. It’s based on insufficient data, and doesn’t require energy companies to be transparent about the effects of wind energy on our nation’s ecologically significant birds and bats. The rule doesn’t call for proper siting and regulation of wind energy development. And it allows for 30-year take permits without giving the public and conservation groups a voice in periodic reviews.

All of those flaws will put eagles and other wildlife in serious jeopardy if the rule is adopted. “Eagles are our nation’s symbol and are protected by law,” said Dr. Michael Hutchins, director of ABC’s Bird-Smart Wind Energy Campaign. “In the end, the new rule differs little from its previous incarnation and allows wind energy companies to continue to kill our nation’s iconic eagles with little or no consequence.”

FWS has said that the revised rule is meant to entice wind energy companies to apply for permits and adhere to the

(More on the next page)

Eagles in Trouble (Continued from previous page)

Service's voluntary wind energy guidelines, since they are not doing so at present. ABC believes adhering to these guidelines should be mandatory, not voluntary.

"Voluntary guidelines for an energy company are much the same as voluntary stop signs for motorists," Hutchins said. "If the law doesn't require them to stop, many would ignore signs altogether."

"Conflicts between wind energy development and wildlife could be easily resolved through better mandatory regulation and enforcement of our wildlife laws, leading to proper siting of these facilities," Hutchins said."

In its explanation of the new rule, FWS asserts that wind energy and other industries could cumulatively kill up to 4,200 Bald Eagles and 2,000 Golden Eagles every year without reducing their populations. These numbers represent a substantial potential increase in eagle take quotas from those allowed under the previous rule.

"The American people are not going to tolerate large numbers of eagles killed by poorly sited wind energy projects," Hutchins said. "Nor should they. Eagles are not only our national birds and symbols of our democracy, they are sacred to Native Americans."

Eagles, especially Golden Eagles, are highly vulnerable to collisions with wind turbine blades, which have tips that can rotate at more than 150 miles an hour. The notoriously poorly sited Altamont Wind Resource Area in California has killed more than 2,000 Golden Eagles since wind turbines first went into operation in there in the early 1980s. In addition, both Golden and Bald Eagles are killed by collisions and electrocution at associated power lines and towers.

The proposed rule is especially worrisome for Golden Eagles. Uncertainty about Golden Eagle populations—especially the small Eastern population of the birds—and the lack of knowledge about their behavior, migratory movements, and habitat use are, in ABC's view, the rule's biggest weaknesses. FWS itself recognizes that Golden Eagle populations in the U.S. may be declining and that the species does not have the capacity to tolerate any additional, unmitigated mortality.

The rule spells bad news for Bald Eagles as well. Bald Eagles have just

recently come off the Endangered Species List and are nowhere near their pre-DDT numbers. As wind turbines go up near freshwater lakes and large river systems and on- and offshore in marine coastal areas, however—all areas heavily used by the birds—Bald Eagle mortality is certain to increase.

The primary beneficiary of the proposed new Eagle Take Rule appears to be the wind energy industry, not our nation's Bald and Golden Eagles, other native birds, and other ecologically important species such as bats. ABC urges the public and other conservation groups to make their voices heard before the July 5 deadline for public comment on FWS's revised 30-year Eagle Take Rule."

American Bird Conservancy has made comments on the proposed rule, as has the West Virginia Highlands Conservancy. In those comments the groups recommends these steps:

(1) That FWS's Wind Energy Guidelines be made mandatory.

(2) That FWS must consider and solicit public comment on an alternative that would maximize BGEPA compliance through the most obvious and straightforward approach, i.e., by significantly increasing enforcement, both before and after projects are constructed in eagle habitat, and by imposing sufficient penalties to deter violations of the Act.

(3) That any proposed wind energy project to be built in an area known to be inhabited by federally-protected species during some portion of their lifecycle be required to obtain incidental take permits under BGEPA and/or ESA.

(4) That all post-construction bird and bat mortality data at wind energy facilities be collected by independent, third party experts using standardized methods, be reported directly to FWS, and be open to the public upon request (as currently occurs in Hawaii).

(5) That the wind energy industry (which is already paying for their own studies) contribute to a fund that the FWS will use to hire independent experts to conduct preconstruction risk studies and post-construction bird and bat mortality studies.

(6) That FWS adopt a process by which the public and concerned conservation organizations will be routinely

involved in the "internal" five-year reviews if a 30-year permit is approved. Otherwise, to adhere to the NEPA provisions for public involvement in the permitting process, the FWS will need to continue with a five-year permitting system.

(7) That FWS use state-based (or collection of states, for example, FWS Regions) as Eagle Management Units rather than the proposed Flyway based system.

(8) That FWS pay special attention to Golden Eagle populations as it monitors the cumulative impact of the rapidly developing wind industry and its associated infrastructure (especially power lines and towers). The small, possibly distinct, eastern Golden Eagle population should be given special attention, and wind energy development should be avoided along the migratory pathway of the eastern population to prevent the need for listing this population under the ESA.

(9) That FWS develop a comprehensive, meaningful system for enforcing Bald and Gold Eagle Protection Act along with the Endangered Species Act and the Migratory Bird Treaty Act.

(10) That FWS use partnership and cooperation with the wind energy industry to ensure compliance with the Wind Energy Guidelines and wildlife protection laws, but that it also be clear about the consequences (disincentives, punishments) should that cooperation not be forthcoming since wind energy companies are currently defying FWS recommendations on siting and failing to work with the FWS under the Wind Energy Guidelines.

(11) That FWS be clear a priori about what the consequences will be when a wind energy facility regularly exceeds its take limit under BGEPA or Endangered Species Act.

(12) That the wind energy industry be required to support research to ascertain proven methods of eagle conservation that can act as independent compensation for unavoidable losses, rather than offsetting losses that are the responsibility of another (related) industry through electrical pylon modifications.

Nature Happens

By John McFerrin

Nature happens. It happens not just in the rain forest or stands of virgin timber but, quite literally, in our back yards. The same processes and interactions that shape exotic places are shaping our own back yards.

We recently had difficulty with the foundation drains around our house. It is all fixed now but we had several days of a little bulldozer and an excavator, digging ditches, adding gravel, laying pipe. The result is that we have splendid new drains and a back yard that that is nothing but bare clay.

Losing the grass is only the beginning. With the grass went the insects. We hardly ever saw the insects but we could tell they were there by the barn swallows. They made a living swooping high and low, over our yard, gobbling what they could find. Now they are gone. I see them in the neighbors' yard sometimes but not here.

Last year the swallows nested on the crook in our downspout, just below where it comes off the roof. Not any more. Just before the digging started they were perched on the gutter, just above last year's nesting site, checking out the neighborhood. Now they have moved on, no doubt looking for a spot closer to their grocery store.



With the swallows went our cat's major source of entertainment. Last year she would sit and stare at the nest and all the activity. Perhaps she was just watching; perhaps she was dreaming of the old days, when she was a street cat. Then she could hope to fill out her diet or, as was her habit, leave a little present on the doorstep of those she sought to befriend.

And so it goes. Here in our tiny corner of the world it is all connected. When the grass goes, there go the insects. When the insects go, there go the swallows. When the swallows go, the predators are affected. On and on, nature being nature right here in our back yard.

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The West Virginia Highlands Conservancy web page is www.wvhighlands.org.

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Working to Keep West Virginia Wild and Wonderful

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

A Snack for a Passer By

The Sandhill Crane is not a year round resident of West Virginia. It does, however, fairly often pass through here on its migration. Here a Franklin woman offers a snack to our visitor.



SUCH A DEAL!
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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.

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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: _____

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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 Beth Little at blittle@citynet.net.

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.

Reusing, Recycling, and Guerilla Civic Improvements

By Dave Cooper

At the 2015 Whippoorwill Festival – Skills for Earth-Friendly Living, a factory worker named Tony Jackson from Richmond, Kentucky led a workshop in which he demonstrated how to make simple furniture out of discarded wooden shipping pallets. Tony has built tables, chairs, benches and coffee tables from the free pallets that can be found behind almost any store or warehouse. I thought this was a great example of the old Appalachian traditions of thrift and making-do with what's available – perfect for the theme of Whippoorwill - and I loved having him teach at the festival.

At Whippoorwill Tony built an imaginative loveseat in about 30 minutes. It wasn't the most comfortable thing, but it was cool-looking, sturdy and certainly functional. It looked great around the fire circle at the festival site.

I started learning more about pallets. According to Pallet Enterprise Magazine, "The pallet industry has been by far the largest consumer of hardwoods for the past 30 years." In 2006, over 7 billion board feet of hardwoods were used to make pallets, according to researchers at Virginia Tech.

Our Appalachian hardwood forests are being cut down to make pallets! Some pallets are used only one time before being discarded into a dumpster at a construction site. Many used pallets are ground into mulch. This seems to be a very poor use of our natural resources. Some would say it's incredibly wasteful.

Intrigued, I started trying to build my own pallet furniture in the garage. I quickly found enough pallets to build a small village, but I didn't have the right wood-working tools. A lot of trial and error and pondering was required to build anything without getting hurt.

Pallets use special adhesive-coated spiral nails to hold the deck boards to the runners. These nails cannot be extracted, and the boards usually cannot be pried or hammered loose without splitting the wood. It's very dangerous to work with pallets because of these nails. I bought safety goggles, ear plugs, and steel-toed boots, plus about \$2000 worth of hardware and wood-working equipment.

I began using a brick mason's chisel and a mallet to open up a small gap between the deck board and the runner. Then I used a hack saw or a reciprocating power saw to cut the nails to remove the deck boards. Once I figured out this trick, I began building tables, Adirondack chairs, and park benches in my garage using my own designs – I didn't want to copy someone else's ideas from the internet.

As I built more and more pieces, they filled the garage and began spilling out into the backyard. Patty was not happy. What I was going to do with all of these benches?



First I donated some benches to Wiley's Last Resort on top of Pine Mountain in Kentucky to put around the campfire circles for their Supermoon Music Festival.

Then I started placing them anonymously along walking trails in our city parks and at bus stops, to give people a place to sit while they are waiting for the bus. The wooden benches did not look right on our city streets, so I painted the slats using bright colors. People came up to me while I was painting them on the street and thanked me profusely, which made me feel good. And they looked pretty cool: a bright splash of color on the sidewalk. Street art!

The bus company, Lextran finally sent out a press release asking about the benches. Channel 18 broadcast a story about the "Secret Samaritan," and our local newspaper, the Lexington Herald-Leader, ran a nice story entitled "Who's Leaving Colorful Benches at Bus Stops? Lextran Doesn't Know" on page 3 with a lot of pictures.

This story got a ton of responses on social media from bus riders who supported what I was doing, and who wanted to know why the bus company didn't have benches at all of their bus stops.

The bus company got pretty embarrassed, and so they decided the best thing to do was to remove all of my benches and hide them in their warehouse.

I went down to the bus company headquarters with my 89-year old mother-in-law, and the bus company executives explained to me about sidewalk permits and other regulations that they were required to

abide by. But instead of working to get the necessary permits, they asked me to sign some legal mumbo-jumbo promising not to sue them if someone got hurt sitting on one of my benches.

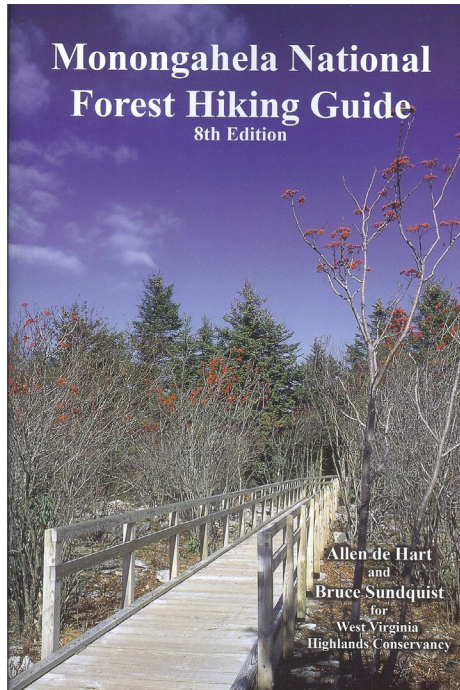
My mother-in-law gave them down-the-road about it. "He was doing a nice thing ... why do you have to take them away? He wasn't asking for any money ... and the people, the elderly, they need a place to sit." I watched with amusement as the faces of the bus company executives turned ashen: You just can't argue with an 89-year old lady.

I am building lots more benches for the 2016 Whippoorwill Festival, which will be at a campground called

Lago Linda in Kentucky's Red River Gorge, which is fairly close to West Virginia. I am making more benches for people's gardens, cabins and backyards, and memorial benches with a brass plaque in honor of people who have passed away. I have been building benches at street fairs and festivals and talking to people about ways they can safely use pallets for their own projects.

I was feeling pretty good about my little enterprise until I recently met a man at the Huntington Sustainability Fair. He came up to my booth and looked at my pallet benches, and then he said he had built pallet benches too. I asked him how long he had been doing it, and he said "Oh, about 15 years – I've built thousands of them!"

For more information and to see pictures, go to the Kentucky Pallet Artist page on Facebook <https://www.facebook.com/KYPalletArtist/>



The Monongahela National Forest Hiking Guide

By Allen de Hart and Bruce Sundquist

Describes 180 U.S. Forest Service trails (847 miles total) in one of the best (and most popular) areas for hiking, back-packing and ski-touring in this part of the country (1436 sq. miles of national forest in West Virginia=s highlands). 6x9" soft cover, 368 pages, 86 pages of maps, 57 photos, full-color cover, Ed.8 (2006)

Send \$15.95 plus \$3.00 shipping to:
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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 Beth Little at blittle@citynet.net. 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 Julian Martin, 1525 Hampton Road, Charleston, WV 25314. 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 Julian know which (or both) you want.



WEST VIRGINIA HIGHLANDS CONSERVANCY, PO BOX 306, CHARLESTON, WV 25321-0306 • www.wvhighlands.org



Alpha Signs Agreement on Mine Reclamation with WV Highlands Conservancy and others

By Cindy Rank

In 2012 West Virginia Highlands Conservancy, together with co-plaintiffs the Ohio Valley Environmental Coalition and Sierra Club, filed suit to require Alpha Natural Resource coal companies to treat toxic discharges from several of its West Virginia mines.

In 2015 the court approved a consent decree that required Alpha to treat the offending discharges, discharges that resulted in high conductivity levels that caused harm to aquatic life in the receiving streams.

As small coal companies began to fold and larger coal companies filed for bankruptcy, our court approved agreements that require specific coal companies to invest in expensive treatment activities to stop harming streams were put in jeopardy. The likelihood of those companies fulfilling their promises to obey the law by cleaning up their discharges and maintaining the quality of nearby streams began to fade.

While executives of these companies were given large bonuses, our oftentimes bitterly fought and won court cases that led to agreements with Patriot, Alpha, and most recently Arch Coal are in jeopardy. Promised and legally required environmental cleanup along with previously guaranteed health and retirement benefits for miners were not tops on the list of priorities bankruptcy courts normally consider.

In the May 2016 issue of *the Highlands Voice* we reported that Alpha agreed to include a specific statement in their "sale orders" acknowledging our water treatment settlements in West Virginia and making clear that any buyer will be bound by those settlements.

Further discussions have led to an agreement filed with the bankruptcy court June 30, 2016, that modifies existing plaintiffs' water treatment settlement and resolves the groups' objections in Alpha's bankruptcy.

Reporter Ken Ward wrote the following story about the agreement for the Charleston Gazette-Mail July 1, 2016:

Alpha deal will fund mine cleanup projects

By Ken Ward (<http://www.wvgazetteemail.com/news/20160701/>)

[alpha-deal-will-fund-mine-cleanup-projects](#))

Alpha Natural Resources will spend millions of dollars partnering with a new nonprofit organization on pilot projects aimed at finding ways to clean up scarred land and polluted water left behind by mountaintop removal mining, under a bankruptcy court settlement reached this week by Alpha and a collection of citizen groups.

In exchange for a relaxed timeline to fix certain water quality violations, Alpha agreed to pay an anticipated total of \$7.5 million to fund land and stream restoration projects in West Virginia that will go over and above the requirements of existing state and federal environmental laws. Alpha will also provide in-kind services of equipment and employee time to carry out the projects and give up 53 million tons of coal in Pennsylvania to prevent that coal from ever being mined or burned.

Lawyers for Alpha filed the settlement Thursday night in U.S. Bankruptcy Court in Richmond, Virginia. The Sierra Club announced the deal in a press release issued early Friday morning.

"Decades of short-sighted, misguided decisions by coal companies like Alpha -- with the blessing of West Virginia leaders and federal regulators -- have created a toxic legacy that will linger for decades more," said Cindy Rank, mining chairwoman of the West Virginia Highlands Conservancy, one of the groups that made the deal with Alpha. "This settlement will at least create an opportunity for new reforestation and stream restoration projects designed by reputable scientists to show what will be required to reverse the damage and start a new chapter for Appalachia."

Rick Axthelm, a spokesman for Alpha, issued a statement that said "responsible environmental stewardship" has been "a long-standing focus for Alpha."

"This settlement is yet another step forward toward ultimate approval of Alpha's broader plan of reorganization," the statement said.

The settlement comes amidst Alpha's ongoing bankruptcy

reorganization, in which labor organizations, environmental groups, and coalfield regulatory agencies have complained that the company's proposals would leave Appalachian communities holding the bag for retiree pensions and health care costs, along with untold millions to cover the cost of mine reclamation, especially long-term treatment of water pollution from mountaintop removal mines across the region.

With the mining industry facing continued declines, in the face of increased competition from natural gas, mined-out reserves and tougher environmental laws, efforts to rebuild coalfield communities could be hindered by the immense "legacy liabilities" coal is leaving behind.

The deal with environmental groups comes three weeks after Alpha reached an earlier settlement with the state Department of Environmental Protection in which Alpha agreed to post an additional \$100 million in reclamation bonds and \$39 million in letters of credit or cash to assure reclamation on sites in West Virginia. That deal also includes commitments that could provide more than \$200 million in funding for land reclamation and water treatment expenses to try to address part of the mine cleanup that looms over Alpha and other financial troubled coal producers.

But in their deal with Alpha, the Sierra Club, the [WV] Highlands Conservancy and the Ohio Valley Environmental Coalition aim to develop and implement more rigorous reclamation efforts than the current government requirements that citizen groups -- and increasingly scientists -- have said allow mountaintop removal operations to destroy valuable headwaters streams. A growing body of science has also shown that residents who live near mountaintop removal operations face increased risks of a variety of illnesses and premature death.

(More on the next page)



Hikers on the bridge over Dragon's Draft into the Arboretum, which is basically the watershed for Dragon's Draft.

Watoga State Park: Rhododendron, Stinging Nettles, and Big Fat Trees

There are several trails in the arboretum, providing hiking loops of varying lengths and types of surroundings. Up on the ridges are relatively open woods with spectacular trees, and down in the coves descending to Dragon's Draft are moisture loving flora, such as rhododendron and stinging nettles (long pants recommended)... and spectacular trees. In fact, we decided the hike might be called the BFT (big f**king trees) hike.

Lately a group of volunteers have been clearing and remarking the trails, not only in the arboretum, but in the entire park, and they are planning a half-marathon on August 13. They are part of a foundation formed to support the park, which has seen decline lately, despite the pleasant cabins, campgrounds, swimming pool, boating and fishing in the stocked lake, and more... see www.watoga.com.

We had a lovely time hiking the Honeybee and Buckhorn trails, pausing at the shelter next to Dragon's Draft to chat and munch.

Mine Cleanup Deal (continued from previous page)

In a variety of lawsuits over nearly two decades, Joe Lovett and other lawyers from Appalachian Mountain Advocates have challenged federal and state regulatory practices and also successfully forced companies like Alpha to enter into legal settlements to spend millions of dollars on better reclamation efforts, and the pilot projects under the Alpha settlement would be guided by expert scientists who have testified in those cases and by a new non-profit organization, Appalachian Headwaters. With the coal downturn, and bankruptcies by companies like Alpha and Patriot Coal, it is becoming increasingly likely that sufficient funds to meet some of those legal settlements won't be available, and citizen groups are trying to make as much progress as they can toward cleaning up the mess left behind.

"Remarkably, state and federal regulators allowed coal companies to blow up mountains with full knowledge of the long-term, irreparable consequences, including the fact that the region's streams will fail to meet water quality standards for decades," Lovett said Friday. "Though the scars will never entirely fade, we must do everything we can to heal this region's deep wounds from mountaintop removal coal mining so that affected

families can begin to reclaim their lands -- beginning with this settlement."

Under the proposed settlement, which needs court approval, Alpha would pay \$1.3 million up front when the company's bankruptcy plan is confirmed, with the remaining \$6.2 million due over the next two years. Alpha must also provide more than \$1 million of in-kind services by donating equipment time and employee time to carry out the restoration projects. The 53 million tons of coal Alpha is giving up are located in Westmoreland and Fayette counties in Pennsylvania. The settlement document also says that Alpha is agreeing to surrender a permit for its Payn[t]er Branch Surface Mine a more than 500-acre site in Wyoming County where mining has not begun.

In exchange, the citizen groups have agreed to provide Alpha with a three-year extension to deadlines in an existing Clean Water Act settlement that requires Alpha to clean up conductivity pollution violations at two of Alpha's mines. The citizen groups also agreed to drop their objections to Alpha's bankruptcy reorganization plan.

["Alpha cannot be let off the hook, even as it takes advantage of a bankruptcy process which too often allows debtors to shed liabilities and escape important

obligations," said Dianne Bady of Ohio Valley Environmental Coalition. "This settlement ensures that Alpha contributes something toward restoring the region and invests in putting hard-working families back to work.]"

"The scars that Alpha has left on Appalachia are deep and there is much more work to be done, but this is a start in reversing some of the damage Alpha and other mine operators have done to this region," said Liz Wiles, Chair of the Sierra Club's West Virginia Chapter. "It is essential that all levels of government and the private sector invest in the workers and the communities who have powered our country for over a century, so that they can enjoy new economic opportunities that provide long term stability. Meanwhile, we will continue to advocate for a bright future for communities affected by coal mining -- starting by putting the funds from this settlement towards reclaiming and restoring Appalachian lands, waters and local economies."

RULES, RULES, RULES

Here we go again....

The process for 2017 Proposed Legislative Rules:

- First step is public review for WV Department of Environmental Protection
- Then they go to the Legislative Rule Making Review Committee in August
- Then on to the legislative session in 2017.

Water Quality Standards Public Hearing Set for August 9, 2016

CHARLESTON, W.Va. – The West Virginia Department of Environmental Protection’s Division of Water and Waste Management will conduct a public hearing Aug. 9 on the proposed Triennial Review of Legislative Rule 47 C.S.R. 2, “Requirements Governing Water Quality Standards.”

This rule establishes requirements governing standards of surface water quality for the waters of the state. State water quality standards are developed to help protect and preserve water quality necessary to meet and maintain designated or assigned uses, such as swimming, recreation, public drinking water supply, and aquatic life.

In this revision to the Water Quality Standards Rule, DEP proposes determining whether a water is unsuitable for Category A use, which is the public drinking water supply use, based on either too little flow or a previous modification which has made the water inaccessible. DEP also proposes changing the recreational water quality indicator bacteria from the general “fecal coliform” to E. coli, which is a more accurate measure of risk to public health. Also proposed are changes related to critical design flow for human health criteria. Finally, DEP proposes adding recent federally-recommended criteria changes, including the biotic ligand model (BLM) for copper, and aquatic life criteria for acrolein, carbaryl, diazinon, nonylphenol and tributyltin (or TBT).

To read the proposed rule in its entirety, go online to <http://www.dep.wv.gov/pio/Pages/Rules.aspx>.

The Aug. 9 public hearing is scheduled for 6 p.m. in the Coopers Rock Training Room at DEP headquarters in Charleston. In addition to oral comments provided at the public hearing, the agency will accept written comments anytime up to the hearing’s conclusion. Written comments may be emailed to DEP.comments@wv.gov or mailed to the following address:

Laura Cooper
Water Quality Standards, DWWM
WV Department of Environmental Protection
601 57th St. S.E.
Charleston, WV 25304

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Air Quality Rules Public Hearing Set for August 1, 2016

The West Virginia Division of Air Quality (DAQ) has scheduled

a public hearing for its 2017 proposed legislative rules on August 1, 2016 at the Division of Environmental Protection’s Charleston headquarters, 601 57th Street S.E., Charleston, WV 25304.

The public hearing will take place beginning at 6 p.m. in the Dolly Sods Conference Room. Oral and written comments will be limited to the proposed revisions and will be made a part of the rulemaking record.

Copies of the rules are available from the Secretary of State’s office or from the DEP at <http://www.dep.wv.gov/pio/Pages/Rules.aspx>. You may also obtain hard copies of the information by calling the phone number listed below.

Written comments may be submitted to the Public Information Office at the above address. Comments may also be e-mailed to dep.comments@wv.gov. The comment period will begin on July 1, 2016 and end at the conclusion of the public hearing on August 1, 2016.

For more information on any of the DAQ rules call 304-926-0475.

West Virginia Highlands Cassandra

A continuing theme of the last few issues of *The Highlands Voice* has been bankruptcy in the coal industry. The details may vary but the worry is always that, with all the bankruptcies in the industry, there will not be enough money for reclamation.

This would not be such a concern if the Special Reclamation Fund had been adequately funded over the years. The Special Reclamation Fund is an industry funded pool of money that is supposed to pay for reclamation when bonds are inadequate. Were it fully funded, the current spate of bankruptcies would still be a big problem for the employees but not such a problem for mine reclamation.

This was the subject of Ken Ward’s Coal Tattoo blog of June 8, 2016. It contained the following:

And for many, many — many — years, environmental and citizen groups like the West Virginia Highlands Conservancy have been preaching that the bond pools (like West Virginia’s Special Reclamation Fund) didn’t have enough money — and would literally collapse if there were a collection of serious coal company bankruptcies.

So how many years have we been saying that the Special Reclamation Fund was underfunded? We don’t know for sure. *Fighting to Protect the Highlands, the First Forty Years of the West Virginia Highlands Conservancy*, by David Elkinton, discusses a complaint filed by the West Virginia Highlands Conservancy and several other groups questioning the adequacy of West Virginia’s program for regulating the coal industry. Among the inadequacies alleged was the broken Special Reclamation Fund. This was in 1988.

FOLA, Conductivity, and the Elk River – Court appoints “special master” to oversee cleanup

By Cindy Rank

It's difficult to think about, let alone write about, coal mining's devastating effects on the Elk River when just last week the Elk River itself wildly rose up in response to unprecedented rains and wreaked havoc on residents and communities downstream through Clay and Prociuous to Clendenin and Elkview.

[These were the same rains that caused other rivers to roar through communities from Jackson County southeast through Kanawha and Nicholas counties, to Greenbrier and points further east in neighboring Virginia, resulting in dozens of lives lost and thousands of homes destroyed.]

I have yet to hear what impact the torrential rains might have had on the open areas of strip mined lands of the Fola Coal operations in Leatherwood Creek of the Elk. But I want to report on a June 7, 2016 court order that compels the company to clean up normal time pollution discharges from those mines.

The story has become a familiar one. Plaintiffs West Virginia Highlands Conservancy, Ohio Valley Environmental Coalition and Sierra Club represented by the capable Appalmad and Public Justice legal team filed a citizen suit complaint against Fola Coal for violations of water quality and harm to aquatic life downstream of several discharges into Leatherwood Creek of the Elk River in Clay County, WV.

In August 2015 the court found the company liable for damage from high levels

of pollutants causing damage to aquatic life downstream and in May 2016 conducted a trial to consider the remedies proposed by the company and plaintiffs.

The outcome of the trial was published in a 32 page Court Order dated June 7, 2016. Here are some pertinent details.

Fola was ordered to immediately begin additional data collection, monitoring and planning for a treatment system. A Special Master was appointed to oversee the process.

Judge Chambers specifically said he will not allow the discharge of water with conductivity levels greater than 300 microsiemens/cm into Road Fork and Cogar Hollow (the immediate receiving streams) and the Elk River, and specifically said that he will not allow the discharge of effluent which cannot pass a WET test into Leatherwood Creek. (WET testing, or Whole Effluent Toxicity testing, is a way to measure materials in concentrations which are toxic to aquatic life.)

The Court felt there were shortfalls with remedies proposed by both parties.

Although Judge Chambers recognized problems with plaintiffs' recommended remedy of water treatment by Reverse Osmosis (RO), he didn't preclude it as a possibility and directed the Special Master to write a report on the use of RO at mine sites.

The Judge questioned that Fola can get enough flow into the streams with their

proposed water management approach to resolving the problems unless they pump water all the way to and from the Elk River - some 12 miles away. (As reported in previous issues of *the Highlands Voice* Fola experts recommended a somewhat similar plan to manage conductivity pollution from another of their mines on the other side of the mountain that discharges into Twentymile Creek of the Gauley River.)

The Special Master's duties center upon assisting the Court in determining what specific injunctive relief will remedy Fola's permit violations, more specifically, what remedy will most effectively and quickly reduce the level of conductivity in Road Fork and Cogar Hollow to achieve a passing WVSCI [West Virginia Stream Condition Index] score in those streams.

I end with a few select quotes from the Court Order itself:

“Harm to [the] environment outweighs a defendant's financial interests, particularly where the violations are of a longstanding and continual nature.”

“... protecting water uses is the overriding purpose of West Virginia's water quality standards and the goal of the state's permit requirements.”

“There is a paramount public interest in environmental protection, including the protection of aquatic resources.”

“Protecting water quality is a critical public interest that profoundly outweighs a company's bottom line.”

Rain Chant

The rain says it's coming
The rain says I am
The rain says, the rain says, the rain says

The rain says it's fickle
The rain says I can
The rain says, the rain says, the rain says

The rain says all over
The rain says not here
The rain says the more you regard me with fear
The rain says, the rain says, the rain says

-- by Hugh Rogers

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.

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