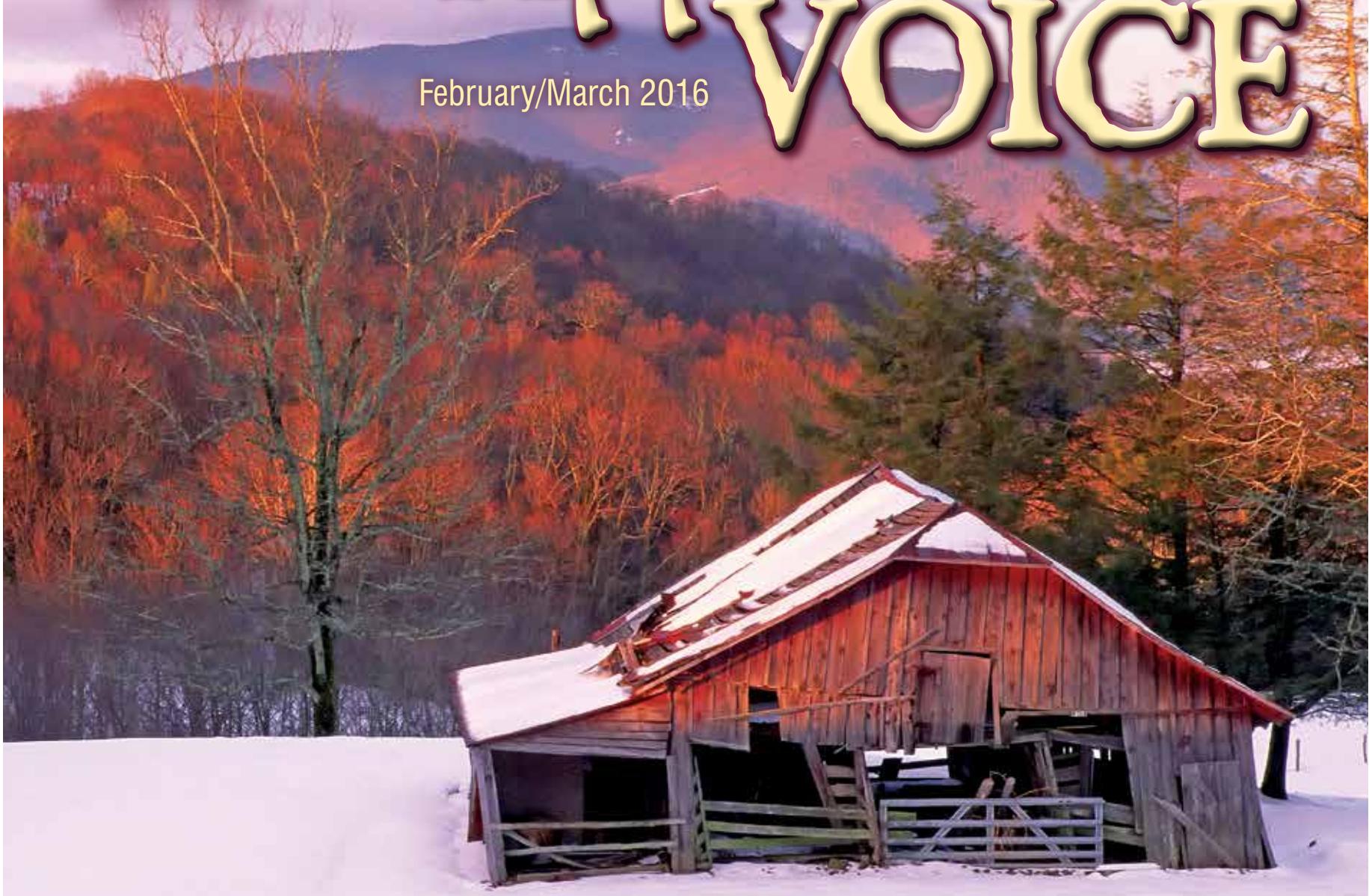


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The Appalachian VOICE

February/March 2016



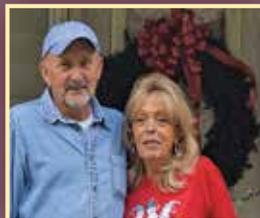
Who Owns the Land?

In Appalachia, the answer is complicated

Also
Inside:



Cougars:
Ghosts
of the Forest



Homeowners
Face Blasting
Concerns



A Hidden
Gem of East
Tennessee

The Appalachian VOICE



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About the Cover

For years, D. Rex Miller passed this spot in Blowing Rock, N.C., on his daily commute. On the morning he captured this image, he arrived before dawn to a blanket of freshly fallen snow. The rustic barn was demolished two years later, and this scene was forever changed. Miller is regular contributor to The Voice and a member of Appalachian Voices. View his art at drexmillerphotography.com



"Who Owns the Land?" Webinar

Join us this spring to hear experts discuss some of the topics raised in this issue: landownership, property and mineral rights in Appalachia. For more information, visit appvoices.org/webinars

A note from the executive director

Appalachian Voices is beginning 2016 stronger than ever.

Since we launched our economic diversification program early last year, the conversation about how to hasten a just transition in Appalachia has only grown. A forward-thinking plan to expand funding for economic development is on the table. But both political parties must make supporting investments in Appalachia's future a priority.

Of course, the foundation for that future must be a healthy environment. And without science-based environmental protections that are fully enforced, we fear the movement to fortify the region will fall short. To that end, we're committed to seeing a strong rule finalized this year to protect Appalachian streams from mining waste.

Our goals also demand that we stay deeply involved at the state and local levels, where we are combatting the continued threats of fossil fuels and promoting clean energy policies that can reduce harmful pollution and create thousands of jobs.

We're sure to encounter obstacles. Coal's decline has created a deep-seated uncertainty about Appalachia's future. Across the region, electric utilities continue to tout natural gas and attempt to undermine consumer access to cleaner energy options. But by facing these challenges head-on, we're more able to help Appalachian communities overcome them.

So in this issue, we investigate a centuries-old concern in our region — one that still influences many aspects of Appalachia's economy today. Read on to learn how corporate ownership of land and minerals has affected Appalachian citizens, and how some residents are breaking down those barriers and build a more sustainable future.



We are hard at work and have high hopes for the year ahead. Thank you for standing with Appalachian Voices.

For the mountains,

Tom

Tom Cormons, Executive Director

Celebrating Two Decades and Counting...

The
Appalachian
VOICE
20th
ANNIVERSARY



The first issue of *The Appalachian Voice* was published in the early months of 1996, initially a product of the Sierra Club's Southern Appalachian Highlands Ecoregion Task Force. Started by Harvard Ayers, who headed the task force and acted as publisher, and Nathaniel "Than" H. Axtell, an experienced journalist who served as editor for eight years, the publication was immediately supported by a stable of freelancers and friends spread across the region from West Virginia to Georgia. "It was just the two of us, me and Than," Ayers says. "We would make long trips from Boone all the way up to Front Royal, Va., delivering papers. We would drop them off all along [Interstate 81] in many places, and then drive down south to Asheville. It was a lot of fun."

Along with their editorial board, the pair devised a storyboard that not only celebrated the biodiversity and culture of Appalachia, but also shed light on injustices affecting the environment and people of the region — topics generally avoided in mainstream local media at the time, and still underrepresented today.

"I have to give Than the credit," Ayers continues. "He really put in [massive amounts] of time to making it happen. He is the reason the paper is here today."

In the first year, the publication established the model we use to this day — relying on science and facts to tackle difficult and often contentious subjects such as chip mills, controversial road projects, water and air pollution, acid rain, logging and mountaintop removal coal mining, an environmental issue that grew into a national advocacy movement in the early 2000s.

"Our goal was in being able to get

the word out, and to establish a pride in the Appalachian area," Ayers says.

Birth of the Appalachian Voices Organization

During the first year of publishing, members of the *Voice's* editorial board began to recognize a need for an advocacy organization that could focus exclusively on local issues related to Appalachia. Out of a series of brainstorm sessions, the organization Appalachian Voices was born, receiving its official nonprofit charter in July of 1997.

Originally starting with just two staff members in a small office in Boone, N.C., today Appalachian Voices has offices in North Carolina, Virginia and Tennessee and employs 25 full-time staff working on eight campaigns related to energy and the environment. The team utilizes legislation, community organizing and litigation to address the negative impacts of mining and burning coal for electricity, and to promote renewable energy, energy efficiency and new economic opportunities for communities struggling from the decline of coal.

The organization continues to maintain *The Appalachian Voice* as a cornerstone of its communications outreach, distributing over 62,000 papers in a nine-state region and publishing online at appalachianvoices.org/thevoice. Though some of the environmental problems in the region have changed, the mission of *The Voice* remains the same — to bring to light the vital and often unheard stories of Appalachia's land and people.

Since *The Voice's* inception, five editors including myself have managed the helm, putting in long hours and late nights to edit freelancers, fact-check

Some of the early issues of The Appalachian Voice, which first appeared on newsstands in February 1996.

stories, and search for the perfect photograph for the cover, all while dreaming up ideas for the next issue. Since 2013, our Managing Editor Molly Moore has taken on the daily aspects of running the publication, ensuring that each issue makes it to the printer and on to our readers. It's a labor of love all the way around, and each of us have enjoyed every minute of it, in our own way.

Throughout it all, we have been assisted by hundreds (if not thousands!) of writers, photographers, proofreaders, volunteers, distributors and friends — more than we could ever hope to repay — who have helped make each issue possible. Not to mention the donors, subscribers and advertisers who help us keep *The Voice* free.

To celebrate our 20th anniversary, in each issue throughout the year we will include small glimpses into the past, to stir memories and inspire the future.

Thank you for reading. Here's to another 20.

Jamie Goodman,
Editor, *The Appalachian Voice*

Past Editors

1996-2003Nathaniel H. "Than" Axtell
2004.....Aaron Coffin
2004-2006Matt Wasson
2006-2010Bill Kovarik

AmeriCorps

Every year for the past eight years, an AmeriCorps Project Conserve member has joined us to work on *The Appalachian Voice* team as our Associate Editors, providing their passion, ideas and hard work to the creation of each issue.

Sarah Vig — 2008-09
Amanda Lewis — 2008-09 (distribution)
Maureen Halsema — 2009-10
Jillian Randel — 2010-11
Brian Sewell — 2011-12
Molly Moore — 2011-13
Matt Grimley — 2012-13
Kimber Ray — 2013-15
Eliza Laubach — 2014-15
Elizabeth "Lee" Payne — 2015-16

Distribution Volunteers

The distribution system of *The Appalachian Voice* is a unique, possibly one-of-a-kind, network that is almost entirely volunteer driven. Our Distribution Manager Lauren Essick deftly manages the nearly 100 volunteers that currently donate their time, miles and energy to distribute the paper to locations throughout a nine-state region.

CURRENT VOLUNTEERS: Alison Auciello, Karen Austin-Clayton, Debbie Bahr, Heather Baker, Becky Barlow, Aaron Barr, Shawn Becker, Bob Belton, Blue Ridge Mountain Sports, Blue Smoke Coffee, Charlie Bowles, Lynn Brammer, Ben Bristol, Steve Brooks, Teri Crawford Brown, Derek Burke, Patricia Cales, Sarah Smith Caskey, Charlie Chakales, Kim and Shay Clanton, Patty Clemens, Darlene Cunningham, Sister Beth Davies, Deborah Deatherage, Bill Elliott, Jakob Elliott, Nels Erickson, Lara Foster, Frank Frey, Charles Garratt, Dave Gilliam, Scott Goebel, Amelia Golcheski, Lisa Goodpaster, Bruce Gould, Gary Greer, Jed Grubbs, Bill Harris, Susan Hazlewood, Sharon Helt, Tim Huntley, Pamela Johnston, Mary K., Denny Keeney, Allison Keith, Rose Koontz, Frances Lamberts, Susan Lewis, Loy Lilley, Aaron Linas, Joy Lourie, Diane Lucas, Gail Marney, Mast General Store, Pamela Maynard, Kathy McClory, Kim McClure, Rich McDonough, Mike McKinney, Steve Moeller, Nick Mullins, Catherine Murray, Don O'Dell, Rob Osborne, Eva Perkins, Patti Phelps, Rick Phelps, Bronwyn Reece, Carol Rollman, Kristin Rouse, Jenny Rytel, Debbie Samuels, Steve Scarborough, Gerry and Joe Scardo, Frank Schaller, Kathy Selvage, Brenda Sigmon, Lucy Spencer, Jennifer Stertz, Jim Stockwell, Robert Thompson, Derrick Von Kundra, Bill Wasserman, Dean Whitworth, Amy Wickham, Barbara Williamson, Diana Withen, Gabrielle Zeiger, Ray Zimmerman

GET INVOLVED environmental & cultural events

See more at appvoices.org/calendar

Virginia's Energy Future

Feb. 22, 7-8:30 p.m.: The Shenandoah Group of the Sierra Club welcomes Appalachian Voices' Hannah Wiegard for a discussion of the latest news about solar, efficiency, Dominion Power and pipelines. Harrisonburg, Va. Email ralph.grove@gmail.com or call 540-999-8734.

Full Moon Hikes

Feb. 22 & March 23, 6 p.m.: Explore the Greenbrier River Trail to mile marker 79 and back, viewing wildlife and relying on the moon and stars to see the trail. Gravel trail with minimal grade change. Free, preregistration required. Cass, W.Va. Call 304-456-4300 or visit www.cassrailroad.com/dinner.html

Snowshoeing at Grandfather Mountain

Feb. 26 & 27, 2-4:30 p.m.: Enjoy a day of snowshoeing, beginning at the Boone Fork Parking Lot. Snowshoes will be provided. Dress accordingly. Grandfather Mountain State Park, Banner Elk, N.C. Call 828-963-9522 or visit ncparks.gov/grandfather-mountain-state-park

Winter Naturalists Retreat

Feb. 26-28: Weekend includes nature journal-

ing, learning to identify trees and various hikes including nighttime "owl prow." Meals feature local produce. Pine Mountain, Ky. For pricing and registration, call 606-558-3571 or visit pinemountainsettlementschool.com/events.php

Growing Appalachia Conference

March 5, 9 a.m.-4:30 p.m.: This 7th annual event features workshops to teach people practical skills and information on energy efficiency, small-scale farming and renewables. Prestonsburg, Ky. Call 606-558-3571 or visit: kftc.org/events/growing-appalachia

Tennessee Environmental Conference

March 15-16: Presentations on statewide environmental concerns such as resource preservation, sustainable development and human and environmental health. \$250 before March 1, \$350 after March 1. Kingsport, Tenn. Call 423-854-5485 or visit tnenvironment.com

Appalachian Studies Conference

March 18-20: An annual conference to encourage dialogue, research, scholarship and creative expression in the Appalachian region, with a focus on the advocacy of local groups

and educators. Organized by the Appalachian Studies Association. Registration fees vary. Shepherdstown, W. Va. Call 304-876-3119 or visit appalachianstudies.org/annualconference

Clinch River Youth Summit

March 19, 9:30 a.m.-3:30 p.m.: High school students can learn about environmental issues affecting their communities and have the opportunity to take action through mini-grants of up to \$800. Dungannon, Va. Free. Call or email Maggie Siddle at 703-407-4020 or crviva@gmail.com.

Eco-Efficient: Responsible Energy Use

March 24, 1 p.m.: This presentation will guide you through the ins and outs of energy efficiency. Go home with plenty of DIY project ideas and resources to help you be more comfortable in your home and save money on your utility bill. Madison County Public Library, Marshall, N.C. Free.

Kentucky Green Living Fair

April 2: Kentucky's largest sustainability event: A day of workshops and demonstrations on beekeeping, gardening, composting, fermentation, mead-making, self-sufficiency and more!

Submit event information to calendar@appvoices.org by March 21 for listing in our April-May issue

Swap heirloom seeds, enjoy live music, local food and a green market. Somerset, Ky. \$10 adults, children free. Call 606-305-5700 or visit kygreenlivingfair.com

49th Annual Wildflower Pilgrimage

April 10, 2 p.m.: Join park rangers and wildflower enthusiasts at Frozen Head State Park for a day of hikes in search of spring flowers. Wartburg, Tenn. Free. Call 423-346-3318 or visit tnstateparks.com/events/details/49th-annual-wildflower-pilgrimage

37th Annual Spring Nature Festival

April 15-17: Spend a weekend enjoying the hills of East Tennessee, with guided hikes and mini-seminars on topics such as bird life, nature photography and stream ecology. Free. Kingsport, Tenn. Free. Call 423-239-8531 or visit tnstateparks.com/events/details/37th-annual-spring-nature-festival

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New Program Makes Learning Cherokee Easier

By Elizabeth E. Payne

Cherokee is one of the most difficult languages to learn, according to Barbara Duncan, the education director at the Museum of the Cherokee Indian in Cherokee, N.C. But a new language program — “Your Grandmother’s Cherokee” — is changing that.

The program results from the insights of John Standingdeer, Jr., a member of the Eastern Band of Cherokee Indians. He told the Asheville Citizen-Times that he did not grow up speaking Cherokee and found learning it hard.

According to Duncan, long Cherokee words contain as much information as an English sentence. But then Standingdeer discovered patterns within the words, patterns which Duncan says are “like a math equation.”

Since 2006, Standingdeer and Duncan — with computer-programing help from Duncan’s sister — have spent their free time developing the language

program. In October 2015, their method was granted a U.S. patent.

“Your Grandmother’s Cherokee” teaches the language not by memorizing the complicated words, but by recognizing the patterns within them, making Cherokee easier to understand and use.

Duncan estimates that only 200 of the 15,000 members of the Eastern Band grew up speaking their tribal language, and all are over 55 years old. She feels an urgency to study this endangered language, which she stresses is “the original language of the Appalachians.”

A symposium will be held May 29 to June 2 at the University of North Carolina, Asheville, to explore using Standingdeer and Duncan’s method to preserve and teach other indigenous North American languages.

The program currently offers an online dictionary and two levels of coursework, with two additional levels expected soon. For more information visit yourgrandmotherscherokee.com

Environmental, Economic Struggles Prominent in Catholic Letter

The Catholic Committee of Appalachia released its third pastoral letter in December 2015, stating in its introduction, “We recognize a deepening ecological crisis and new pressures on our struggling communities.”

Catholic pastoral letters are typically written by a bishop, but this People’s Pastoral highlights the voices of ordinary citizens. The Catholic Committee of Appalachia spent four years conducting listening sessions and interviews throughout the region,

documenting the stories of residents from a variety of religious traditions.

The committee focuses on social justice and environmental issues including mountaintop removal coal mining, water quality, climate change, poverty and health. The People’s Pastoral is one of many declarations from various religions in the recent years that highlights a faith-based ethic of environmental stewardship. To learn more, visit ccappal.org — Molly Moore

Public Art Project Reimagines Energy Use

By Eliza Laubach

Charlottesville, Va., residents will soon have a sidewalk view of their energy use — on an electric pole. At eight different junctures of the city’s 13 neighborhoods, stripes on the poles will, like a bar graph, compare the average and previous month’s electricity and natural gas use in homes within the two intersecting boroughs.

Artist Matthew Slaats designed the installations to build awareness around energy use and infrastructure. “Our relationship with energy is not something we can turn off,” he says, “and the light poles, they’re everywhere and nowhere at the same time.”

The project is part of the two-year Energize! Charlottesville campaign, and is funded by the city and the Piedmont Council for the Arts. Among six local artists, Slaats won a \$5,000 award to

implement a captivating project that encourages residents to use less energy. The installations will be up for six months to a year; at its conclusion, the artist will organize block parties at each site to deepen community engagement.

Slaats, who also serves as executive director of The Bridge Progressive Arts Initiative, says that building connections and bringing people together is a driving force in his work.

Hopes are high that the “pole graphs” project will help the city win the Georgetown University Energy Prize, a nationwide competition that will award \$5 million to a town with the largest reduction in residential and municipal energy use over a two-year period. Charlottesville is one of 50 competing cities from across the country working to reduce its community energy consumption. For more information, visit energizecharlottesville.org

Expanded Conservation Tax Incentive Made Permanent

In December, Congress permanently increased a tax break to a 50 percent income tax deduction for landowners wishing to place their land under a conservation easement, which protects it for future generations by prohibiting or limiting development.

When Congress first increased the tax break from 30 to 50 percent between 2006 and 2014, the amount of land placed into conservation easements rose by 33 percent, according to the Land

Trust Alliance. But the pace of these land preservation arrangements slowed down last year when the substantial incentive was no longer available, according to land trust Upstate Forever. “I have had people waiting to enter an easement until the incentive was renewed,” says John Eustis, executive director of the New River Land Trust in western Virginia. “This is a fantastic victory for the conservation community.” — Eliza Laubach

Invasive Plant Density Map Shows Appalachia’s Native Resilience

By Eliza Laubach

A map of invasive plant species shows that biodiverse Appalachia has a lower density of invasive plants than much of the Southeast.

Last year, the U.S. Forest Service released a map that shows the density of invasive species in the country. According to the results, the southern Appalachians have significantly less invasive species density than the surrounding regions, with the Piedmont region having the highest invasive species density. As a whole, the Southeast is 39 percent invaded by introduced species.

Kudzu and Japanese honeysuckle



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Radioactive Sludge Being Removed from Sewage Facility

Two years after radioactive sludge was discovered, the Department of Energy is still removing it from the city of Oak Ridge's sewage treatment facility.

The pollution was caused by technetium-99 that entered through pipelines in the sewer system from the demolition project at the federal government's K-25 uranium-enrichment plant on the Clinch River, according to the Knoxville News Sentinel. The plant was built in 1943 as part of the U.S. government's Manhattan Project, and at that time was the largest building in the world; it is now the U.S. Department of Energy's largest demolition project.

Since 2014, containment and cleanup of the treatment facility has been in progress, and about 75,000 gallons of radioactive sludge has been removed from and transferred to a Perma-Fix Environmental treatment facility in Richland, Wash.

The Department of Energy contractor in charge of the cleanup recently told the Knoxville News Sentinel that as removal continues, they will approach the upcoming demolition work at the adjacent K-27 facility with the lessons learned from the K-25 project, taking steps to ensure the radioactive contaminants do not once more reach the town's sewage treatment plant. — *Charlotte Wray*

Childhood Blood Lead Levels Falling in Appalachia

Elevated lead levels in children has gained national attention after the recent report that thousands were exposed to the heavy metal in Flint, Mich. In Flint, the city water system was the source of contamination, but lead exposure typically occurs from chipped lead-based paint found in old homes.

Children are more at risk of having high amounts of lead in their blood, especially those living in poverty. Elevated blood lead levels are likely to cause

learning or behavioral impairments during childhood development.

In Kentucky, West Virginia, Virginia and North Carolina, the number of children reported to have lead poisoning has decreased since 1997, according to data from the Centers for Disease Control and Prevention, but neither North Carolina nor Virginia have reported data since 2009. Tennessee provided data in 2014, but had no past statistics available for comparison. — *Dylan Turner*

Environmental Groups Seek Protection for Monarch Butterflies

As the monarch butterfly population continues to decline in the United States, two environmental groups have taken action against the U.S. Fish and Wildlife Service to force the agency to make a decision offering federal protection of the species.

On Jan. 4, the Center for Biologi-

cal Diversity and the Center for Food Safety filed a notice of intent to sue over the federal government's failure to respond within the 12-month deadline to a 2014 petition to deem the monarchs as "threatened" under the Endangered Species Act. — *Charlotte Wray*

Two-year Anniversary of Charleston Water Crisis

By *Elizabeth E. Payne*

On January 9, 2014, 10,000 gallons of a toxic chemical, MCHM, spilled from a Freedom Industries tank into the Elk River near Charleston, W.Va., leaving 300,000 West Virginians without safe drinking water.

Two years later, a report released by Boston Action Research on Jan. 7 found that West Virginia American Water, the company providing water to 40 percent of West Virginians, was not prepared to handle the Freedom Industries spill and "continues to be unprepared for a major spill today."

The state's Public Service Commission, which is overseeing the long-

stalled investigation into the disaster, released an order on Dec. 31 questioning whether and how it should pursue its inquiry without overlapping with a state Senate bill passed following the spill. Comments filed on Jan. 19 by environmental and business groups urged the investigation to continue.

And on Jan. 8, the American Civil Liberties Union of West Virginia gave notice of its intent to sue the state on behalf of inmates of the South Central Regional Jail. The complaint alleges that inmates did not have access to enough safe drinking water between Jan. 9 and 14, 2014, and that their civil rights were violated during the water crisis.

Wild Hogs a Source of Agriculture Trouble in Tennessee

A rapidly expanding population of wild hogs is causing a massive headache for farmers in Tennessee.

Wild hogs are not native to America, and the land is not fit to sustain the hogs. They have destroyed crops, wildlife habitats and are responsible for water pollution and carrying diseases that are harmful to animals and humans.

In the past 15 years, the population

of feral hogs has extended from 15 to 80 of the state's 95 counties, according to the Tennessee Wildlife Resources Agency.

The agency officially deemed the wild hogs as a destructive species in 2011, which outlawed big-game hunting of the animals, removing a primary motivation for hunters to stock hogs. This also gave specific rights to landowners to eradicate the hogs. — *Charlotte Wray*

Tennessee Leading the Way in Animal Abuse Accountability

At the beginning of 2016, Tennessee became the first state to implement an animal abuse registry. This registry, available to the public online, will list anybody convicted of committing an animal abuse offense. This list will host people convicted of crimes after January 1. Those responsible

for passing the law hope to prevent future cases of animal cruelty, as well as better screen people during adoptions. Concurrently, the FBI began tracking animal abuse as a Group A felony, which has placed it in the same category as homicide and assault. — *Dylan Turner*

Upstate Forever Teaches The Importance of Clean Water

In January 2015, Upstate Forever, an environmental organization in the mountain region of South Carolina, was awarded a \$100,000 grant to launch a new four-year initiative, "Reconnecting People to Rivers."

The project intends to teach citizens about area waterways through "river fes-

tivals, online resources, blueway maps of river segments and the Adopt-A-Stream volunteer water quality monitoring program."

In the last year, the program certified 110 volunteers to lead monthly water quality sampling and share their results with residents. — *Charlotte Wray*

By the Numbers

33.53°F How much warmer the average global temperature was in 2015 than it was in the 20th century, breaking all previous records

136 acres Amount of conservation land added to Kentucky's privately-managed Bernheim Forest to help protect bats

\$5,000 each day

Amount a whistleblower could be fined under a new North Carolina law, which restricts employees of any business in the state from documenting abuse in the workplace

100 Approximate number of brown-field sites, contaminated old industrial buildings and land that has been reclaimed in Kentucky since 2012

Naturalist's Notebook

Cougar: Ghost of Appalachia

By *Lorelei Goff*

A phantom haunts Appalachia. Blurry trail camera pictures and occasional eerie screams in the forest keep the debate about the Eastern cougar's existence alive among scientists and lay people, even after the U.S. Fish and Wildlife Service declared the elusive ghost cat extinct in 2011.

The Eastern cougar, *Puma concolor cougar* — also known as ghost cat, catamount, puma, painter, panther and mountain lion — once roamed Eastern North America from Canada to Florida. All but the Florida Panthers were wiped out by the early 1900s. Hunting by European settlers, loss of habitat and a decline in the white-tailed deer population — the cougar's favorite meal — all played a part in its demise.

Myths surround these tawny predatory cats, which can grow up to 8 feet long and weigh in at 200 pounds. One is the notion that they are man killers. The truth is, a fatal accident with a white-tailed deer is many times more likely than a fatal cougar attack, according to The Journal of Wildlife Management.

"The chance of a cougar encounter is incredibly rare, much less, a fatal attack, even where there are established cougar populations," says Joy Sweaney, a wildlife biologist with the Tennessee Wildlife Resources Agency.

Cougar sightings east of the Mississippi River often turn out to be misidentifications of other wild animals or house pets, wandering western cougars, or captive cats that have escaped or been released. Ironically, whether or not the Eastern cougar ever existed as a separate subspecies is now a subject of scientific debate. The question of a distinct genetic profile, or even whether the cat is extinct or not, does not impact their protected status, however; hunting or trading any native species is still illegal unless a state management policy says otherwise.

Wildlife agencies in southern and

central Appalachia receive a number of reported cougar sightings every year, which often turn out to be misidentifications or deliberate hoaxes. There have been some confirmed sightings, however, including a widely publicized 2014 report from a farm in Bourbon, Ky. After the farmer's neighbor called the Kentucky Department of Fish and Wildlife, an officer from the agency shot the cat, believing it posed a threat to the public.

Mark Marraccini, information officer at Kentucky Department of Fish and Wildlife, doesn't believe the Bourbon cougar arrived in the state on its own. According to Marraccini, the cat was too well fed to be wild and probably escaped or was released by its owner. DNA tests were withheld while a criminal investigation for illegal trade was underway, fueling a long-standing theory that state agencies have covered up evidence of cougars in the region. Doug Markum with Tennessee Wildlife Resources Agency says the conspiracy theory is really just a matter of miscommunication.

"When somebody asked us about cougars, we didn't say, 'They're not here,'" Markum says. "We said, 'There's never been good evidence that cougars are here.' And then they misconstrue that to say, 'The agency said there are no cougars here.'"

DNA testing later revealed that the Bourbon cougar traced its genetic origin to the Black Hills of South Dakota.

Recent sightings have been confirmed in Obion, Humphreys and Carroll counties in western Tennessee. DNA tests from a fur sample show that the Carroll County cougar is a female, also with genetic origins traced to the Black Hills. Biologists believe it is possible that all three sightings are the same cat migrating further east.

Does the recent increase in sightings mean that a breeding population of cou-



North American Cougars, top photo by Baranov E / Shutterstock, right photo by Emmanuel Keller



Cougar Facts

- These unspotted, light brown to tawny cats range from 5 to 8 feet long and weigh 100 to 200 pounds, with a tail one third the length of its body.
- It's impossible to visually distinguish an Eastern cougar from any other subspecies of cougar.
- Female cougars bear one to six kittens after a three-month gestation. The cougar lives approximately 12 years in the wild.
- The cougar's vocalizations include screams, hisses, whistles and growls.
- Cougars can leap 15 feet.
- Established breeding populations of the North American cougar remain in western North America and South America.

gars may one day inhabit Appalachia? Many folks hope so, including Tennessee State Park Ranger Tim Pharis.

"The way I look at it, if there are any resident cougars, they're probably the ones that are wise enough to stay away from people," Pharis says. "If there aren't, this ecological niche is open. If they're in West Tennessee, they'll probably eventually be here, too. It's just a matter of time." ♦

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20th ANNIVERSARY

From the Archives - Cougars

"With cougar sightings galore, has the cat come back?"

The mystery surrounding alleged cougar sightings in Appalachia first appeared in the paper's second issue (Summer, 1996), and the question was again explored in the Aug./Sept. 2008 issue. Read these past stories and more at appvoices.org/voice20

Plugging-in Off the Grid

Researchers from Oak Ridge National Laboratory pair 3D printing with innovative approach to energy

By Kevin Ridder

Additive manufacturing, more commonly known as 3D printing, has been on the rise in the past few years. With its near-endless customization at the touch of a button and its ability to create highly complex products that would be impossible using traditional methods of production, it's easy to see why.

Tucked in the hills of Oak Ridge, Tenn., Oak Ridge National Laboratory has been on the cutting edge of this technology for several years. After unveiling their fully 3D-printed Shelby Cobra sports car at the 2015 Detroit Auto Show, a project that took only six weeks from conception to finish, researchers at the nation's largest national laboratory revealed their latest venture last fall.

The Additive Manufacturing Integrated Energy demonstration project, or AMIE, was conceived in August of 2014 and features a unique pairing of 3D printing and wireless energy transfer between a vehicle and a building.

The 3D-printed single-room building, primarily powered through solar panels on its roof when detached from the grid, is accompanied by a 3D-printed vehicle powered by a hybrid natural gas engine.

What makes the pair special, however, is the capability for energy to wirelessly flow between the two.

This means the vehicle can charge its battery through the building's solar panels, and the 210-square-foot building can tap into the vehicle's natural gas engine during peak usage hours or when solar energy is unavailable. Any excess energy from the solar panels or vehicle can be stored in a battery onboard the building. And thanks to super-efficient vacuum-insulated panels inside the walls, the building can be insulated against the elements using supplies a fraction of the size of other insulation materials.

To Dr. Kaushik Biswas, a member of the research and development staff at Oak Ridge National Laboratory and a participant on the AMIE project, this contributes to one of the biggest benefits of the project: the minimal amount of materials needed.

"If and when we are able to make this technology commercially available, there will be little to no construction waste," says Biswas. "Customization is a big advantage for 3D printing."

According to Biswas, with traditional construction practices much of the materials brought in are wasted



The 3D-printed home and vehicle sit on display at Oak Ridge National Laboratory in East Tennessee. At right, workers assemble the building with components printed on-site. Photos courtesy of ORNL

because they have to be cut to size. With 3D printing, however, the material doesn't have to be cut to size because it comes in a powdered state, meaning the operator can measure out exactly how much product is needed and transport it with ease. Researchers suggest that several years down the road this powdered material could even be made out of native biomaterials, eliminating the need for transporting supplies altogether.

"If we can reduce transportation costs by only sending a printer and using materials on site, that would be a huge benefit," says Biswas. "In the future, this could be used for an operating base [off-planet] where all we have to do is send a 3D printer to the site, possibly even using indigenous materials."

With the price to send materials to space costing thousands of dollars per pound, this has the potential to drastically reduce the cost of future space mis-



sions to the Moon, Mars, and beyond. Closer to home, AMIE has the potential to be used to provide homes and vehicles in remote locations and developing countries, where the power grid is often unstable or nonexistent. These ideas lend themselves to the primary advantage of AMIE: collaborative innovation.

"This project was not just about 3D printing, but about the concept as a whole," says Biswas. "I think what AMIE does is allow us to think about different ways of solving problems and overcoming challenges."

To learn more about AMIE, visit web.ornl.gov/sci/eere/amie

BUILDING BETTER SPONSORED BY



Reducing the home's heating and cooling load by tightening the thermal envelope

In our last article, we focused on the first of three ways to reduce the energy consumed by our home's heating and cooling needs — how to produce the heating and cooling more efficiently. In this article we focus on the second point, improving the building's thermal envelope, the barrier sep-

arating conditioned air from unconditioned. There are three kinds of heat loss that occur in any home — radiant heat loss, conductive heat loss and uncontrolled air infiltration. Air infiltration is the most poorly understood and occurs when air leaks via holes, cracks and crevices. Most modern homes have adequate

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insulation that reduces conductive heat loss, but are not sealed very well against air leakage. In fact, a typical home is so leaky that the furnace has to heat the entire volume of the house every hour. That is why it feels drafty and why the gas or electric bill is so high.

Comfort levels can be substantially increased and energy demands reduced by carefully addressing the many areas that air leaks into and out of a typical home. For example, warm air can escape through light fixtures cut into ceilings or poorly insulated and sealed attic hatches. Cold air can enter through plumbing holes in the floor or outlets on exterior walls.

Diagnostic tests can be performed on homes to determine the amount of air leakage a home has and locate the leaks. The cracks and crevices can then be properly sealed with weatherstripping, furring strips, foam spray, and other measures, depending on the location and the situation.

In summary, a house with a tight thermal envelope and good insulation loses less heat, and is more comfortable. That translates into reduced need for energy, which translates into reduced need for fossil fuels, which equals less carbon pollution and other impacts on our health and well-being as a society.

Hiking the Highlands

Birchfield Camp Lake: Hidden Gem of Rocky Fork

By Lorelei Goff

I arrive at the Lower Higgens Creek trailhead with a dozen other hikers, ranging from an 8-year-old to some with many miles and years to their credit. The jovial banter of Ranger Tim Pharis, Ranger Naturalist Marty Silver and State Naturalist Randy Hedgepath of Tennessee State Parks enlivens our group. This First Day hike on January 1, will take us 2.7 miles to the 100-foot Big Falls on Lower Higgens Creek and Birchfield Camp Lake, a small, man-made lake sitting at 4,000 feet above sea level.

"The name Birchfield Camp comes from the old logging camp that was up here, named after the Birchfield Logging Company," Pharis says. "The lake was built to suppress wildfires."

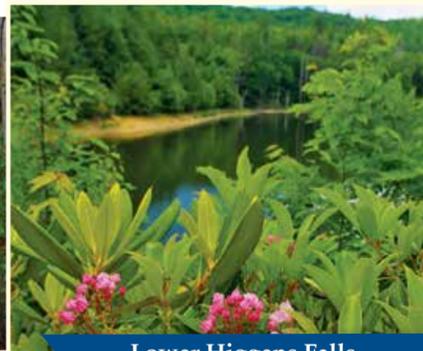
After large-scale logging operations ceased in the 1960s, the 10,000 acres of the Cherokee National Forest known as Rocky Fork remained undeveloped. A decades-long saga, rife with drama and even some intrigue between private sector developers and an alliance of government agencies and activists, ended in 2012 with the land secured for public ownership and enjoyment within the Cherokee National Forest. Rocky Fork State Park, now in development, occupies 2,000 acres of Rocky Fork in Unicoi County, Tenn. The remaining 8,000 acres span portions of Unicoi and Greene counties.

We start up the remnant of an old logging road, coming to a gravel parking area after about a third of a mile. Hedgepath spots a putty root, a wild orchid with pin-striped leaves. It was traditionally used to seal windows, he says. According to Ranger Silver, Rocky Fork harbors several unique species of orchids and rare trilliums, around 80 species of mosses and liverworts, and rare salamanders including the Yonahlossee, a large, black salamander with a distinctive rusty blotch on its back.

Roughly a mile into our hike, the sound of flowing water grows to a roar and we stop at Big Falls. A steep but



The big waterfall on Lower Higgens Creek greets hikers willing to ford the trail's creek crossings. At upper right, a view of Birchfield Camp Lake in June. Photos by Marty Silver, Tennessee State Parks



Lower Higgens Falls & Birchfield Camp Lake

Difficulty: Moderate to strenuous with some challenging creek crossings
Details: 5.4 miles round-trip. Wear high boots, gaiters and bring extra socks.
Directions: From I-26, take exit #43. Turn right onto 19/23. After .75 mile, turn right onto Lower Higgens Road, which will end at a small parking area. Groups can park at the I-26 Welcome Center and carpool.
More info: Contact Rocky Fork State Park: 423-271-1233, tnstateparks.com and Cherokee National Forest, Watauga Ranger District: 423-735-1500, fs.usda.gov/cherokee "Rocky Fork: Hidden Jewel of the Blue Ridge Wild," a book by local conservationist and photographer David Ramsey, will be available in spring 2016 through daramseyphotography.com

short path drops off dramatically to the right, descending to the foot of the falls. The recent rains have swelled the normally tame 100-foot cascade into a foaming cataract. Most of the group makes their way down the slippery path with the help of a safety line secured from top to bottom. We take pictures amid the spray, then climb back up to the trail.

We make the first of several creek crossings a short distance later. After the second creek crossing, the trail veers from Lower Higgens Creek and follows Birchfield Camp Branch, fed by the lake above.

The mood is mirthful, despite the dropping temperature. After more creek crossings, we ascend the steepest segment of the trail and come upon the rusted bones of an ancient logging truck. We explore its remains wondering how it met its demise between the trail and the creek.

The creek sliced through the mountain long before loggers cut a road alongside its path, so narrow that it's hard to imagine logging trucks descending with their pillage.

The last stretch takes us past a couple of caves to the right and then we see the lake, surrounded by white pines and mountain laurel. It's small, but the beauty of the scene is augmented by the exhilaration of reaching it. Rumor has it that it's a popular dining area for local bears, with frog legs being a favorite dish. We all sit down to dine on our lunches, and some stroll along the .75-mile loop around the

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Blasted

Homeowners seek recourse for property damage due to mining

By Molly Moore

Karen Kirk's father was a carpenter. He built her childhood home from local chestnut and oak in the mid-1960s near the small town of Gilbert, W.Va., close to the confluence of Browning Fork and Horsepen Creek. Growing up, Karen and her siblings would play in the clear water and roam the nearby woods. Her home is one of several situated on a narrow strip of flat land between tall ridgelines. Mountains are everywhere: Gilbert's town motto is "You should see the hills from here!"

In 1982, Karen and her husband Jerry inherited a tidy four-room ranch house from her aunt, adding two rooms a couple years later to accommodate three sons. When he built the addition, Jerry Kirk found that the beams were so well-seasoned that he couldn't drive a nail through — he had to drill holes and fasten bolts to the timbers instead.

The house was in good shape, the Kirks maintain, until blasting from nearby surface coal mining started in 2007. The explosions shook and cracked the walls, knocked doors and windows out of alignment, and noticeably lowered the floor in the center of the home. Nearly 10 years later, the couple is still trying to prove that the mining company is responsible for the damages and compel the company to repair their home.

The Kirks' story is a common one among families that live near surface coal mining. Their neighbors complained of similar problems, and other homeowners near mountaintop removal mines in Appalachia report mirrors falling from walls, chimneys separating from homes, and foundations, windows and bathtubs cracking. Some residents describe damage to their water supply such as tap water turning black or orange or wells going dry after particularly intense explosions. And although the market for Central Appalachian coal is depressed and coal pro-



Karen and Jerry Kirk stand on the front porch of their home. Their property damage coincided with blasting at a mountaintop removal coal mine associated with the King Coal Highway. The mine is just out of sight on top of the ridge to their south (left). Photos by Molly Moore

duction has declined sharply in recent years, residents near active mine sites still feel each blast just as powerfully as during coal's boom years.

Blasting is an essential component of surface mining; using explosives to blow up the land and access the coal beneath is what makes this form of extraction cheaper than underground mining. Federal and state laws require mining companies to limit the size and frequency of the blasts, and — in theory — these regulations should protect nearby residences from property damage. If destruction does occur, federal law outlines a process that is supposed to lead to compensation. But as Jerry and Karen Kirk have found, it's not that straightforward.

Due Diligence

Like many residents of Mingo County, the Kirks are no strangers to coal. Jerry worked as an underground miner from 1988 to 1997 at Marrowbone Development Company, a mine complex that included mountaintop removal mining, and he recalls an outcry of citizen complaints related to the strip mining. He also became familiar with the destructive power of blasting while working on road construction. So when



he found out that two companies were planning massive surface mines on the mountains surrounding his home, he was immediately concerned.

Blasting began in 2007 at the Premium Energy mine less than a mile to the south of their home; the project was part of the King Coal Highway, a massive coal mining and highway-building project that is still incomplete. The Premium Energy blasts came roughly three or four times per week in 2007 and 2008, according to the Kirks, and continued with slightly less frequency through 2009. For a while, the Kirks also felt blasts from the Hampden Coal, LLC, mine on the ridge to the east — sometimes both on the same day. They kept a record on their calendar, marking the time and the word "blast" and writing in all-caps or adding exclamation points to denote particularly forceful explosions.

Karen was often working at the

Rite-Aid during the daytime blasting, but she clearly recalls what it was like when she was home for a blast. "I would get ready to run. It was so bad and it scared me. I don't know where I was going," she adds with a wry chuckle, "but I was going to run."

"When it scares the dogs, the windows rattle, you knew to expect that from an air blast," says Jerry. "But when the house starts [going] up and down, that's time to worry. And that's when the drywall started [cracking]."

In Compliance

The federal Office of Surface Mining, Reclamation and Enforcement requires that mine operators offer what's known as a preblasting survey to people living within a certain distance of the mine. The survey documents the interior and exterior of the structure and the property's water quality, and the

Continued on next page

Blasted

Continued from previous page

resulting report provides a baseline to judge future damage against.

The usefulness of these surveys often depends on when they occur and how thoroughly they are conducted. Blasting was already underway and the Kirks had already filed an official complaint with the state when the contractor arrived to do a preblasting survey of their home in 2007, but the Kirks say they never saw a copy of that report. Another firm conducted a survey in May 2008, after the Kirks' second complaint.

Residents who are concerned that a blast has damaged their home can file an official complaint with the state agency that oversees surface mining — in this case, the West Virginia Department of Environmental Quality's Office of Explosives and Blasting, which is obligated to send an inspector to investigate. The inspector checks the home and looks at the company's blasting log and seismograph to determine whether the blasts complied with the law.

If the inspector determines that the property damage is a result of blasting, the state can issue a violation and fine to the company. But because any fines are paid to the state, homeowners have to seek other options for compensation. The homeowners can pursue a state-administered process, or seek compensation on their own through a civil lawsuit or an insurance claim.

Typically, however, inspectors find that the blasts were within legal limits, even when homeowners witness damages to their property that coincide with the explosions. In the Kirks' case, the inspector who arrived in March 2008 found that the nearest seismograph "showed no evidence of excessive ground or air vibration limits." According to the inspector, the blasts were in compliance.

Jerry recalls sitting at the kitchen table with an inspector who said "that for [the company] to be out of compliance it would have to shake a cup of coffee off this table onto the floor. I'm not talking an empty cup, I'm talking a cup of coffee."

In other words, for a blast to exceed the legal limit, it has to be extremely forceful. These regulatory limits are based on a series of studies, particularly a 1989 U.S. Bureau of Mines study from southern Indiana. But while that study is frequently



Karen Kirk points out photographs of their sons, who all live out of the area now. She says it is unlikely that they will move back to Mingo County. Below, nearly every room in the house has some sign of damage from the blasting. Photos by Molly Moore

cited in the regulations, not all experts accept it as an adequate benchmark.

Dr. Sam Kiger, a now-retired Civil and Environmental Engineering professor at the University of Missouri, explained in an email that the southern Indiana homes in the 1989 study were mostly new construction and not representative of the older homes typical in Appalachia. "These more fragile homes are much more susceptible to damage from blasting-induced ground vibrations," he wrote. "In many other countries, the experts established a much lower threshold for damage."

In a 2010 report prepared for a court case involving blast complaints in Mingo County, W.Va., Kiger compared the blasting limits from the Indiana study to Australian standards for historical buildings, which designate a vibration level 500 times lower than the acceptable level for surface mine blasts in the United States. "Therefore, standards really represent an economic decision," Kiger stated in the report.

Back in West Virginia, Jerry believes that the regulations should be strong enough to protect nearby structures. "It doesn't matter if you live in a tent, nobody has the right to knock your tent down," he says.

In West Virginia, once an inspector determines that the blast was within the standards, the homeowner can decide whether to appeal or withdraw the complaint. Sitting in the kitchen in December, sifting through documents spread across the table, the Kirks discovered a line at the end of a March



in blasting problems after many households in the area reported complaints, and theorized that the mine operator modified their practices in response to the public outcry.

At the Kirks' orderly, inviting home in Gilbert, the couple points out the persistent drywall cracks in nearly every room and the way the kitchen floor slants toward the center of the home, where the dining room floor has settled lower than the adjoining hallway.

Jerry has done some cosmetic repairs, such as caulking and repainting over cracks that stubbornly reappear, but says a much bigger job is needed to re-support the foundation and subfloor, address the windows and doors that are out of alignment and fully repair the walls.

Following a mining injury in 1995, he now has a metal plate in his neck and cycles through periods of relative wellness and severe pain. Given his health, he's loathe to do the repairs himself, and is continuing to work with a lawyer to see whether they can compel the coal company to take responsibility for fixing the home.

Despite years of frustration, Jerry Kirk says he and Karen are sticking with the case to seek compensation and document what's happened. "Because they're tearing my house up — it's my house. Our house," he adds with a laugh and a glance at his wife.

At this point, he's skeptical of the state, the coal companies and the legal system. But he and Karen do not intend to give up. "We're determined to see it through," he says. ♦

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Who Owns the Land?

Corporate ownership has long exerted a powerful influence over Appalachia's natural and economic landscape. Mountaintop removal coal mining, natural gas fracking and proposed gas pipelines also raise complicated questions about residents' property rights and can infringe on their homes, farms and future plans for their land.

On the following pages, we take a fresh look at issues of property holdings and landowners' rights. The topic might be complicated, but for impacted residents, the questions of right and wrong are simple.



The U.S. Forest Service owns 1.6 million acres in Virginia. Overlooking Jefferson National Forest, Dickenson County. Photo by Bill Harris, billharrisphotography@comcast.net

Owning the Mountains: The long history of corporate control in Appalachia

By Elizabeth E. Payne

Throughout the history of the United States, Appalachia has attracted the attention of outside investors hoping to profit from the region's valuable commodities. First timber, then coal and now natural gas are all highly valued.

To ensure access to these resources, early investors bought large parcels of land in Appalachia. "By 1810, as much as 93 percent of [the] land in present day West Virginia was held by absentee owners," according to a 2013 report issued by the West Virginia Center on Budget and Policy, and by the 1880s, outside interests began purchasing extensive timber and underground mineral rights on land whose residents retained only the surface rights.

Outside ownership of large tracts of land for the purpose of resource extraction has created a conduit through which significant wealth has been drained from the region in the form of corporate profits. And that drain has been flowing for more than a century.

An Early Study of the Problem

In 1974, Tom D. Miller, a reporter for the The Huntington Herald-Dispatch, conducted a study of land-ownership patterns in West Virginia. Miller found that two-thirds of the private land in the state was owned or controlled by "absentee landlords," and that "in almost 50 per cent of West Virginia counties, at least half the land is owned by the out-of-state corporate interests."

Comparing the wealth of corporations to that of many West Virginians, Miller wrote, "Often paying tiny property taxes, [corporations] extract the state's rich deposits of coal, timber, oil and gas. And their activities inevitably help sus-

tain the striking paradox of a state with abundant mineral wealth and much abject poverty."

The Appalachian Land Ownership Survey

In 1978, the Appalachian Land Ownership Task Force undertook a thorough investigation of land ownership patterns in the region. Funded in part by the Appalachian Regional Commission, this group of paid researchers and volunteers collected and reviewed land deeds from 80 counties in Alabama, Kentucky, North Carolina, Tennessee, Virginia and West Virginia.

In 1981, the group released its findings in a multi-volume 1,800-page report. They found that 40 percent of the property and 70 percent of the mineral rights in Appalachian counties sampled were owned by corporations, and of the land owned by individuals, less than half was owned by "local individuals."

The task force concluded that "these ownership patterns are a crucial underlying element in explaining patterns of inadequate local tax revenues and services, lack of economic development, loss of agricultural lands, lack of sufficient housing, the development of energy, and land use."

Despite its significant findings, the report led to no significant changes, in part because even the Appalachian Regional Commission distanced itself from it. Reporting in April 1981 after the report's release, the New York Times wrote, "A spokesman at the commission's headquarters in Washington, [when] asked why the commission had done little to draw attention to it, called the survey 'controversial' because portions of it contain 'subjective judgments' and 'some rhetoric.'"

In his book "Uneven Ground: Appalachia Since 1945," Ronald D. Eller notes that the commission's continued existence was under threat from the Reagan administration's federal budgets cuts, writing that "agency leaders abandoned the politically sensitive study to rally support for their own organization's survival."

Ethical Concerns

In 1995, Dr. David Rouse, a philosophy professor now retired from the University of Virginia's College at Wise, explored the ethical implications of outside land ownership in Appalachia. He concluded that these large corporate landholdings restricted access to land by individuals, increased the political influence of corporate landowners, and decreased civic engagement in those communities. According to him, the "correlation between landownership and political participation" is still relevant.

With many of the land-owning coal companies now declaring bankruptcy, Rouse is hopeful that some of this land might finally be available to benefit the community. He is now chairing a committee for the Southern Appalachian Mountain Stewards, a coalfield community organization, that will re-examine the findings of his and other earlier studies.

Current Metrics

In December 2013, the West Virginia Center on Budget and Policy, together with the American Friends Service Committee, released a comprehensive report detailing the state's current land-ownership figures and updating the findings of both Miller and the Appalachian Land Ownership Task Force.

Using 2011 property data, the study revealed that the concentration of land ownership in the state has actually declined during the past 30 years. While Miller's study concluded that two dozen corporate landowners held one-third of the state's 12 million privately owned acres, the 2013 study showed that the top 25 private owners held just 17.6 percent of the state's 13 million acres of private land. The authors concluded that this was "still a significant percentage but a dramatic decline in concentration of ownership."

The researchers also identified a new type of corporate entity that did not exist during the previous studies now plays a dominant role, namely the timber management companies that maintain forestland as financial assets. In fact, they found that in 2011, "the North Carolina-based Heartwood Forestland Fund, a timberland investment company that owns 500,366 acres in 31 counties, [was]

West Virginia's largest landowner."

The report's authors noted that lands classified as "managed timberlands" were eligible for certain tax credits that significantly lower their tax rates.

According to Rouse's study, another factor deflating tax rates on corporate land in Appalachia is their artificially low market value. While the companies owning the land may have changed ownership several times, the land rarely goes on the market. As a result, he notes, the property value cannot be based on a recent sale price. And because this land cannot be used for homes, the residential market nearby becomes more competitive and expensive. "The result is that homeowners bear a disproportionate share of the tax burden," Rouse concluded.

Case Study: Wyoming County, W.Va.

The 2013 West Virginia study identified Wyoming County as the state's most corporately owned county. It determined that the top 10 landowners held 75.8 percent of the county's private land, and "just two companies — Heartwood Forestland Company and Norfolk Southern — own over 50 percent of the county's privately held land."

The most recent available property records for Wyoming County uphold the findings of the 2013 study. For example, Pocahontas Land Company, a subsidiary of Norfolk Southern, is still listed as owning more than 77,000 acres in the county, or roughly 25 percent of the privately owned land, with an average assessed property

value of less than \$350 per acre for 2016.

For Dewey Houck, president and founder of the Rural Appalachian Improvement League in Mullens, W.Va., these large land-holding companies have their own personalities and policies, and each should be considered individually.

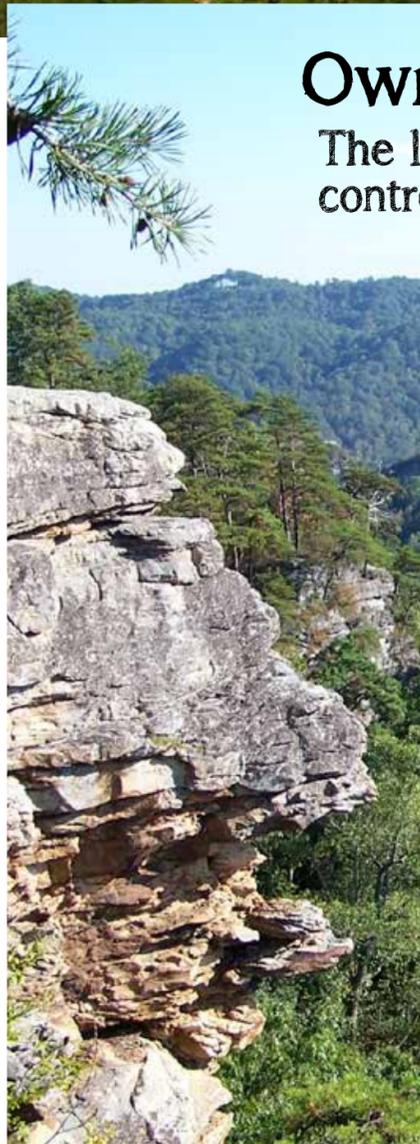
According to Houck, Pocahontas Land Company has cooperated with his organization — a nonprofit community group working to bring opportunities to southern West Virginia — even leasing them several properties for agricultural and recreational purposes.

But another large landowner, Western Pocahontas Properties, has been harder to work with. The company's parcels of land that were once accessible to the public are now locked behind gates with "no trespassing" signs. "For years," Houck says, "the land was used by the public. Especially hunters could go on their property and hunt, and use the land same as public land, and what they've done is started leasing their land to whoever can pay the fee that they charge."

Case Study: Wise County, Va.

While West Virginia has been more thoroughly studied, it is not the only state in the region dealing with the impacts of having much of its privately owned land concentrated in the hands of a few. In Wise County, Va., a heavily mined area in the southwestern part of the state, roughly 45 percent of the land is owned by corporations, Carl Snodgrass, the county's economic development director, told Appalachian Voices.

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The Heartwood Forestland Fund is the largest landowner in West Virginia and a significant landowner in Virginia. Photo of Highlands Property in Va. by Craig Kaderavek



This Western Pocahontas property, near Mullens, W.Va., is locked behind a gate and "no trespassing" signs. Photo Ruby Anne Ingram



Not on My Land

Kentucky resident challenges coal company's right to mine



By Tarence Ray

For weeks Phillip Johnson laid in bed and listened to them tear up his land.

"To be honest with you, it was about the worst thing I ever experienced," Phillip Johnson recounts. "Them ripping and tearing the rock up there with an excavator, nothing you could do about it. And the dozer running every morning till one or two o'clock, while I'm sitting here trying to sleep. It did a lot of damage to me."

This was during the spring of 2014, after Premier Elkhorn Coal Company began mining Johnson's land without his consent. Phillip got the mining temporarily halted with the help of his attorneys in June 2014, but not before Premier Elkhorn blew a massive cut-through on one of his ridges. The company had been using dynamite to level the ridge in order to open up Phillip's hollow to the adjacent hollow for easier access.

"There's not many hollers this big that ain't been tore up," Phillip Johnson says. "I'd say this is the only one in this area that ain't been stripped and dozered out. All the rest of them have been tore all to pieces."

It's immediately obvious how proud Phillip and his younger brother, Justin, are of this fact. They grew up here in eastern Kentucky, a family of ten that worked



the land and lived off it through brutal and fertile seasons, bad times and good. The county lines of Knott, Perry and Letcher meet at the head of their hollow. "You can stand on your hands and feet and stand in three counties at one time," the older brother says with a laugh.

Phillip eventually went to work as an underground coal miner, a job he held for 37 years. He and his father worked together for 13 of those years.

"[My father] paid for all the land with us selling livestock and shoveling coal," Phillip says. "And my mother raised eight children. You imagine how sick it made me...to hear [Premier Elkhorn] up here working, and knowing this is stuff daddy paid for with a shovel in the mines? It was like them reaching down and sticking a thorn in your side, you know? I lost many a night's sleep with it."

But the brothers' anger with Premier Elkhorn Coal Company began

The cut-through Premier Elkhorn made on Phillip Johnson's property is pictured above. The land to the right is the Johnson family's land; to the left is an adjacent hollow that has been extensively mined. The cut-through is roughly 300 yards from a cabin Phillip Johnson built on his property prior to the mining in 2014. The mining, including machinery and explosives, is easily heard and felt in the cabin. Numerous signs warning of blasting (left), put up by the company, are located throughout the Johnson family's property. Photos by Tarence Ray

before mining even started. In 2013, the company sent in a land agent to convince members of his family to sell their property rights so that the company could strip and remove the surface to extract the underground coal seams. Two of their siblings sold their share of the land, but Phillip, Justin and the remaining siblings held out. To this day Phillip Johnson isn't entirely sure how much the two siblings sold for, but he says it tore their family apart.

"We were a close family. We went to Miami Beach, we'd go to the Smokies and camp out. I mean, we were one big, lovable family before," he says. "Then [Premier Elkhorn] started putting into this, and it's tore the family all apart. It really tears you up to think that some company with their money and power can come in and do you that way."

Exactly how Premier Elkhorn managed to do this against the remaining siblings' objections, and whether the state of Kentucky should allow it to continue, is the subject of an intense argument among lawyers, policy-makers and landowners.

Land ownership in Kentucky

Phillip Johnson and his siblings are legally represented by Mary Cromer of the Appalachian Citizens' Law Center in Whitesburg, Ky., Joe Childers of Lexington, Ky., and Walt Morris in Charlottesville, Va. According to them, the case is reminiscent of how coal companies used to use the broadform deed — a legal mechanism that severed underground mineral rights from surface rights — to legally justify strip mining a landowner's property. These deeds were often written to grant the owner of the minerals the right to extract coal over the objection of the surface landowner. Companies bought up many of these deeds during the first half of the 20th century, at a time when surface mining was virtually unheard of.

It wasn't until the 1950s that surface mining as a method of coal extraction really took off. "The mineral owner had the complete dominance of the surface owner and could do whatever they needed to get at the coal," Cromer explains.

continued on next page

Not on My Land

Continued from previous page

"So that's when you had coal companies stripping away and running people off their land to get to their minerals."

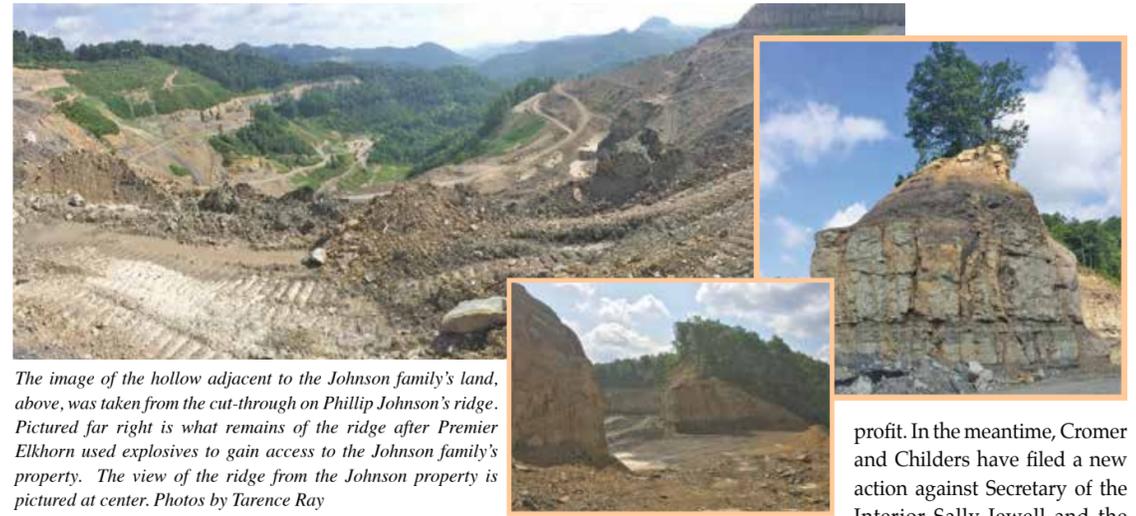
The Kentucky Supreme Court ruled this practice unconstitutional in 1987, but miles and miles of the state's mountains had already been removed.

According to Cromer, after the 1987 ruling the state and the coal industry began looking for new ways to strip mine privately owned property. "For years they didn't need consent because most everyone had unknowingly sold out their minerals a long time ago," she explains. "So when the broadform deed was no longer able to be used they went to this system where they only needed consent from one owner."

Land ownership law is a complicated issue in this country, and in Kentucky can be somewhat unconventional. Undivided property, or joint property ownership among family members, is a specific type of land ownership that is very common in eastern Kentucky. Under this scenario, each person owns an interest in all of the property. If, for example, four people jointly own a piece of land, that does not mean that there are four separate corners of the property that each person owns. Instead, each person owns an equal interest in the entire parcel.

In Phillip and Justin's case, their father left the property for the family to own jointly. Phillip, Justin and three of their siblings jointly own a 62.5 percent interest in the land. Premier Elkhorn, through Pike-Letcher Land Co., now controls a 25 percent ownership interest in the land, after their two other siblings sold their individual rights.

The state of Kentucky has interpreted



The image of the hollow adjacent to the Johnson family's land, above, was taken from the cut-through on Phillip Johnson's ridge. Pictured far right is what remains of the ridge after Premier Elkhorn used explosives to gain access to the Johnson family's property. The view of the ridge from the Johnson property is pictured at center. Photos by Tarence Ray

An Uncertain Future

In the summer of 2014, Cromer, Childers and Morris won a temporary halt on the mining on the Johnson property. U.S. District Judge Amul R. Thapar subsequently ruled that the Surface Mine Control and Reclamation Act, the first federal law to regulate surface mining in individual states passed in 1977, says that a coal company has to get consent from all surface owners in order to mine.

Despite the judge's ruling, the state of Kentucky reissued the permit on the Johnsons' land in September 2014 under a subsection of the Surface Mine Control and Reclamation Act that defers to state property laws. "Kentucky has continued to permit under a different

part of [SMCRA], and is still continuing to permit based on the consent of just one surface owner, even if the other surface owners object," says Cromer.

When asked about this practice, the Kentucky Energy and Environment Cabinet responded, "The cabinet is in compliance with all court orders and is addressing all of these issues in state and federal administrative actions."

The cabinet declined to respond to further questions regarding their legal justification and the fact that they continue to issue permits under a different subsection of federal surface mine law despite Judge Thapar's ruling. Premier Elkhorn could not be reached for comment.

Despite the reissued permit, it's unlikely that Premier Elkhorn will continue mining Phillip Johnson's land any time soon. Late last year, parent company TECO sold Premier Elkhorn to Cambrian Coal for virtually nothing, and the price of coal has dipped so low that, according to data from the U.S. Energy Information Administration, not a single mine in central Appalachia is presently operating at a

profit. In the meantime, Cromer and Childers have filed a new action against Secretary of the Interior Sally Jewell and the U.S. Department of Interior on behalf of the Johnsons, so that a federal court can review the state agency's decision to reissue the permit.

For Justin Johnson, the problem is historical. "I question the fairness and how people in eastern Kentucky have been treated for so many years," he says. "And these coal companies, where are all these coal companies at now? Are they still here taking care of the people? They're gone. The money's gone, so they're gone."

Yet the uncertainty of the future is also hard on the brothers. "If coal sales get good they might fight harder for it," Phillip Johnson says. "If it doesn't, they might leave it alone. You know, I'd like to see coal sales' price pick up, but I hope they don't ever take this from me." ♦

Additional reporting was done by Parker Hobson of Appalshop/WMMT-FM. Visit appvoices.org/voice/not-on-my-land to find a link to the upcoming radio story on WMMT's Mountain News and World Report when it is available.

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Farming and Fracking

How uncertain property rights affect agriculture in West Virginia

By Dave Walker

This year will be Steve Vortigern and his wife Sunshine's tenth year of farming in Preston County, W.Va. On 41 acres, they grow more than 40 different varieties of organic vegetables and raise grass-fed beef for local customers at Round Right Farm.

In the beginning, the Vortigerns were unsure how long they would be able to continue farming. "At that time on our farm, we weren't really sure how realistic the overall success of our farm was going to be," he says. The Vortigerns faced many of the same challenges that other beginning farmers face, such as knowing what to grow and how to sell their produce. "It wasn't until our fourth, fifth, sixth year of farming that we figured a few things out, and we began to see the light at the end of the tunnel," Steve Vortigern says.

During those first years, they also faced the prospect of natural gas companies constructing hydraulic fracking wells on their neighbors' properties. Just when they were questioning whether farming would be a viable long-term occupation or not, a group of Preston County landowners formed together to offer their mineral rights to a prospective natural gas company, "hoping to get a better price per acre because they were able to offer several thousand acres instead of forty or one hundred acres," he says.

Property ownership in the United States is often described as a bundle of rights. The owner can sell one right, like

the right to minerals under the surface, to someone else while still retaining the rights to the surface of the land. When property rights are severed like this, the property becomes known as a split estate.

"We were very much against the whole idea," Vortigern says, "However, we were also really afraid that a lot of our neighbors or neighboring farms had already severed their mineral rights." If hydraulic fracking occurred near their property, he says, it would devastate their way of life. "The land would be devalued. The water would be ruined."

But at the time, with the future viability of their farm unknown, the couple felt compelled to join their neighbors and recover what they had spent on the land. Luckily, the natural gas company was only interested in land in the western part of Preston County and not the Vortigerns' farm. In the years since, Steve Vortigern says their farm revenues have outweighed what the natural gas company offered the other landowners in his area. "However, we are still really worried that there will be fracking wells on our neighbors' properties," he says.

Divided Rights

The Vortigerns are fortunate in that they retain their mineral rights. Split estates are common in West Virginia, ac-



Round Right Farm is now a successful family enterprise. But while the Vortigerns are glad they retain their mineral rights, they worry that there might one day be fracking on neighboring land. Photos courtesy Round Right Farm

According to Sarah Danly of Vermont Law School and a former intern with West Virginia Food & Farm Coalition. Citing research from the West Virginia Surface Owners' Rights Organization, Danly writes in her report that split estates occur on an estimated 90 percent of the properties in southern West Virginia, 60 to 80 percent in the northern part of the state, and only 40 percent in the northern panhandle.

These estimates hint at the complexity of split estate ownerships in West Virginia. To understand exactly how much land has been severed from the mineral rights beneath would require examining property records at county courthouses. For a surface owner to locate the original deed where the split estate occurred often takes a great deal of time, and experts with SORO and other groups advise hiring an experienced property attorney.

In West Virginia, severing estates occurred at different points in time, as different minerals like coal, oil and now shale gas became profitable. The coal and oil booms at the end of the 19th century saw a huge spike in the splitting

of mineral estates, long before hydraulic fracturing was taking place in the Marcellus shale. According to Dr. Alan Collins of West Virginia University's Division of Resource Management, landowners may have thought that there was little risk of their property being developed for its mineral resources, and therefore may have been more interested in selling their mineral rights.

"Buying land 15 to 20 years ago, you wouldn't have thought technology would change to allow us to exploit different resources, like Marcellus Shale and Utica Shale," Collins says. "[New] technology changed people's expectations about the surface land and how it can be used."

Surface Concerns

It is difficult for farming and horizontal gas drilling, or fracking, to coexist in close proximity. The impacts of drilling are severe and the remedies for surface owners or landowners near wells are limited and expensive in West

Farming and Fracking

Continued from previous page

Virginia. Some landowners lease their property to natural gas companies and receive compensation. Others are bound by split estates or activities that occur on their neighbors' properties.

According to Julie Archer of the Surface Owners' Rights Organization, when natural gas companies establish wells, "They often need a lot of land and preferably a place that's flat." Some shale gas well sites are 15 to 20 acres and industrial equipment stays on the site after the actual drilling is complete. "They can end up taking the best parts of people's land, the best pastures or hay meadows," Archer says.

For a farmer to not know whether

their property or a neighbor's property is a split estate makes it difficult to obtain credit or make investments in farm infrastructure. The incentives to continue farming or begin to farm in this unstable property environment disappear, according to Bradley Wilson of West Virginia University's Food Justice Lab. "It's an issue around who owns what resource," Wilson says. "Gas and coal versus the resource of soil for food production. Can those two things coexist without there being an undermining? Gas and coal can create some real uncertainty about the viability of a local food economy."

West Virginia SORO, West Virginia University College of Law, and several farmers' organizations are collaborating with West Virginia Food & Farm Coal-



Fish Hawk Acres in Upshur County, W.Va. Photo courtesy West Virginia Food and Farm Coalition

tion to create a primer for farmers on split estates. Their guide will address concerns about damaged crops, loss of water quality, difficulty obtaining organic certification, or an inability to place property in a conservation easement due to drilling.

"I think that the biggest issue for farming in our state is access to land and mineral severance," says Liz Spellman of West Virginia Food & Farm Coalition. "With this primer and work, we want to bring in a bipartisan farmer constituency that will show that there's a huge

voice interested in knowing how property ownership works and how split estates can disenfranchise farmers."

Focus on the Farm

For Steve Vortigern, education for farmers and consumers is essential to the growth of West Virginia's local food system. "Over the past ten years, we've realized that there aren't a lot of farms in our area that are financially successful," Vortigern says. "I think the general perception that there's no money in

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SPLIT ESTATE RESOURCE GUIDE

How can you find out if you own your mineral rights?

For a West Virginia landowner to learn whether they also own their mineral rights can itself be problematic. According to West Virginia University College of Law Professor Alison Peck, "The only way to know for sure, whether you own your mineral rights, is to go to the courthouse and look at the original deed." This work may require an attorney, who would be able to draw conclusions and offer advice to landowners.

"I've come to realize that despite how common and prevalent mineral severance is in West Virginia, many landowners do not know much about it," says Peck. "From a lawyer's perspective, it is startling."

Would it be possible to buy back mineral rights?

Yes, but it is not common, Peck says. First, a surface owner would need to hire an attorney to discover who owns the mineral estate, which can be expensive. This effort can be frustrated by the further splitting of mineral estates between different corporate entities or between specific minerals. Once an individual determines the mineral estate's ownership structure, buying back the rights may cost more than some landowners could afford. "I think the corporate entities are probably holding those rights as an investment and may not be interested in selling them back," says Peck.

Could a surface owner seek compensation from the mineral owner?

In addition to pursuing damages for nuisance or negligence, two state laws allow West Virginia surface owners to seek compensation from companies after drilling operations have ceased. The laws, however, have specific limits, such as only awarding compensation toward lost income, market value of lost crops and lost value of used surface land. The law does not cover the surface owner's future plans for the site.

Where can surface owners go from here?

"The biggest complaint that we have heard is that the landowner didn't have any say," says Julie Archer of West Virginia Surface Owners' Rights Organization. "One of the things that SORO has advocated for is that individuals should actually know what they're buying."

"When SORO first formed, one of the things that we pushed for was a Surface Owner's Bill of Rights, modeled on landowner protection legislation that were passed in Colorado and New Mexico," Archer says. This proposed legislation would empower surface owners by implementing requirements such as earlier notice of planned drilling activities, a face-to-face meeting between the landowner and mineral owner, an opportunity for pre-drilling mediation, and improved compensation that also reflects the reduced value of land near the drilling activities.

According to Archer, the retroactive nature of West Virginia's surface owner compensation laws is a "shortcoming," and noted that a Surface Owner's Bill of Rights "is primarily designed to give landowners more say before the drilling occurs."

"The best thing that people can do now is keep a journal and take pictures. You have to have documentation of before, during, and after to have a good case [for compensation]."



A wellpad site on a split estate in Doddridge County, W.Va., was built by the drilling company to access the minerals beneath the surface owner's land. Photo by Molly Moore

continued on next page

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A Tale of Two Families

Fracked-gas pipelines would threaten residents' homes and dreams

By Cat McCue



Same story, different pipeline

To the east, about 110 miles as the crow flies, live Jill and Richard Averitt, who share a similar story to the Hodges. They found property in rural Nelson County in 2005 and built a home where they are raising two children and plan to grow old. The Averitts had done their research to assess the potential for new highways or other public projects that might disturb their idyllic setting.

They didn't consider pipelines.

In September 2014, the Atlantic Coast Pipeline, LLC, announced plans for a 564-mile line, also 42 inches in diameter, also originating in West Virginia and slicing through Virginia, but continuing into North Carolina. This pipeline would run so close to the Averitts' home that should it explode, their house would be damaged or destroyed. It would also cross a separate parcel where the couple is planning a resort complex that could employ up to 150 people.

Since that summer, both families have joined other property owners and climate and clean energy activists (including Appalachian Voices, the publisher of this newspaper) to attend public meetings, research the issue, write letters and make phone calls to

At the top of Sinking Creek Mountain in western Virginia, where Craig, Giles and Montgomery Counties meet, sits a 50-acre parcel of land with views in all directions. To Judy and Steve Hodges, who built their dream home here in 2003, it's heaven.

"We're from the '70s. Leftover hippies, that sort of thing," says Judy. "We love it here. We have lovely neighbors."

But to a Pittsburgh-based company, their land is just one of over 1,000 parcels to survey and whose owners have to be dealt with in order to build what would be the largest-diameter natural gas pipeline ever to cross the central Appalachian mountains.

In June 2014, Mountain Valley Pipeline, LLC, announced plans to run a 301-mile line between West Virginia and Virginia to carry gas from the Marcellus and Utica fracking fields. The project would plow a 125-foot-wide construction zone of clear-cutting and excavation across the two states, and require a permanent 50-foot easement.

The pipeline would bisect the Hodges' land and come so close to their house that an explosion could damage or entirely destroy it. "From everything I've heard, this is a new animal we're dealing with, these 42-inch, high-pressure pipelines," Judy says. "We don't want it."



Prayers Not Pipelines Photos by Jill Averitt

Seeking to demonstrate community solidarity against the Atlantic Coast Pipeline, in fall 2015 Jill Averitt initiated a community art project. White squares of cloth, with colorful, affirming messages written by local residents, line either side of Scenic Route 151 in Nelson County, Va., near the Rockfish Valley Foundation Natural History Center. The display stretches 125 feet on either side of the road — the width of the proposed pipeline.

"Our intention for this is to send out positive messages to the community and the forest. Blessings and protection, if you like. So what is left is not a bunch of 'No Pipeline' signs, but prayers going out to the world that this is a protected and sacred place," she wrote in an email when the project began.

At press time, Averitt was continuing to add new flags with messages from the public.



Jill Averitt and her dog, Cliff, enjoy a moment outdoors. The Atlantic Coast Pipeline would cut through her land, along the hillside just beyond the swing set. Photo by Cat McCue

company and elected officials, hold rallies and stage press conferences.

"It's been all-consuming," Jill says. "It's been incredibly stressful."

Law against landowners

For Richard Averitt, the most egregious aspect is the 2004 Virginia law that allows natural gas companies to access private property without the landowner's permission to conduct surveys, even prior to securing federal approval for a project.

"The law transgresses on private property for profit," he says. "It's inconsistent with American beliefs. It's inconceivable this is allowed."

The Averitts refused to allow pipeline surveyors on their land, and are now being sued by the company, along with about 150 other landowners in Nelson County alone who also refused access to the surveyors. Some landowners, the Averitts included, are fighting back, hiring attorneys to challenge the law's constitutionality. The cases were unsuccessful in the lower courts and are now on appeal to the Supreme Court of Virginia,

says Ben Luckett with the Appalachian Mountain Advocates, a nonprofit organization representing some of the plaintiffs.

The group also challenged a similar law in West Virginia over the Mountain Valley Pipeline. There, however, the statute requires that such projects are in the "public interest," and because the pipeline was not providing natural gas to local communities, the landowners won. The company has appealed to the West Virginia Supreme Court.

Unlike the Averitts, the Hodges did allow surveyors on their land; they were told they would be responsible for court costs if they sued and lost. "So we pretty much caved at that point and let them on the land," Judy says.

Several teams of surveyors arrived on different days. One day, the surveyors packed up and left, telling Judy the land was "unbuildable" due to the steep slope, karst geology and multiple sinkholes.

Yet when Mountain Valley Pipeline filed for its federal permit in October, the proposed route still ran smack through the middle of the Hodges' land. ♦

Forest Service Denies Atlantic Coast Pipeline Route

In January, the U.S. Forest Service announced it had denied a "special use permit" to Atlantic Coast Pipeline, LLC, to cross 50 miles of the Monongahela National Forest in West Virginia and George Washington National Forest in Virginia. The agency declared that the proposed route failed to protect "highly sensitive resources,

including Cheat Mountain salamanders, West Virginia northern flying squirrels, Cow Knob salamanders, and red spruce ecosystem restoration areas." The decision means the company must find an alternate route that does not impact the areas of ecological concern to the forest agency.

Owning the Mountains

Continued from page 13

An analysis of public property records reveals that two corporate entities — Penn Virginia and the Heartwood Forestland Fund — together own nearly one-third of the county's surface land. Penn Virginia is listed as the owner of more than 58,000 acres and Heartwood Forestland Fund nearly 28,000 acres, or 22.5 and 10.7 percent of the county, respectively.

While most corporate-owned lands in Wise are in rural areas, they are surrounded by struggling towns that could benefit from policy changes that expand the tax base. "The one thing that people in Wise County seem to be most aware of is the threat of towns losing their incorporations, simply because the tax base is not able to support services," says Rouse.

Shannon C. Scott, administrator for Wise County, does not believe these corporate holdings hinder local economic initiatives. "For instance, if [the corporations] know that it's a project



The view from the U.S. Forest Service's Birch Knob Observation Tower shows reclaimed surface mine land. Photo by Bill Harris, billharrisphotography@comcast.net

that will not interfere with their future development in the way of natural gas or coal extraction ... they work with us very closely," he says.

The Impact on Appalachia

For more than a century, corporate land ownership has defined much of the region. While some in the region find ways to cooperate with these large companies, others feel cause for concern.

In an email, Dr. Ronald Eller, a retired professor from the University of Kentucky, wrote that the concentration of corporate landowners in the region "continues to be a major issue

limiting the tax base (especially with the decline of coal production), but more importantly limiting the options for alternative land uses."

Ideas about what those land uses could be are as diverse as the people in the region and not mutually exclusive. Eller would like to see an expansion of public lands, and Rouse a change in tax policy. And others, like Houck, simply hope the landholding corporations will open more of their land to hunting and recreation. But regardless of how — or if — land ownership patterns change, who controls the land will greatly impact the future of Appalachia. ♦

Farming and Fracking

Continued from page 17

farming isn't true. We've proven that it can be a viable occupation."

The expanding local food movement has led to a renewed interest in stewardship for the land in a way that rebuilds the soil and provides healthy livelihoods. Because of this, as communities work with the legislature to foster a vibrant local food system, farmers in Appalachia are beginning to speak more and more about split estates.

"I think farmers are very concerned about their land," Bradley Wilson with WVU's Food Justice Lab says. "They love the land. They want to feel secure on their land. We have to take who controls property and land very seriously."

"Severed mineral rights can undermine the concept of growing local food and undermine sustainable development in West Virginia," Wilson says. "If you want to retain folks and promote new farmers, you have to promote land. You have to be honest about the barriers to farming in Appalachia and West Virginia." ♦

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Cleanup Plans for Region's Coal Ash Cause Concerns

By Elizabeth E. Payne

On Dec. 31, the North Carolina Department of Environmental Quality released its recommendations for prioritizing the closure of the state's 32 coal ash impoundments, as required by law. In a draft report made public prior to the announcement, NCDEQ staff determined that nearly all of the containment ponds had a high potential for risk. Despite this, the recommendations released by the agency assigned a reduced risk level to all sites not already identified as high priority.

The prioritization will determine how quickly Duke Energy must close each facility and what standards they must meet when securing the coal ash. In a statement released on Jan. 6, the Alliance of Carolinians Together Against Coal Ash — a coalition of community members directly impacted by the state's coal ash — criticized the agency's recommendations (see page 22).

NC DEQ will hold public hearings at each of the 14 sites in March.

On Jan. 29, the N.C. Supreme Court ruled that the appointment of most members of the independent commission tasked with overseeing these closures was unconstitutional. The fate of the commission is unknown.

In Virginia, Dominion Virginia Power is also closing many of its coal ash containment facilities, as required by the U.S. Environmental Protection Agency. On Jan. 14, Dominion was awarded permits to begin draining water from containment ponds at two of its power stations into Quantico Creek, which feeds into the Potomac River and then into the James River. Once drained, Dominion plans to consolidate the coal ash into a single lined pond and seal the toxins in place.

The Southern Environmental Law Center will appeal these permits on behalf of Potomac Riverkeeper Network,

claiming that the permits do not require Dominion to adhere to the Clean Water Act or treat the water to remove toxins before dumping it in the rivers.

Similarly, Duke Energy has begun decanting water from the coal ash pond at its Riverbend Steam Station into Mountain Island Lake, a major source of drinking water for the city of Charlotte, N.C.

In other news, roughly half of the three million tons of coal ash at Duke Energy's power plant in Eden, N.C., is being shipped by rail to a lined landfill in Amelia County, Va. The Eden plant was the source of the spill that dumped 39,000 tons of coal ash into the Dan River on Feb. 2, 2012.

And in Washington, D.C., the U.S. Commission on Civil Rights will hold a hearing on the "civil rights implications of [placing] coal ash disposal facilities near minority and low income communities."

Federal Agency Considering Partial Surface Mining Ban in Tennessee

By Charlotte Wray

In 2010, Tennessee petitioned the U.S. Office of Surface Mining Reclamation and Enforcement to prevent surface coal mining on land within 600 feet of certain ridgelines in a 67,000-acre area north of Knoxville.

The state contended that surface coal mining would not be in accordance with state or local land use plans for the areas, which are currently wildlife management areas and conservation easements, and that mining operations would "significantly damage the natural systems and aesthetic, recreational, cultural, and historic values of the ridgelines and their viewsheds."

The federal agency's draft Environmental Impact Statement, released on Dec. 10, 2015, outlined several possible responses to the state petition. The agency's preferred alternative would designate the requested ridgetop corridors in the 67,000-acre area as unsuitable for coal mining.

At a hearing on Jan. 14, Tom Chadwell, a resident of Campbell County who lives beside the petition area on land that has been owned by his family since 1872, voiced his support for the ban.

"We have a beautiful county, a beautiful community and I don't want to see us [risk] our land that nature has spent most of the last 50 years trying to recover," he said.

The agency is now reviewing public input submitted during the 45-day comment period.

Clean Power Plan Clears Legal Hurdle

By Brian Sewell

States challenging the U.S. Environmental Protection Agency's Clean Power Plan in federal court are running out of legal options and losing valuable time as most states look to a carbon-constrained future. In January, the U.S. Court of Appeals refused to suspend the Obama administration's climate regulations while lawsuits move through the courts.

That's bad news for states including North Carolina, West Virginia and Kentucky that are seeking to block the plan despite public support for clean energy and limits on carbon emissions from power plants. But according to West Virginia Attorney General Patrick Morrisey, who is leading the case against the U.S. Environmental Protection Agency, the

plaintiffs "remain confident that our arguments will prevail as the case continues."

Days after the the decision, states and industry groups petitioned the U.S. Supreme Court to put a stop to the Clean Power Plan. While early legal challenges appear to be floundering, attempts to obstruct the plan at the state level are alive and well.

Officials in North Carolina crafted what its critics are calling a "plan to fail," primarily to draw the EPA into a legal battle, that achieves less than 3 percent of

the reduction in annual carbon emissions required under the Clean Power Plan. Kentucky's top environmental regulator announced the state would seek an extension for its compliance plan, taking care to note that there is no "minimal level of progress" required for an extension.

At press time, the EPA and groups supporting the Clean Power Plan — including 18 states, more than two dozen power companies, clean energy associations and public health and environmental groups — were filing their responses to the request before the Supreme Court.

Scientists Review to EPA Fracking Report

The U.S. Environmental Protection Agency's Science Advisory Board raised questions about the scientific basis of a report by the agency on fracking. Years in the making, the June 2015 report presented the groundwater pollution from fracking as localized and not a major threat to drinking water. The advisory board pointed out the ambiguity of this conclusion and requested more context for apparent data gaps — citing need for more toxicology information — as well as rewriting the conclusion to be more accessible to the general public. — *Eliza Laubach*

Major Coal Companies File for Bankruptcy

Arch Coal, the nation's second largest coal company, filed for bankruptcy early in 2016, asking lenders to eliminate more than \$4.5 billion worth of debt. The company stated that its debt restructuring will not affect its nearly 5,000 employees or its mining operations in Appalachia and around the country. Alpha Natural Resources, another coal company undergoing bankruptcy, was granted approval to issue nearly \$12 million in executive bonuses while attempting to evade responsibility for paying some retirees' life insurance and health benefits. — *Eliza Laubach*

Fracking Wastewater Leads to Ban in West Virginia County

By Eliza Laubach

In Fayette County, W.Va., residents speaking up against natural gas drilling wastewater spurred a county-wide ban on the use, storage or disposal of any oil or gas waste.

The county pushed to take control of wastewater injection permits following a controversy with the state

regarding a wastewater site, owned by Danny Webb Construction, that had been leaking for more than a decade.

Shortly after the ban unanimously passed in January, oil and gas companies operating in the county claimed the ban infringes upon their rights and filed an injunction, effectively halting the ban until a federal court

makes a decision. Two days later, Fayette County residents filed a lawsuit asking the company to stop operating the hazardous site.

To the north, in Ritchie County, residents requested that the West Virginia Department of Environmental Protection test water near a suspicious well, which confirmed leakage.

114 TH CONGRESS: Below are recent congressional bills and amendments on environmental issues and how central and southern Appalachian representatives voted. To see other recent votes, or for congressional representatives outside of the five-state area, visit congress.gov. ● = pro-environment vote ✗ = anti-environment vote ○ = no vote	Kentucky			Tennessee				North Carolina			Virginia			West Virginia		
	T. Massie (R) KY-04	H. Rogers (R) KY-05	A. Barr (R) KY-06	P. Roe (R) TN-01	J. Duncan (R) TN-02	F. Fleischman (R) TN-03	S. Desjarlais (R) TN-04	V. Foxx (R) NC-05	P. McHenry (R) NC-10	M. Meadows (R) NC-11	R. Hurt (R) VA-05	B. Goodlatte (R) VA-06	M. Griffith (R) VA-09	D. McKinley (R) WV-01	A. Mooney (R) WV-02	E. Jenkins (R) WV-03
S.J. Res. 22 , a joint resolution between the House and Senate, would override a presidential veto and disapprove of the Obama administration's 2015 Clean Water Rule, which clarifies which waterways are regulated under the Clean Water Act. 253 AYES 166 NOES 14 NV PASSED	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
H.R. 1644 , known as the STREAM Act, would delay the federal government's proposed Stream Protection Rule and modify federal surface mining law to delay the process of making any updates or adjustments to rules, policies, analyses and scientific information. 235 AYES 188 NOES 10 NV PASSED	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
S.J. Res. 24 , a joint resolution between the House and Senate, would permanently block the EPA's Clean Power Plan to limit carbon dioxide emissions from power plants and block any future similar regulations. 242 AYES 180 NOES 11 NV PASSED	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
SENATE Note: Senate legislation needs 60 votes to pass	M. McConnell (R)	R. Paul (R)	L. Alexander (R)	B. Corker (R)	R. Burr (R)	T. Tillis (R)	T. Kaine (D)	M. Warner (D)	J. Manchin (D)	S. M. Capito (R)						
S.J. Res. 24 , a joint resolution between the House and Senate, would permanently block the EPA's Clean Power Plan to limit carbon dioxide emissions from power plants and block any future similar regulations. 52 AYES, 46 NAYS, 2 NV FAILED	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

Bill Aims to Boost Local Appalachian Economies

A bipartisan bill led by members of Congress from four Appalachian states aims to revitalize local economies in the region through the restoration of previously mined lands.

Introduced in early February by Rep. Hal Rogers (R-KY), the RECLAIM Act would amend the primary federal law regulating surface coal mining to accelerate the release of \$1 billion from the Abandoned Mine Lands Fund over the next five years.

Projects that could be funded under the bill include land restoration for industrial, commercial, agricultural or recreational purposes that would benefit areas heavily impacted by the coal industry's decline.

Rep. Morgan Griffith (R-VA), another lead sponsor, called the legislation an "imperative effort to help reinvigorate" Appalachian communities. — *Brian Sewell*

News Bites

Coal Use Falls in China, Rises in India

China announced it will close 1,000 coal mines this year and initiate a moratorium on new mines for three years. Meanwhile, India announced it will double coal production to aid the country's economic development.

Ongoing Methane Leak in California

An unprecedented natural gas well leak in Southern California has released at least 90,000 metric tons of methane, along with benzene and other chemicals, into the atmosphere since October. The disaster increased California's methane emissions by 25 percent within the first few weeks.

Premature Births Linked to Fracking

Pregnant women living near natural gas wells in Pennsylvania have a higher risk of pregnancy complications, a Johns Hopkins study reports. Women living near the most active fracking wells in the state have a 40 percent higher chance of prematurely giving birth and a 30 percent increased chance of a high-risk pregnancy, among other concerns.

A Freeze on Federal Coal Leases

The U.S. Department of the Interior announced it will review the program that allows coal companies to operate on publicly-owned lands in several western states. The agency halted new leases during the review process to ensure the program delivers a fair return to the federal government and accounts for impacts to the environment and the climate.

Renewable Energy Tax Credits Extended

The 2016 budget bill signed by President Obama in December keeps in place critical federal incentives for solar and wind projects. Extended for three years, the Investment Tax Credit will spur up to 20 gigawatts of solar power, according to Bloomberg New Energy Finance — more than the total amount of solar installed in the nation prior to 2015.

Solar Jobs Overtake Oil and Gas

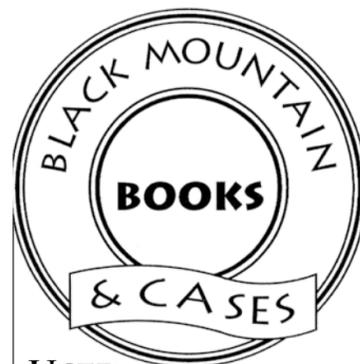
Solar companies created more jobs last year than the oil and gas industry, according to The Solar Foundation. Overall solar jobs in the United States grew by 20 percent in 2015.

Mercury Rules Survive Supreme Court Setback

Six months after a setback in the U.S. Supreme Court, a rule aimed at reducing mercury emissions from power plants nationwide remains in place. In December, a decision by a panel of federal judges allowed the U.S. Environmental Protection Agency to move ahead with the Mercury and Air Toxics Standards, making adjustments as needed to reflect the Supreme Court ruling that the agency had not properly considered the regulation's cost to industry. Industry groups and states challenging the standards implored the lower court to throw the rule out altogether. EPA officials plan to issue a final consideration of cost in April. — *Brian Sewell*

New Mine Safety Standards Survive Industry Challenge

A federal court has upheld new mine safety standards that will go into effect on Feb. 1. The new rules require the use of continuous personal dust monitors and the collection of more frequent air samples. Industry groups unsuccessfully challenged the implementation of these standards twice. The new rules come as cases of black lung disease — an irreversible disease caused by inhaling coal dust — have risen dramatically. Since the 1990s, the frequency of the disease in long-term miners has doubled, from five to ten percent. — *Elizabeth E. Payne*



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Statewide and Unified Citizens Affected By Coal Ash Speak Out

In North Carolina, a remarkable coalition of citizens directly impacted by coal ash is proposing a better path forward, one which will force Duke Energy to clean up its decades of toxic coal ash without dumping it on any other communities.

The Alliance of Carolinians Together Against Coal Ash formed in late July, and since then, the group has brought public attention to the need for proper coal ash cleanup. ACT Against Coal Ash has also created a space for residents whose health, water and homes have been harmed by Duke's coal ash to find solidarity and support. Appalachian Voices was integral to the formation of the Alliance and we continue to co-facilitate ACT and work with partners to include more affected communities.

ACT Against Coal Ash started off the new year by releasing a set of unifying principles that call on Duke Energy and North Carolina decision makers to put the people most impacted by coal ash first. The principles demand transparency and effective coal ash



Sarah Kellogg of Appalachian Voices speaks at an ACT Against Coal Ash press conference.

cleanup that keeps the ash on Duke's property instead of moving it to new communities. The principles also insist that Duke's neighbors be permanently supplied with safe drinking water and be compensated for lost property values and health care costs, along with other common sense demands.

In March, the N.C. Department of Environmental Quality will hold public hearings near coal ash sites across the state. Read more about the Alliance and find out how to join us at the upcoming public hearings at ACTAgainstCoalAsh.org.

Appalachian Voices Opens Southwest Virginia Office

Our three team members based in central Appalachia have been busily working on our economic diversification campaign and efforts to stop mountaintop removal and the harmful effects of coal mining for the past year. We're glad to now have an office space to call home! Stop by and say hi at 816 Park Ave. SW

in downtown Norton, Va. Our Economic Diversification Program Coordinator Adam Wells and Central Appalachian Field Coordinators Tarence Ray and Willie Dodson are often out meeting with community members, so if you're planning a trip to come see us, please give us a call at (276) 679-1691.

Bringing Citizen Voices to the U.S. Senate

Armed with a wealth of science and quotes from residents directly impacted by mountaintop removal coal mining, our Director of Programs Matt Wasson defended the proposed Stream Protection Rule during a U.S. Senate committee hearing in early February.

The hearing, held by the Senate Committee on Environment & Public Works, was supposed to be about the relationship between the Stream Protection Rule, intended to protect waterways from surface mining pollution and other environmental laws. But it devolved into ad hominem attacks by majority members on the rulemaking process and the director of the Office of Surface Mining Reclamation and Enforcement, Joseph Pizarchik.

Fortunately, Matt brought a much-needed local perspective to the hearing by sharing the personal experiences of people living near mountaintop removal mines in Appalachia — and supporting those narratives with the



growing body of science surrounding the practice's devastating health and environmental impacts.

Matt began by telling committee members, including Sen. Shelley Moore Capito of West Virginia, that any discussion of the Stream Protection Rule must start with the basic fact that existing rules are not working, and, in fact, have "never worked to protect the health of streams, communities and wildlife in Central Appalachia."

The Stream Protection Rule is expected to be finalized later this year.

Historic Clean Water Act Settlement in KY

Following a five-year legal battle, Appalachian Voices and our partners finalized a historic settlement with Frasure Creek Mining and the Kentucky Energy and Environment Cabinet in December. The settlement resolves years of Clean Water Act violations numbering in the thousands at the company's surface coal mines in eastern Kentucky. The violations include duplicated water pollution monitoring reports, failure to report pollution, and exceedences of pollution permit limits.

The settlement includes a \$6 million fine — the highest ever entered by Kentucky against a coal company for environmental violations. In the settlement, Frasure Creek admits to the violations and agrees to immediately pay \$500,000. If the company defaults on payment, it will be liable for the full \$6 million fine. In addition, if Frasure

Creek, which is currently not mining in the state, or its owners want to resume mining, they must pay \$2.75 million before a permit application will be processed.

"This settlement should send a strong signal to the new administration that citizens can and will hold the state accountable for vigorously enforcing laws against polluters to ensure the health of our waters and communities," said Erin Savage, our Central Appalachian Campaign Coordinator.

The settlement came as the newly elected Bevin administration took office, setting a critical benchmark for new Secretary of Energy and Environment Charles Snavely, who was vice president at International Coal Group when Appalachian Voices and partners discovered similar Clean Water Act violations at that company.

Pushing for a Real Energy Plan in N.C.

We are standing with citizens from across North Carolina advocating for a strong state Clean Power Plan at public hearings and through outreach to state decision-makers. The state is well-positioned to meet the goals set forth in the federal government's carbon regulations by building on the state's solar and energy efficiency advances.

Yet instead of drafting a realistic plan, the N.C. Department of Environmental Quality drafted a plan that would achieve less than a 1 percent reduction in carbon emissions and spur zero investment in clean energy for North Carolina — the primary purpose of the state's plan is to draw the EPA into a legal battle. North Carolinians deserve better.



Gabrielle Zeiger Member Spotlight

By Charlotte Wray

You could easily call Gabrielle Zeiger a jack of all trades. While she studies fungi and mushrooms as an amateur mycologist, she is also a wildflower enthusiast, an involved social justice volunteer, and a painter.

Growing up in South Florida, Gabrielle saw environmental destruction due to rapid construction, something that "really affected [her] perspective on our place in nature."

Gabrielle first encountered the Appalachian mountains on a motorcycle trip across the eastern U.S. and "fell absolutely in love with them." After traveling and living with her husband Curt in New Orleans for 10 years, they moved to Kingsport, Tenn., 26 years ago.

Gabrielle's love for the environment lies in how nature functions, and specifically the important role fungi play in keeping it healthy and balanced.

"We really don't know what all is out there," Gabrielle says. "[Old growth forests] are the best places to find new species because there are these really complex ecosystems that you don't get in the second growth and third growth forests. The most interesting things you find are often

in old growth forests."

A member of the North American Mycological Association, Gabrielle studies fungi that produce fruiting bodies and leads mushroom and wildflower walks with fellow nature enthusiasts.

"[Mushrooms] are all fascinating in their own way. My favorite is the next one I find that I can identify," she laughs. "That makes me really happy when I can."

Gabrielle possesses a humble spirit, often attributing her knowledge to learning from friends, especially the late Arthur Smith, who was a volunteer with Appalachian Voices, and Ed Schell, a well-known photographer in her area. Both were excellent amateur botanists, and she learned much of what she knows about identifying wildflowers during her frequent hikes with them.

Both Smith's friendship and the "scope of his environmental advocacy" greatly influenced Gabrielle. When Smith died 16 years ago, she learned he had been the person delivering The Appalachian Voice to the Kingsport area, and she took his position and has been delivering the paper ever since.

"I love [Appalachian Voices]. I think you guys are a great organiza-



tion and I'm really proud to be a part of it," she says.

Not only is Gabrielle an avid environmental advocate, she also has a deep passion for social justice, volunteering at the Habitat for Humanity stores in Kingsport and for Remote Area Medical with her husband in the Norton area of southwest Virginia. Habitat for Humanity has built 262 houses in their area, she proudly says.

"If you get to know anybody, and understand their situation, I think it's just normal human nature to have empathy for what they're experiencing," she says.

Gabrielle seems to have eyes that see what often goes unnoticed by others. She views people, wildflowers and small fungi that grow into mushrooms as individually unique and important.



Appalachian Voices is committed to protecting the land, air and water of the central and southern Appalachian region. Our mission is to empower people to defend our region's rich natural and cultural heritage by providing them with tools and strategies for successful grassroots campaigns.

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For the second year in a row, Appalachian Voices has been chosen to be the featured nonprofit at FloydFest, a 5-day music and arts festival which will take place July 27-31 just off the Blue Ridge Parkway near Floyd, Va. Details are in the works, but we can't wait to do some "Dreamweavin'" and share our love and stewardship of mountains with the whole FloydFest family. Tune in to appvoices.org/floydfest for details.

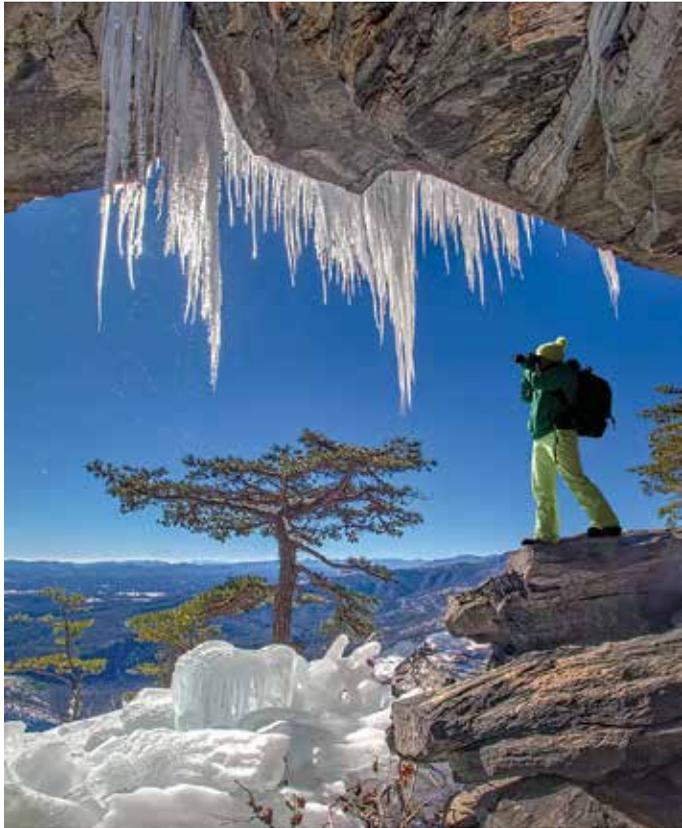
Seizing Clean Power Opportunities in VA

The short General Assembly session in Virginia is underway, and legislators are facing a slew of energy and environmental decisions. Appalachian Voices is working with allies at the General Assembly to advance bills that would make it easier for residents to access affordable solar power and energy efficiency programs.

One of the most critical issues facing Virginians is making

sure that the commonwealth develops a strong state version of the federal Clean Power Plan that brings healthier air and lower power bills to residents. We're opposed to Dominion's approach, which locks us into dependence on fossil fuels, and are asking that Gov. McAuliffe develop a plan that expands investments in renewable energy and efficiency instead.

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Cathy Anderson captured this stunning image while on a hike with Lonnie Crofts at John's Kitchen, an ancient cave overlooking the Western Rim of the Linville Gorge in North Carolina. Icicles beautifully frame the roof of the cave and large ice formations formed on the bottom. The hike was made particularly challenging due to more than a foot of snow, dropped by Winter Storm Jonas in late January 2016. View more of Cathy's work at cathyandersonphotography.com

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