



The Highlands Voice

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

Volume 51 No. 12 December, 2018

Corps of Engineers Suspends Permit for Atlantic Coast Pipeline

The United States Army has suspended the permit which the Atlantic Coast Pipeline needs to cross any of the 1556 streams and wetlands in West Virginia, Virginia, and North Carolina which the project had anticipated going over or through.

The problem is the Pipeline's reliance upon what is known as a Nationwide Permit 12. Under the federal Clean Water Act, a permit would be required to cross streams or wetlands. A developer could do individual plans for each crossing, plans which would be reviewed individually.

As an alternative, the developer could rely upon a Nationwide Permit. Nationwide Permits are issued for large classes of activities. They are appropriate for projects with minimal individual and cumulative environmental impacts. It is a one size fits all approach for lots of nearly identical activities that have small impacts. Nationwide Permit 12 is the one that covers pipelines.

The developers of the Atlantic Coast Pipeline have always sought to qualify under Nationwide Permit 12. Their application to qualify under Nationwide Permit 12 was originally approved.

Then came the litigation, litigation which made the Corps of Engineers think it may have been too hasty in approving use of Nationwide Permit 12. (Decisions of the United States Court of Appeals for the Fourth Circuit helped it clarify its thinking.) This most recent action is the Corps way of saying that maybe we should stop, take a breath, and have another look at these stream crossings.

The hang up is the conditions that West Virginia placed on the use of Nationwide Permit 12. When NWP 12 (the one that covers pipelines) was renewed in 2017, West Virginia imposed some conditions. NWP 12 covers the whole country. The conditions



(More on p. 3)

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Thoughts from our President By Larry Thomas

Forest Service Projects We Are Watching

November proved to be another month of increased activity. Mother Nature also provided the first snow of the winter for much of the highlands. There was also a flurry of activity with issues about which we are most concerned.

Last month I reported that WVHC submitted comment letters for proposed projects within the Monongahela National Forest. All three projects have major flaws in terms of protecting sensitive resources and potentially conflict with Forest Plan.

Comment letters to the Forest Service submitted and our comments concerning issues were:

Spruce Mountain Grouse Management Area

This proposed project is in the Potomac Ranger District west and southwest of Spruce Knob Lake and is near the community of Osceola, WV. The objective of the project is to restore and maintain ruffed grouse habitat in the existing management area by increasing early successional habitat for cover and enhancing species diversity to increase foraging opportunities. Our comments addressed the Draft Environmental Assessment for the project and included the commitment to resource protection measures for sensitive resources, adverse impacts to commercial timber harvest in West Virginia northern flying squirrel habitat, Blue Ridge St. John's Wort and Pearl Dace, and the prevention and control of non-native invasive species infestations.

<https://www.fs.usda.gov/project/?project=51058&exp=overview>

Panther Ridge Wildlife Habitat Enhancement Project

This proposed project is in the Marlinton Ranger District seven miles east of Falling Springs on County Route 11 with the following project boundaries: Greenbrier River to the west, Little Creek to the east, Hopkins Knob to the south and Spice Run and is for wildlife enhancement. Our comments addressed the Draft Environmental Assessment for the project and inadequate alternatives analysis relative to the seven issues identified in the proposal, lack of a concise summary of all the proposed activities, impacts of fire lines in stream channels, inadequate analyses for threatened, endangered, sensitive, MIS, and other species and the prevention and control of non-native invasive species infestations.

<https://www.fs.usda.gov/project/?project=53685>

Big Rock Project

This proposed project is in the Gauley Ranger District within the Cranberry River watershed north of Richwood in Nicholas and Webster Counties and is to provide diverse early successional forest (clearcutting w/reserves 1342 acres), improve forest health and growth (traditional cut 702 acres and helicopter thin 491 acres) and provide water sources for wildlife (creation of 20 vernal pools). Our comments addressed the Draft Environmental Assessment for the project and included post-harvest rehabilitation of skid roads, management of non-native invasive species, ground-based harvest activity on steep slopes, roads on steep slopes, whole tree harvesting in savannas and the analysis for threatened, endangered, and sensitive plant species.

<https://www.fs.usda.gov/project/?project=44762>

During November we were invited to participate in the initial planning meeting and tour the early planning for a new project, the Grassy Ridge Project. After the meeting and tour Kent Karriker, the Chair of the Public Lands Committee, submitted informal comments and suggestions to Troy Waskey, District Ranger who responded that they would include our comments in their pre-planning scoping conversations. Recommendations that were made were for the management of the Pharis Knob grazing allotment, commercial timber harvest in West Virginia northern flying squirrel habitat, concerns for the habitat of the Cheat Mountain salamander, post-project decommissioning of skid roads and the sufficiency of the NEPA effects analysis for the project.

WVHC will be working with District Rangers in charge of the projects concerning resolutions to our comments.

Another proposed project which surfaced last month is a pump storage project proposed on Backbone Mountain. See the separate article in this issue of the Voice (p. 4) for a complete description of the project.

Several members of the Board attended the CASRI "Partnerships for Connectivity" conference, which included sessions on soils, wildlife, vegetation, practitioner's perspectives and field trips to see firsthand the 10 Years of Public and Private Spruce Ecosystem Restoration in Canaan Valley accomplished. Needless to say, the conference was a rousing success.

For decades, West Virginia Highlands Conservancy has worked with partners and supporters to protect the incredibly important highlands of West Virginia. It is increasingly difficult to keep up as lots of good and potentially concerning information surfaces every day.

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.

Atlantic Coast Pipeline Stopped (Continued from p. 1)

that West Virginia and other states imposed are supposed to take into account local conditions.

The most troublesome (from the Atlantic Coast Pipeline's perspective) of the conditions is the one that says any construction on any crossing had to be completed within 72 hours. The Atlantic Coast Pipeline plans to cross some substantial rivers. The construction it would like to use would take more than 72 hours; this means it cannot qualify to proceed under NWP 12.

As things stand now, the Atlantic Coast Pipeline cannot qualify under Nationwide Permit 12 for stream and wetlands crossings as it had planned to do them. It has two choices. It could go back to the drawing board and come up with a way to cross rivers in a way that complies with the conditions. This might be difficult to do technically since the rivers are substantial and there might not be a way to build a crossing and have it completed in 72 hours.

The other choice is to seek approval of each of its stream and wetland crossings individually.

Another way to address this problem is to change the conditions. Since the conditions that now vex the Atlantic Coast Pipeline were imposed by West Virginia, the West Virginia Department of Environmental Protection (DEP) now wishes to change them. If the DEP can do that, then this one of the developer's problems goes away. For more about this, including why many people think DEP cannot abolish the conditions, see the October, 2018, issue of *The Highlands Voice*.

The order by the Corps of Engineers only suspends stream and wetlands crossings. It does not suspend construction on dry land, the parts where the pipeline would not cross any streams or wetlands. Suspending construction on the entire pipeline would take an order of the Federal Energy Regulatory Commission. Several groups, including the West Virginia Highlands Conservancy, have asked for such an order.

In asking for an order suspending construction, the groups make several arguments. First, they quote the original approval. It says that pipeline construction may begin only after its developers have submitted "documentation that it has received all applicable authorizations required under federal law." The Clean Water Act approvals which have been suspended are included in the documentation that must be submitted.

Second, the Corps of Engineers has just sent the Atlantic Coast Pipeline back to the drawing board. The result may or may not include crossings at the same places as the current plan. If there has been construction based upon the previously proposed crossings, that construction (and the damage done) would be for nothing.

Finally, the groups argue that allowing construction to continue unfairly constrains the Corps of Engineers in making the right decision about where to allow crossings. If the pipeline has been built right up to the river bank, the Corps will feel obliged to approve crossing at that spot whether that was the best place to cross or not.

At press time the Federal Energy Regulatory Commission had not responded to the request.

A Couple of Jokes

West Virginia Highlands Conservancy member Edward Evangelidi likes to make up jokes. Since nobody wants to just read about pipelines, mining, and such all the time, he offers a couple of his creations:

Two hikers walk into a bar. The third hiker ducks under the bar and keeps walking

I was hiking along a gorge rim trail looking down into the waters way below when I spotted a white bird down there. Yes, I was staring down into the ibis.

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.

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.

Pump Storage Project Proposed on Backbone Mountain

By Kent Karriker

Recently a company called FreedomWorks, LLC applied to the Federal Energy Regulatory Commission (FERC) for a preliminary permit to study the feasibility of constructing a pump storage facility on Backbone Mountain, just north of Blackwater Canyon. They are calling it the Big Run Pump Storage Hydroproject due to its proximity to Big Run, a tributary of the Blackwater River. If constructed, the project would impact several parcels of private land, as well as about 1,000 acres of land on the Monongahela National Forest.

You can view the application and other project documents in the FERC Elibrary (<https://www.ferc.gov/docs-filing/elibrary.asp>). Click “general search,” set the date range to “all,” and enter docket number P-14889. The most recent version of the application is submittal number 20181015-5045.

In accepting the application for processing, FERC stated that “[t]he sole purpose of a preliminary permit, if issued, is to grant the permit holder priority to file a license application during the permit term.

A preliminary permit does not authorize the permit holder to perform any land-disturbing activities or otherwise enter upon lands or waters owned by others without the owners’ express permission.”

If FERC issues the preliminary permit, we should expect the company to apply for a license application in short order, which would then kick off the on-site engineering and environmental studies. A subsequent grant of a FERC license would allow construction of the project. Prior to grant of a FERC license, the company would also have to obtain permission from the affected landowners, including a special use permit from the Forest Service to allow use of National Forest land, as well as any other necessary federal, state, and local authorizations.

What is a pump storage facility? Basically it is a giant battery that is used to store excess energy produced by an electric generating facility. Instead of using electrolyte chemicals to store energy the way your laptop battery does, a pump storage facility uses water to store the energy and gravity to release it.

Two reservoirs are constructed, one at a higher elevation than the other. During times when the generating facility is producing excess electricity, the excess is used to pump water from the lower reservoir into the higher reservoir. Later, to withdraw power from the “battery,” the operator releases water from the higher reservoir, letting it flow by gravity back to the lower reservoir. On the way down, it powers a turbine generator, thereby converting the stored energy back into electricity.

In this case the generating facilities producing the excess electricity would appear to be either the existing coal-fired plant at Mt. Storm or the windmill farm at Mount Storm (or both), and possibly other nearby generating facilities.

As proposed, the project would involve a 1,200 acre reservoir on top of Backbone Mountain (the upper reservoir). This reservoir would obliterate most of Tub Run, along with a portion of a tributary

to Big Run. The Tub Run drainage lies mostly on previously mined property owned by Western Pocahontas, although it drains through National Forest land on its way down into Blackwater Canyon.

A few years ago, the WV Department of Environmental Protection (DEP) and the Forest Service spent a considerable amount of time, money, and effort restoring the area. This restoration involved taking down old mine highwalls, remediating

gob piles, and most importantly, mitigating drainage of heavy metals into Tub Run and the Blackwater River. They achieved this mitigation by capping the area with a thick layer of limestone and topsoil.

It appears that the upper reservoir would be constructed on top of the restored area. One wonders whether construction disturbance could potentially re-expose the capped contaminated material. Also, the area is underlain by old mine tunnels, raising the possibility that the reservoir might leak into the old tunnels and create acid mine drainage problems.

The lower reservoir (a little over 1,000 acres) and an associated pump house would lie mostly on National Forest land near Lead Mine. The reservoir would obliterate most of Mill Run, which is a tributary to the mainstem of Cheat River. This watershed is currently undeveloped mature forest land that lies at the base of the steep western slope of Backbone Mountain.

The two reservoirs would be connected by “penstocks,” which are large tubes through which the water flows. The proposal includes seven penstocks, each 12 feet in diameter. These penstocks would cross National Forest land, and would appear to impact the head of Big Run Bog, which is a designated National Natural Landmark and Botanical Area. Two proposed spillways also appear to have the potential to impact Big Run Bog.

The penstocks and spillways also likely would impact West Virginia northern flying squirrel habitat, and possibly Cheat Mountain salamander habitat. The Cheat Mountain salamander is a federally-listed threatened species. The West Virginia northern flying squirrel was removed from the federal endangered species list several years ago, but it remains on the Forest Service’s Regional Forester’s Sensitive Species list.

The impacts to Big Run Bog, the West Virginia northern flying squirrel, and the Cheat Mountain salamander (if present) would be inconsistent with standards in the Monongahela National Forest Plan. In addition to these inconsistencies with Forest Plan direction, the Forest Service’s special use permitting process would require the project proponent to demonstrate that the project cannot be constructed off of National Forest land. To date, no such demonstration has been provided.



Big Run Bog

(More on the next page)

Pumping Project Proposed (from previous page)

The project also would include construction of a new power line from Backbone Mountain over to the existing substation at Mt. Storm. This line would pass along the north rim of Blackwater Canyon, through the town of Davis, across the Blackwater River, and



Cheat Mountain Salamander

it appears that it might impact the new state wildlife management area on the former Canaan Valley Institute lands (the rudimentary map in the permit application makes it difficult to determine the exact path in relation to the wildlife management area). The application does not discuss the impacts of this line, but it likely would impact habitat for the West Virginia northern flying squirrel and Cheat Mountain salamander, and probably would have many other adverse environmental impacts.

The Highlands Conservancy board is currently developing a position on this project, and is considering whether to file for intervenor status with FERC. Although we do not have an official position at this time, we wanted to get this information out to members so you can file your own comments with FERC if you wish. **Comments are due to FERC no later than December 28, 2018. Because the FERC Elibrary can sometimes be difficult to navigate, we strongly encourage you to get your comments in a few days early.** You can find instructions for filing comments in FERC's "Notice of Preliminary Permit Application Accepted for Filing and Soliciting Comments" (issuance number 20181029-3001 on the project docket). Please follow all instructions carefully so that your comment does not get ignored.

Native Candy Darter Added to Federal Endangered Species List

By Rick Steelhammer

The candy darter, a colorful 3-inch fish known to exist in only five relatively healthy populations scattered through West Virginia's Gauley, Greenbrier and lower New rivers, has been listed as an endangered species by the U.S. Fish and Wildlife Service.

The tiny fish, a member of the perch family, gets its name from a series of nine to 10 bright red, candy-cane-like, vertical bars across its vivid teal body. It was first collected and identified as a unique species in 1931 from Stoney Creek in Pocahontas County.

Once found in 35 populations in the New, Gauley, Greenbrier and Bluestone rivers and their tributaries and considered fairly common, their former range has been reduced by more than 75 percent, due mainly to cross-breeding with the variegated darter. The variegated darter, believed introduced to the area in the 1980s by anglers using it as a bait minnow, has since spread through much of the candy darter's range, according to the Fish and Wildlife Service.

Pollution and sedimentation have also contributed to the candy darter's demise.

Critical candy darter habitat to be protected through the Endangered Species Act has been identified at five sites in the middle and upper New River, the upper and lower Gauley River, and the Greenbrier River watersheds. The sites are found in Greenbrier, Nicholas, Pocahontas and Webster counties in West Virginia, and in Bland, Giles and Wythe counties in Virginia.

Endangered species status also authorizes human intervention to help the fish recover, such as hatchery propagation and the stocking of young fish.

Candy darters' role in nature includes eating caddisfly and mayfly larvae and then being eaten in turn by larger fish. The small fish also serve as hosts for freshwater mussel reproduction.

In October of last year, the Fish and Wildlife Service announced it planned to recommend threatened, rather than endangered, status for the candy darter. But research since that time turned up data indicating the fish's survival prospects in part of its Gauley River range had deteriorated markedly, prompting the decision to seek protection as an endangered species.

The West Virginia Highlands Conservancy, the Center for Biological Diversity, the Clinch Coalition and other conservation groups petitioned for federal protection of the candy darter in 2010. In 2015, the Center for Biological Diversity sued the Fish and Wildlife Service to get a court-binding date for a decision on whether the fish would be protected.

The candy darter is the 15th West Virginia animal to be protected as an endangered species, joining 10 freshwater mussel species, the Guyandote crayfish, Virginia big-eared bat, Indiana bat, and the diamond darter.



Note: This article previously appeared in the *Charleston Gazette Mail*.

Book News

Why Birds Matter; Avian Ecological Function and Ecosystem Services, edited by Cagan H. Sekercioglu, Daniel G. Wenny & Christopher J. Whelan, (University of Chicago Press, 2016)

Reviewed by Cynthia D. Ellis

The “year of the bird,” 2018, is now gone.

Within our own organization, we may think we know the “why” of the value of birds. We know and appreciate birds and believe we understand their place in mountains and everywhere. But we often must provide details and rationale for our conservation efforts. “Why Birds Matter,” is a book of essays and research that provides many examples of both, in ways that are pertinent not just to birds.

Within West Virginia Highlands Conservancy and on our own, we meet policy makers and those in the general public who are uninformed about interconnections in nature. They may think or say, about any part of nature, “What good is it? What is it worth?” Books such as this one can help us learn more and share more... and, we hope, promote our conservation goals.



Attitudes from the past linger. Societies formerly judged birds as “bad” or “good” in their perceived benefit or harm to humans. “Chicken hawks” ate the farmyard poultry, but Purple Martins gobbled mosquitoes, or so folks used to think. And a variety of cultural notions may be involved. We realize that in our communities there is sometimes some antipathy to birds regarding messiness, crops, and predation. We could then be fascinated to learn of Turkish traditions of feeding pigeons as a religious good deed, and that being hit by a pigeon dropping is considered good luck. But offering up that factoid from the book won’t help our causes.

What does help is twelve chapters focusing on all the benefits birds provide. There’s a great deal of material presented here on habits and habitats, on crops and forests, on pollination and pest control.

For any of us who thought we already knew quite a bit about the positive contributions that birds make, there is certainly a revelation in these essays. Although nearly each piece closes with a strong call for more research, the details presented are captivating. Detail such as:

- birds saved Dutch apple crops from insects
- the decline of vultures in India led to more disease due to a rise in rats and rabies
- jays select only healthy nuts and travel farther with them

than squirrels

- crows’ roosts can increase soil fertility
- hummingbirds depend upon sap “wells” made by sapsuckers and time their migration to coincide with activity of those larger birds.

It is the sum of these details, as well as each individually, that may provide the ammunition we need to bolster our arguments against or in favor of activities that affect the places we love. The essays are thoroughly researched and supported with extensive bibliographies. It might be helpful, but not essential, to have some fundamental background in avian studies to get the most from this book. But, in addition to the bits noted above, this volume touches on such varied issues as the importance of birds to realtors, hantavirus, “bioturbation” [soil enhancement by disturbance] wetland preservation, climate change, and forest sustainability and regeneration [for both hardwood and tropical areas]. So, one can see the wide audience for the material presented.

Like us, the editors and writers are motivated by a strong desire for conservation. They and we want to offer up new ideas and new information for all, and especially those who have influence in decisions concerning land, water, and air. Aldo Leopold said, “The last word in ignorance is the man who says of an animal or plant: What good is it?” We want to dispel that ignorance.



With Thanks to Bill McNeel, a Director for the Decades (LITERALLY)

By Cindy Rank

As noted in the Board Highlights article in the November 2018 *Highlands Voice*, Bill McNeel's recent departure from the Board ends a service that began "approximately forever ago".

It's hard to tell just when Bill came on the scene, but his presence has been felt from nearly the beginning of the West Virginia Highlands Conservancy.

Whether lobbying Congress for Cranberry Wilderness in the early 70's (see picture on page xxiii of the 40 year history book, *Fighting to Protect the Highlands*), or working with the Shavers Fork Coalition in the 90s, or involved in the many Greenbrier River and public lands issues over the years, or helping Dave Elkinton edit the 40 year history, or assisting with preliminary brainstorming and early planning sessions for the Conservancy's 50th Anniversary Celebration a year ago, or opposing unnecessary gas pipeline construction through the Greenbrier River,..... Bill has been there, quietly adding his thoughtful, caring and wise input about the broad range of issues facing WVHC.

Not normally in the headlines, Bill has been part of the glue that has held the organization together all these years, one of the reinforcing rods that strong foundations are made of, an essential part of the West Virginia Highlands Conservancy from the beginning.

His soft-spoken unassuming presence, behind-the-scenes work, and long-lasting commitment underscore his deep love for West Virginia and appreciation for the work of the WV Highlands Conservancy. His breadth of knowledge and deep roots in Pocahontas County give him a unique understanding of West



Virginia, her people, and the wild lands and waters that are her treasures.

Bill's commitment to the state and the environment, is obvious from his years of involvement with WV Highlands Conservancy. But, as much as Bill has given to this organization, we would be remiss to not mention his numerous other contributions.

Skim through the WV Encyclopedia, or Google, or back issues of the Pocahontas County newspaper and time and again you see references to Bill's documentation of important historic facts about railroads, forests, the lumber industry, Camp Allegheny, the Durbin Trail, flooding in his hometown of Marlinton, the Greenbrier River and Greenbrier River Trail, and contributions to the Pocahontas Historical Society.

It's worth repeating the following brief bio that appeared in the special September 2017 anniversary edition of *the Highlands Voice*.

William P. (Bill) McNeel has deep roots in the mountains of West Virginia with his father's family living in what is now Pocahontas County since before the Revolutionary War and his mother's family since the early 1800s.

He was born in Charleston in 1939 and grew up there, but came to Pocahontas County after college graduation to teach high school. After several years of teaching (including two in Australia), he began working for The Pocahontas Times, which was purchased by his mother's family in 1892. He was editor for 25 years before retiring in 2008; He has a BS degree from Marietta College and a MS degree from the University of Oregon.

His love of and concern for the protection of our mountains can be traced back to the many visits made to his parents' home county of Pocahontas while growing up. Also the influence of his grandfather, Calvin W. Price - an early conservationist and for whom a state forest is named - must also have played a major role.

He considers the WVHC to be one of the most important protectors of our state's environment since its 1967 formation. "I am proud to have been a member almost since the creation of the organization and am honored to have served on the group's Board for many of the past fifty years".

We sincerely hope Bill and his wife Denise continue to stay in touch and offer bits of wisdom and insight and perhaps write an article or two or four for *the Highlands Voice*.

In this holiday season, this time of gifts and giving thanks, we give thanks for Bill and for his many years of service on the Board, his gifts of time and energy that he so graciously gave.

End of an Era on the Monongahela National Forest

By Kent Karriker

On January 3, 2019, the era of Forest Supervisor Clyde Thompson on the Monongahela National Forest will come to a close. Clyde is retiring after more than 40 years of federal service. He has been the Forest Supervisor on the Monongahela for the last 16 years. I worked for Clyde for 15 of those years, so I wanted to take a moment to pay tribute to my mentor.

Sixteen years is an extraordinarily long time for a Forest Supervisor to stay in one place. Many Supervisors stay in place for a few years, then move on to bigger and better things in the Senior Executive Service, or head into retirement after padding their “high three” average salary years. But Clyde isn’t most supervisors. He came to the Monongahela to accomplish things, and he stuck around to see those things through.

During Clyde’s tenure, the Forest revised its Forest Plan, received substantial new Wilderness designations, became a nation-wide leader in ecosystem restoration, and was the focus of epic battles over Blackwater Canyon and the Atlantic Coast Pipeline. Clyde is probably the most brilliant big-picture strategist that I’ve known in my career, and he made a major impact on the course of all these events, as well as many others that transpired on the Forest over the last decade and a half.

To the outside observer, those two big battles (Blackwater Canyon and the Atlantic Coast Pipeline) are probably the most obvious examples of Clyde’s strategic skill, as well as his determination to handle explosive issues in a way that is guided by facts and is fair to stakeholders. In the Blackwater Canyon saga, Allegheny Wood Products tried to obtain a permit for use of the old railroad grade in Blackwater Canyon, which would have facilitated the company’s timber harvest and development plans for the canyon. Clyde piloted the Forest through a thorough environmental analysis, and, guided by science and the public interest, he ultimately did not grant the company the unfettered access that they had sought. So far the pipeline has not had quite the same happy ending for environmental stakeholders, but without Clyde’s steady leadership under tremendous political pressure, I believe the outcome would have been much worse.

In my opinion, Clyde’s greatest achievements on the Monongahela were not the battles over difficult projects, but the efforts he led to bring people together to achieve positive conservation outcomes. The best examples are the revision of the Forest Plan and the subsequent implementation of the plan in a way that positioned the Forest as a national leader in ecosystem restoration. While there was an element of conflict in both of these arenas, most of the real work consisted of many conversations that brought together varied interests to forge compromise solutions that worked for all of the stakeholders. Clyde clearly loves engaging in these types of conversations, which he self-deprecatingly refers to as “happy talk.”

Results of these consensus-building efforts include a Forest Plan that has stood the test of time and a landscape-level restoration effort that has engaged both consumptive and non-consumptive users of the Forest. While the restoration-focused management of the Forest has not satisfied everyone, it has demonstrated that active management can be conducted in a way that produces timber

products while also healing the scars of past activities. Throughout the growth of the Monongahela’s restoration work, Clyde has always reminded stakeholders and Forest Service staff alike that although he expects the land to yield forest products, the ultimate point of the work is not what the agency takes off of the landscape, but what it leaves behind. He has approached this work with a clear vision of the Forest’s role in building and maintaining a sustainable ecosystem and economy for West Virginia.

Of course the Highlands Conservancy has not always agreed with Clyde’s decisions and actions. The National Forest is multiple use land, and sometimes the various stakeholders are just too far apart to reach a consensus. But I think I can say that Clyde has always been fair toward the Highlands Conservancy and other stakeholders. In reaching his decisions, Clyde was always thinking of what is best for the community, the long-term productivity of the land, and the “sense of place” that the natural landscape provides for those who live, work, and play here. With his consistent focus on leaving the land in better shape than he found it, I can honestly say that Clyde has been much more of a friend to the conservation community than a foe.

Please join me in thanking Clyde for his years of service and wishing him the very best for his retirement! We will certainly miss him.



In 2016, the Morgantown Paddlers inaugurated a new boat launch near Morganatown. It features a system that makes it much easier to get the boat in and out of the water. To learn about the launch itself, go to the August, 2016, issue of *The Highlands Voice*. Here is the recently erected sign, recognizing our contribution to the project.

Join Now !!!

Name _____

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	Membership categories (circle one)		
	Individual	Family	Org.
Senior	\$15		
Student	\$15		
Introductory	\$15		
Other	\$15		
Regular	\$25	\$35	\$50
Associate	\$50	\$75	\$100
Sustaining	\$100	\$150	\$200
Patron	\$250	\$500	\$500
Mountaineer	\$500	\$750	\$1000

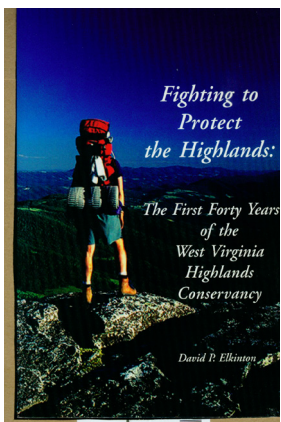
Mail to West Virginia Highlands Conservancy, P. O. Box 306, Charleston, WV 25321

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.

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Making the Grid Resilient: How Do We Get There?

By John McFerrin

The new buzzword in energy policy is “resiliency.” The idea is that we need to make sure that our electrical grid is reliable, even when faced with sudden and unexpected surges in demand, disruptions of fuel supply, or unforeseen circumstance.

Now there are a couple of different approaches to addressing this problem:

Subsidize Coal and Nuclear Power

The first major proposal to address the concern by subsidizing coal and nuclear power came in September, 2017. The proposal came out of a concern that the electrical grid had become unreliable, leaving the country vulnerable to possible shortages of electricity. The United States Department of Energy believed (1) that power plants with large amounts of fuel on-site are necessary to grid reliability; and (2) that those plants are unfairly being driven out of business by subsidies to renewable energy.

To address this difficulty, the Department of Energy commissioned a study of grid reliability. The study found that (1) the loss of coal and nuclear plants has not diminished reliability, and (2) it is cheap natural gas, not renewable energy subsidies, that has driven coal and nuclear out of business.

In spite of what its study said, the Department of Energy proposed that the government change the way that utilities are allowed to calculate their rates in a way that would favor utilities which stored a ninety day supply of fuel on site. In practice, this meant coal and nuclear power. Wind and solar energy do not store fuel. Natural gas is delivered as needed instead of being stored on site. The only power kind of power plants that store fuel on site are coal and nuclear.

The Department of Energy would not have the authority to implement this proposal. It can only propose it to the Federal Energy Regulatory Commission. It would be required to consider the proposal but only implement it if it thought it prudent.

In January, the Federal Energy Regulatory Commission declined to implement the proposal. It said it did not see evidence of any past or planned generator retirements that would pose a threat to grid resiliency.

This was not the end of the matter. In June, 2018, President Donald Trump directed Energy Secretary Rick Perry to prepare immediate steps to stop the loss of coal and nuclear power plants. In the statement, President Trump said he “looks forward to receiving his recommendations.”

Secretary Perry has not made final recommendations. Indications on what he would propose are in a draft of a study which was leaked in June, 2018. If he follows through with the draft, the administration would force electric grid operators to buy power from plants that have become uncompetitive and are at risk of closing.

President Trump and the Department of Energy would take this action pursuant to powers under the Federal Power Act. It gives the secretary of Energy the authority to keep plants running in times of war or emergency.

The President will also cite the Defense Production Act. The Defense Production Act is a Korean War-era law designed to ensure adequate domestic supplies to keep the country safe. It is not clear that it even applies when the nation is not at war. If it does apply then it will require a certain findings about materials being scarce and essential for energy production, a finding which the Department of Energy has not made.

Making a More Efficient System

Another way to approach problems of electrical grid reliability is to consider energy efficiency. This is the approach suggested in a report prepared by the American Council for an Energy Efficient Economy and released in October, 2018.

Grid reliability is largely measured by the difference between the amount of electricity which the grid must supply during ordinary times and the amount it must supply at peak times. If the difference is small, then any disruption in fuel supply, etc. can result in failure of grid. If, on the other hand, the difference is large then it can withstand substantial disruptions before the grid fails.

The traditional way to maintain an adequate gap between the electricity the grid must provide in ordinary time and peak times is to add capacity. This would mean building more power plants, having more fuel stored at power points, etc. The report suggests, however, a different way of thinking and a different approach. By making distribution and end users more efficient, we can maintain adequate reliability without more plants, more stored fuel, etc.

The report sees the reliability of the electrical grid as not just a matter of the supply of electricity that is available to be distributed. It sees it as a matter of how we manage the grid and how we manage demand. Developing technologies make it possible to manage the distribution system to make it both more efficient and better able to withstand disruption.

Some places are already doing this. For example, in 2000-2001 California faced major challenges to the reliability of its electrical grid. Through demand management programs (helping customers use less) and distribution efficiencies, California managed to achieve a 15-20% reduction in peak demand. In doing so, it made its electricity more reliable and avoided the need for new capacity (fewer new power plants)

New York also has a new system wide plan to make their system more efficient, more reliable, etc. In addition to making the electrical system more reliable, they also reduce carbon emissions.

To read the whole report

To read the entire report from the American Council for an Energy Efficient Economy, go to <https://aceee.org/research-report/u1809> to download it. It is tedious at times; you may want to caffeinate up before tackling it. It is also heavy on acronyms: T & D = Transmission and Distribution (the wires). The first time the report uses one it tells you what it means; after that you are on your own.

:(More on the next page)

West Virginia Environmental Council Developing 2019 Legislative Priorities

By Frank Young

At its annual fall meeting, the West Virginia Environmental Council (WVEC) Board of Directors outlined its first draft of legislative priorities for the 2019 regular session of the West Virginia Legislature. This was done after several weeks of surveys to its member organizations for their assessments of what changes in state environmental laws and regulations are most needed and perhaps achievable.

West Virginia Environmental Council (WVEC) is a coalition of environmental organizations whose mission it is to facilitate communication and cooperation among citizens in promoting environmental protection in West Virginia, to assist in organizing grass-roots groups and facilitating interaction among established environmental organizations, and to correspond with government agencies involved in the management of West Virginia's environment.

The initial listing of WVEC 2019 legislative priorities includes:

- Encouraging renewable energy, including support for a bill written by Energy Efficient WV to allow "power purchase agreements" between private party property owners or occupiers (i.e.- households) and owners/operators of rooftop solar collectors.

- Water protection measures that would include updating state water quality standards to EPA-recommended human health criteria.
- Protecting public lands, including preserving state parks from commercial logging to preserve the integrity and original intent of state parks.
- Promote the WV Future Fund, including ensuring that extractive industries pay severance tax into the fund. The West Virginia Future Fund is a permanent State of West Virginia trust fund. It was established in 2014 via the passage of legislation to make the fund perpetually protected under West Virginia law.

It is also developing that WVEC lobbyists will likely join with WV Clean Elections Coalition lobbyists in support of the Fair and Clean Elections concept for financing election campaigns. The coalition has long supported public financing for state legislative races, and other public policies aimed at increasing accountability and transparency in elections, including requiring full disclosure of independent expenditures and electioneering

communications, and prohibiting corporate campaign spending.

Some of us who have been in the environmental lobbying business for many decades consider the system of environmental scofflaws' and polluters' campaign contributions to legislators in exchange for subsequent legislative favors to those very contributors as nothing short of official corruption- however sanctioned by election law (laws fashioned and defended by those same office holders) the system is. Sometimes it seems that the only way to change unjust laws is to change the way election campaigns for public officials are financed.



Subdizing Coal and Nuclear Power (Continued from previous page)

The only near-certain result of President Trump and the Department of Energy following through with this idea is litigation. The proposal offers legal uncertainty while having an impact upon the interests of natural gas producers, the consumers who would have to pay more for electricity from plants that should have been retired, and environmental groups interested in energy policy. When there are recommendations and the proposal becomes final, everybody will be lawyering up if they aren't already.

West Virginia's political leaders are all in on this approach. Even before the Department of Energy draft study that recommended this approach, Governor Jim Justice had been urging the president to keep coal-fired power plants open around the country in order to provide backup power to the power grid in times of emergency. He had originally proposed a plan to make an incentive payment to all of the Eastern utilities for each ton of Central and Northern Appalachian coal that they purchase.

Both Senators Joe Manchin and Shelly Moore Capito supported the Trump administration plan. At the time it was announced, both issued enthusiastic statements endorsing it.

In addition to endorsing the President's plan, both Senator Manchin and Senator Capito have introduced legislation supporting this approach to grid resiliency. In April, 2018, Senator Manchin introduced the Energy Reliability Act of 2018. It would allow a tax credit through 2022 for a portion of the expenses for the operation or maintenance of a coal-powered electric generation unit, excluding expenses for coal. The bill was referred to committee soon after introduction; there has been no further action. Also in April, Senator Capito introduced the Electricity Reliability and Fuel Security Act. It would do the same thing as Senator Manchin's bill. The bill was referred to committee soon after introduction; there has been no further action.

In addition to West Virginia's Senators, each of West Virginia's three Congressmen had cosponsored a similar measure in the House in March.

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Thank you for your support of West Virginia Highlands Conservancy!

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PAST PRESIDENT: Cynthia D. Ellis, 3114 Steel Ridge Road, Red House, WV 25168, (304) 586-4135, cdellis@wildblue.net

DIRECTORS-AT-LARGE (Terms expire October 2018)

George E. Beetham Jr., 2819 Mt. Carmel Avenue, Glenside, PA 19038, (267) 252-3748, geobeet@hotmail.com

Jackie Burns jackie.burns@frontier.com. 304 866 4093

Randy Kesling, 116 Farm Meadow Drive, Bridgeport, WV 26330; (304) 622-5982; rkesling@MA.RR.com

Kent Karriker, 344 Harpertown Road, Elkins, WV 26241 (304) 636-8651, bykarriker@suddenlink.net

Patrica Gundrum, Charleston, WV gundrum2@gmail.com

DIRECTORS-AT-LARGE (Terms expire October 2019)

Adam Casseday, 212 Davis and Elkins St, Elkins, WV 26241, 304-636-4944, dr_casseday@yahoo.com

George Hack; 510 HANNA RD; Bel Air, MD 21014; 443 742-0463 george.hack@db.com

LeJay Graffious, P.O. Box 69, Bruceton Mills, WV 26525, lejay@oldhemlock.org

Rick Webb, 481 Ravens Run Road, Monterey, VA 24465, (540) 468-2881, rwebb@virginia.edu

Hugh Rogers, Moon Run, Kerens, WV 26276, (304)636-2662, hugh.rogers@gmail.com

ORGANIZATIONAL DIRECTORS

WEST VIRGINIA CAVE CONSERVANCY: Randy Rumer; 295 Caraway Lane Renick, WV 24966; (304) 497-2657; rrumer@frontiernet.net

PITTSBURGH CLIMBERS: Buff Rodman, 32 Crystal Drive, Oakmont, PA 15139, (412) 828-8983, buffrodman@hotmail.com

BROOKS BIRD CLUB: Cynthia D. Ellis, 3114 Steel Ridge Road, Red House, WV 25168, (304) 586-4135, cdellis@wildblue.net

WEST VIRGINIA RIVERS COALITION: Turner Sharp, Box 4751, Parkersburg, WV 26104 Tsharp@suddenlink.net

MOUNTAINEER CHAATER TROUT UNLIMITED 116 Farm Meadow Drive, Bridgeport, WV 26330; (304) 622-5982; rkesling@MA.RR.com

FRIENDS OF THE LITTLE KANAWHA: Cindy Rank, 4401 Eden Road, Rock Cave, WV 26234, (304) 924-5802, clrank2@gmail.com

TEAM (Taylor Environmental Advocacy Membership): Beth Baldwin, 222 Westwood Ave Bridgeport, WV 26330; elbrn6e21@msn.com

ALLEGHENY HIGHLANDS ALLIANCE: Dr. Wayne C. Spiggle, 3987 Knobley Road, Keyser, WV 26762, 304-726-4868, wspiggle@mac.com

SHAVERS FORK COALITION: Jim Van Gundy, 210 Buffalo Street, Elkins, WV 26241, (304) 636-4736, jjvg01@gmail.com

COMMITTEE CHAIRS

EXTRACTIVE INDUSTRIES COMMITTEE: Cindy Rank, 4401 Eden Road, Rock Cave, WV 26234, (304) 924-5802, clrank2@gmail.com

PUBLIC LANDS MANAGEMENT COMMITTEE: Marilyn Shoenfeld, 167 Balsam Way, Davis, WV 26260, (304) 866-3484, marilyn.shoenfeld@gmail.com

RENEWABLE ENERGY COMMITTEE: Larry Thomas, P.O. Box 194, Circleville, WV 26804, (304) 567-2602, larryvthomas@aol.com

LEGISLATIVE COMMITTEE: Frank Young, 33 Carnian Ford Road, Ripley, WV 25271, (304) 372-3945, fyoung@mountain.net

ENDOWMENT FUND COMMITTEE: Larry Thomas, P.O. Box 194, Circleville, WV 26804, (304) 567-2602, larryvthomas@aol.com

RIVERS COMMITTEE: Vacant

HIGHWAYS COMMITTEE: Hugh Rogers, 531 Moon Run Road, Kerens, WV 26276, (304) 636-2662, hugh.rogers@gmail.com

MISCELLANEOUS OFFICES

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

ADMINISTRATIVE OFFICES

MEMBERSHIP SECRETARY: Beth Little, 214 Black Gum Lane, Hillsboro, WV 24946, (304) 653-4277, blittle@citynet.net

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.

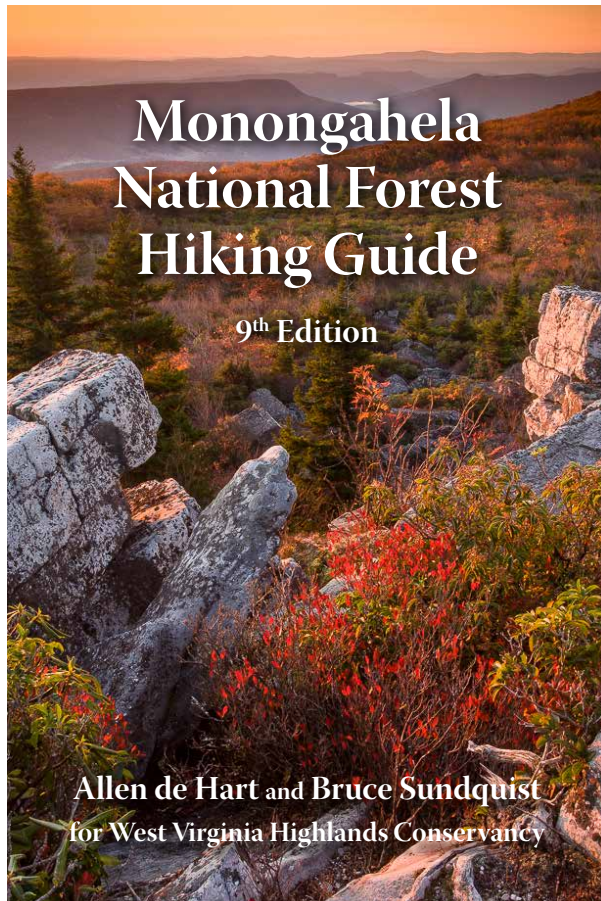
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Mapping Mountaintop Coal Mining's Yearly Spread in Appalachia

By Robin A. Smith

DURHAM, N.C. -- The coal industry may have declined in the last decade because of the rise of cheap natural gas, but a coal mining method called mountaintop removal is still taking place, particularly in central Appalachia.

A new web-based mapping tool shows, in more detail than ever before, the land laid bare by mountaintop coal mining in central Appalachia each year, going back more than three decades.

The tool uses satellite imagery to identify and map the annual extent of mining activity across a four-state area including portions of Kentucky, Tennessee, Virginia and West Virginia.

In the journal [PLOS ONE](#), researchers estimate that between 1985 and 2015, an average of 21,000 acres was converted to bare earth and rubble in central Appalachia each year -- an area about half the size of Washington, D.C.

This analysis places the total estimate since the 1970s at about 1.5 million acres. "That is an area 18 percent larger than the state of Delaware, and only 3 percent smaller than Everglades National Park," said first author [Andrew Pericak](#), who conducted the research in the lab of biology professor [Emily Bernhardt](#) at Duke University.

Mountaintop mining is a form of surface coal mining in which coal companies clear the forest from a hilltop, then use explosives and heavy machinery to blast and dig through the soil and bedrock and expose the layers of coal underneath. The leftover rock and debris is pushed into adjacent valleys, burying streams under hundreds of meters of rubble called "valley fill."

Advocates say the process allows mining companies to harvest shallow seams of coal they can't get at via traditional underground mining. But growing scientific evidence suggests it also destroys forests, fills the air with [harmful dust](#) and [contaminates nearby streams](#).

Determining the timing and extent of mining activity is crucial to assessing and mitigating these environmental and human impacts, said co-author [Matthew](#)

[Ross](#), previously at Duke and now a post-doctoral researcher at the University of North Carolina at Chapel Hill.

But reliable, up-to-date estimates of mining's footprint are hard to come by. In any given year, a mining company may only be operating within a portion of the area shown on their mining permit. Previous efforts have mapped surface mining in Appalachia using satellite imagery, but these maps haven't been updated since

In the 1980s and 1990s, they found, every 100 square feet of land in the region yielded one ton of coal. By 2010, however, coal companies needed to clear and blast about 160 square feet per ton, and by 2015, it took more than 300 square feet.

It takes more land to get the same amount of coal than it had in the past.

2006, and only give a snapshot of mining every 10 years, rather than year-to-year.

The tool developed by Duke researchers, working with partners at the nonprofit organizations [SkyTruth](#) and [Appalachian Voices](#), reveals where mountaintop mining is underway on a finer time scale, and makes it easier to keep the data current.

The team used Google's Earth Engine cloud-computing platform to process U.S. government satellite images of visible and invisible light reflected from the Earth's surface, taken over 31 consecutive years in a 74-county area.

Each pixel in 10,240 satellite images, going back to 1985, was analyzed by a computer algorithm that used reflectance data to determine the "greenness" of each small square of the image, which represents a 100-by-100-foot square of Earth.

A collection of pixels that appeared largely devoid of vegetation and wasn't part of a city, road or body of water was labeled as an area where mining was likely occurring that year, with at least 83 percent accuracy in any given year.

"It just took a matter of minutes to output the data set," Pericak said. "It's a

huge time save."

The team also combined their mine area estimates with previously published data on coal production. In the 1980s and 1990s, they found, every 100 square feet of land in the region yielded one ton of coal. By 2010, however, coal companies needed to clear and blast about 160 square feet per ton, and by 2015, it took more than 300 square feet.

"It takes more land to get the same amount of coal than it had in the past," Pericak said.

The results are consistent with what geologists since the mid-1990s have forewarned -- that as thicker, more accessible layers of coal are mined out, the ratio of waste rock and soil to coal will increase, along with operating costs, Ross said.

Senior co-author Emily Bernhardt says the updated maps will help researchers come up with more accurate estimates of the costs and benefits of mountaintop mining, and how it compares with other forms of resource extraction.

"Any scientist interested in studying the impacts of mountaintop mining can now see exactly where mines are in the landscape and how long those impacts have been active," said Bernhardt, who is using the data to understand more precisely how mountaintop mining affects water quality, how far the effects extend downstream and how long they persist.

Indiana University professor Michael Hendryx, who was not involved in the study, has been using the updated maps to assess air pollution exposure and other health effects in people living near active mining sites, compared with people living farther away.

"It also provides the public a better opportunity for monitoring mining operations to ensure they are adhering to the conditions in their permits," said co-author [Christian Thomas](#) of SkyTruth. "Any new problems that crop up could potentially be acted on and corrected more effectively with this annual look at the region."

(More on the next page)

Canaan Wildlife Refuge Drops Plan for Commercial Logging

By Rick Steelhammer

A plan to commercially log more than 1,600 acres of the Canaan Valley National Wildlife Refuge to achieve plant and wildlife habitat improvement goals has been dropped.

The plan — announced to the public in August — was initially scheduled to begin this winter on Middle Ridge, off the refuge's A-Frame Road. It called for commercially harvesting 1,600 acres of northern hardwood forest in 30- to 40-acre annual increments, and repeating the process in 40-year cycles.

The plan also called for an additional 1,600 acres of timber to be cut, using both in-house and commercial contract timbering, to create mixed-age forest along the perimeters of northern hardwood forest stands.

Together, both components of the plan would have affected about 20 percent of the refuge's 16,653 acres.

But after a pair of public meetings and a 30-day public comment period which he said produced "a significant amount of feedback," Refuge Manager Ron Hollis recently announced on the refuge's website that other methods would be used to meet the refuge's habitat goals.

"I have decided not to pursue commercial forest management on the refuge at this time," Hollis said in the posting. Instead, Hollis and his staff will "cut a limited number of trees" to establish "experimental habitat plots along forest edges," and then monitor the plots to see how priority wildlife species respond to them.

Commercial logging will not take place while the experimental habitat plots are created and monitored. But the information they provide, Hollis said, will help managers plan "for broader commercial forestry operations on refuge land in the future."

"We appreciate the refuge's willingness to listen to public input and adapt their management approach," said Judy Rodd, director of Friends of Blackwater, one of at least four conservation groups that opposed the commercial logging plan.

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

Extent of Mining in Appalachia (Continued from previous page)

Thomas says SkyTruth plans to use the data to measure the effectiveness of reclamation efforts after mining has stopped. "This is the key to helping the region recover from this legacy of mining and transition to a non-mining future," Thomas said.

The data and computer code are free for anyone to use, and future mining activity can be quickly added to the dataset as new satellite imagery becomes available, Pericak said.

Watch a timeline of active mining for any location in central Appalachia or time period between 1985 and 2015 at <http://skytruthmtr.appspot.com/>.

Other authors include David Kroodsma, Yolanda Franklin and John Amos of SkyTruth; Matthew Wasson of Appalachian Voices, Nicholas Clinton of the Google Earth Engine Team and David Campagna of West Virginia University.

This research was supported by the Foundation for the Carolinas, the National Science Foundation Graduate Research Fellowship Program, the National Science Foundation Earth Sciences Hydrological Sciences (1417405), the Cornell Douglas Foundation and the Wallace Genetic Foundation.

CITATION: "[Mapping the Yearly Extent of Surface Coal Mining in Central Appalachia Using Landsat and Google Earth Engine](#)," Andrew Pericak, Christian Thomas, David Kroodsma, Matthew Wasson, Matthew Ross, Nicholas Clinton, David Campagna, Yolanda Franklin, Emily Bernhardt and John Amos. PLOS ONE, July 25, 2018. <https://doi.org/10.1371/journal.pone.0197758>

Note: This article originally appeared in DukeToday, an online publication of Duke University. <https://today.duke.edu/2018/07/mapping-mountaintop-coal-mining's-yearly-spread-appalachia>

Testimonial

I have tried the tool described in this article and am moved to testify. It is interesting/fun/depressing depending upon how much you can avoid thinking about how this is real land that is being destroyed. With the tool you can zoom in on individual counties. By clicking on different years, it is possible to see the extent of mining in different years. Individual mines are not labeled but if you know what to look for you can watch as the Hobet mine starts as a speck and then grows as it creeps from Logan into Lincoln County. You can watch the Fola Coal complex begin and then creep from Nicholas into Clay County. The on-line map only has data through 2015. Both Hobet and Fola have expanded since then so their blobs would be bigger with an updated map. The fun/depression is all at <http://skytruthmtr.appspot.com/>.

John McFerrin

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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