

FREE

The Appalachian VOICE

February / March 2017

The Energy Burden

Residents contend with inefficient housing and high energy bills

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Extend the Growing Season | Coal Ash Recycling | Maple Syrup in Appalachia | Energy & Politics Updates

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About the Cover



In this image, Robert Stephens captures the rime ice covering the Craggy Pinnacle Trail. This tunnel of rhododendrons and mountain laurels can be found near the Blue Ridge Parkway, north of Asheville, N.C. "My passion is traveling, seeking, and photographing the unique beauty of the Appalachians," he says. This photo is a finalist in the 14th annual Appalachian Mountain Photography Competition (see back cover for details). View more of his work at www.solitarytravelerphotography.com

Defending Our Vision for Appalachia: A note from the executive director

Donald Trump has taken the oath of office as our nation's 45th president. His administration promises to pursue an energy and environmental policy vision in stark contrast to the scientific consensus on climate change, and to the American public's desire for renewable energy, clean air and water, and healthier, more sustainable communities.

In our view, the new administration's approach to environmental protection and energy policy is dangerously shortsighted and could lead to long-lasting harm to communities and our natural heritage in Appalachia and beyond.

We are determined to defend against regulatory rollbacks that compromise Appalachia's future and to continue building on the progress we've made in recent years. Appalachian Voices will confront the serious threats to the safeguards that protect human health, our region's landscapes, air and water, and the global climate.

During their confirmation hearings, Trump's picks to lead the U.S. Environmental Protection Agency and the Departments of State, Energy and the Interior aligned with the gist of the Trump Campaign's unscientific, anti-environmental rhetoric.

Our federal agencies are essential in enforcing broadly supported environmental laws. How they prioritize investments in clean energy or measure the climate impacts of infrastructure projects such as oil and gas pipelines will be more important than ever in the coming years.

What does this new political reality mean for Appalachian Voices' work? It compels us to continue building and deploying power from the ground up through local initiatives, constituent pressure and citizen lawsuits, and to continue serving as a technical and policy resource to a broad range of allies in Congress and in Appalachian communities.

We will do everything we can to see that the laws protecting our natural heritage are enforced. And we'll be a key part of the massive resistance that the administration will face when it attempts to roll back these protections.

At the same time, we must not be distracted from promoting our vision for Appalachia's healthy, sustainable energy and economic future. Our commitment to this region is the wellspring of our resistance. Lessons from the past and the promise of a better future will continue to give our movement power.

We know you'll stand with us during this uncertain time as we work to ensure that communities in Appalachia and the Southeast can reap the benefits of the burgeoning clean energy economy and live unburdened by pollution and environmental threats.



For the future,

Tom

Tom Cormons, Executive Director



Photo by Jimmy Davidson

GET INVOLVED environmental & cultural events

Winter Arts & Naturalist Weekend

Feb. 17-19: Pine Mountain Settlement School hosts a family-friendly weekend of Appalachian food and activities. Pine Mountain, Ky. \$0-225. Call 606-558-3571 or visit pinesettlementschooll.com/events

Pipeline Comment Sessions

Feb. 13-March 2, 5-9 p.m.: Join Appalachian Voices at a public comment session about the draft environmental impact statement for the Atlantic Coast Pipeline. Sessions will be held in NC, VA and WV. Free. Call 434-293-6373 or visit appvoices.org/fracking/flight-acp

100K Tree Day

Feb. 24-25: Register now for Tennessee Environmental Council's annual tree giveaway and planting event. Free. Call 615-248-6500 or visit tecta.org/100ktreeday to sign up and select a pick-up site in Tennessee.

Growing Appalachia Conference

Feb. 25, 9 a.m.-3 p.m.: Join the Big Sandy chapter of Kentuckians For The Commonwealth for workshops on small-scale farming, energy efficiency and renewable resources. Hindman Settlement School, Hindman, Ky. \$10 suggested donation. Call 606-263-4982 or visit tinyurl.com/grow-conf

E-Day 2017

Feb. 27, 8:15 a.m.-2 p.m.: Join the West Virginia Environmental Council and speak with your representatives about environmental issues. Free. State Capitol Complex, Charleston, W.Va. Call 304-414-0143 or visit wvecouncil.org/events/e-day-2017

See Sap Run

March 4, 1-3 p.m.: Take a winter hike to see old and new ways to collect maple sap. Dress appropriately for the weather. \$3-6. The Nature Foundation at Wintergreen, Roseland, Va. Call 434-325-8169 or visit wnf.org/events

Walk for the Places and People We Love

March 4-19: To demonstrate opposition to the proposed tri-state Atlantic Coast Pipeline, concerned citizens will walk the pipeline's 205-mile North Carolina route. Educational and cultural activities will take place in each county along the way. Join for as long as you wish, suggested donation of \$10/day. Visit 2017acpwalk.org

Extreme Appalachia!

March 9-12: The 40th annual Appalachian Studies Conference will explore the extremes of the region, from impassioned communities to the extremes of resource extraction and pop

See more at appvoices.org/calendar

culture. Climate scientist Dr. James Hansen will be the keynote speaker. \$100-185. Virginia Tech, Blacksburg, Va. Call 304-696-2904 or visit appalachianstudies.org/annualconference

Organic Growers School Spring Conference

March 11-12: Learn about organic growing and permaculture and choose from more than 70 sessions each day on themes such as beginning farming, pollinators, mushrooms, soils and more. UNC-A Campus, Asheville, N.C. \$49-129. Call 828-214-7833 or visit organic-growersschool.org/annual-spring-conference

River Rescue

April 1: Join Ijams Nature Center to clean up sites along the Tennessee River and its tributaries. Last year, 12.5 tons of trash were collected! Knoxville, Tenn. Free. Call 865-577-4717 or visit ijams.org/river-rescue

Wild & Scenic Film Festival

April 5, 7-9 p.m.: This annual festival highlights films that explore the wonders of the great outdoors, celebrating beautiful places and the communities that live in them and defend them. Charlottesville, Va. \$15-25. Call 434-971-1553 or visit tinyurl.com/WildScenicFilms

Across Appalachia

Environmental News From Around the Region

After Massive Wildfires, Region Recovers

By KaLeigh Underwood

During October and November 2016, numerous wildfires burned across the Southeast United States. In total, more than 119,000 acres across Alabama, Georgia, South Carolina, North Carolina, Tennessee, Kentucky, Virginia and West Virginia were affected.

Gatlinburg, Tenn., and Sevier County were particularly hard hit, and the U.S. Department of Labor awarded a \$5.8 million grant for recovery efforts. The Knoxville News Sentinel reports that 14 people died in the late November fire and more than 2,460 buildings in and around the historic town were damaged or destroyed.

According to News Channel 3 WREG, a National Dislocated Worker Grant is expected to help approximately 200 Tennessee workers affected by the fire. Commissioner Burns Phillips told WREG that the grant funding will help "put people back to work and accelerate the clean-up and recovery process."

The city of Gatlinburg is offering information on their website to assist residents on how to safely re-enter homes and businesses damaged by fire, issuing permits for disaster demolition and continuously updating the Sevier County Structure Status map. They are encouraging donations and coordinating volunteer efforts through the website mountaintough.org.

The Chimney Tops No. 2 fire that raged near Gatlinburg burned more than

17,000 acres, nearly 11,000 acres of which were in the Great Smoky Mountains National Park, according to the News Sentinel. The park's website is alerting visitors to trail closures due to the fire. After investigation, two juveniles were charged with arson.

In North Carolina, more than 72,000 acres burned in separate fires, according to online newspaper blueridgenow.com. Many communities have joined together to support local firefighters. On Jan. 21, the Lake Lure and Chimney Rock Village communities held a fundraiser to thank the Hickory Nut Gorge Fire Department.

According to Carolina Mountain Land Conservancy's website, fire is a natural process for forests. Clint Calhoun, environmental management officer for the Town of Lake Lure, told the organization that fires are a means of reducing debris and litter, and for recycling carbon and other elements back into the soil, which help with regeneration and increased biodiversity.

"I think there is a lot we can learn about fire ecology in the Hickory Nut Gorge that we may have always suspected, but can now be proven or disproved," said Calhoun.

The Weed Action Coalition of the Hickory Nut Gorge is collaborating with the North Carolina Forest Service for a Citizen Scientist Program. The group will help track effects of the fire.

DuPont to Pay \$50 Million in Pollution Settlement

On Dec. 15, 2016, the U.S. Department of Justice announced that DuPont Chemical will pay over \$50 million as part of a settlement for releasing mercury into Shenandoah Valley waterways.

The chemical company will admit no fault, yet the payment will resolve alleged violations of environmental laws, the Associated Press reports.

The payment will be the largest environmental settlement in Virginia history.

According to Harrisonburg TV station WSHV, the funds will be used for a series of proposed projects including: Land protection, improvements to water

quality and fish habitat, mussel propagation, recreational fishing access, migratory songbird habitat restoration and more.

The settlement follows a still-unapproved merger of Dow and DuPont, both chemical giants. The merger has been awaiting approval by European Union anti-trust regulators for months.

According to the Associated Press, cleanup will begin in February at the riverbank in Constitution Park in Waynesboro, Va. Soil with high mercury concentrations will be removed and replaced with fresh soil. — *Carl Blankenship*

Endangered Species Act Faces Threats

By Adrienne Fouts

Currently, over 1,600 species in the United States are listed as endangered or threatened under the Endangered Species Act, which was established in 1973 to protect plants, animals and their ecosystems from extinction.

Among the protected species in Appalachia are the Carolina and Virginia northern flying squirrels, a few species of bats, and several fish, crayfish and mussel species. Loopholes in the enforcement of the act in relation to coal mining threaten the wellbeing of these species, according to Tierra Curry, senior scientist at the Center for Biological Diversity. The Stream Protection Rule, finalized by the Office of Surface Mining in December 2016, aimed to combat these loopholes by protecting the water and ecosystems threatened by mining, but was rescinded by Congress in February. Read more about the Stream Protection Rule on page 19.

However, some congressional representatives are hoping to limit the Endangered Species Act's power or repeal it entirely, according to The Washington Post. Critics, including House Natural Resources Committee Chairman Rep. Rob Bishop (R-Utah), say that the act has

too often blocked economic development and caused difficulties for landowners without making great changes in species' recovery.

According to The Washington Post, Republican lawmakers have sponsored dozens of measures over the past eight years to limit the Endangered Species Act, the majority of which were blocked either by Democrats or by lawsuits from environmental groups. Now opponents of the act see an opportunity to pass those measures, with Bishop telling the Post that he would "love to invalidate" the law.

Proposed reforms include limiting lawsuits about species protection, placing a cap on how many species are on the list and giving states greater management of public lands and wildlife.

According to Curry, if Congress repeals or limits the Endangered Species Act, it could spell extinction for newly protected species like the Big Sandy crayfish and the Kentucky arrow darter.

"Protecting the creeks where endangered species live would also protect water quality for people," Curry says. "But public health and wildlife are both being thrown under the bus by the Trump administration."

Community Mural Highlights Kentucky Town

The town of Jenkins, Ky., along with a number of partners, has created the "Our Town" project to strengthen the cultural identity of the community and attract visitors. The 10-by-45-foot mural, located along Route 3086 in Jenkins, was funded by a grant from the National Endowment for the Arts. The mural was designed by Letcher County artists Lacy

Hale and Pam Oldfield Meade.

The two designed a paint-by-numbers system which allowed for community painting parties where over 60 people, from children to senior citizens, could add their touch to the installment. The mural reflects the past, present, and future of Jenkins. — *KaLeigh Underwood*

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Update on Cleanup of CTS Superfund Site

On Nov. 22, 2016, the U.S. Environmental Protection Agency and the Department of Justice announced a \$9 million cleanup at the CTS of Asheville, Inc., Superfund Site.

According to the EPA, the funding was agreed to by CTS Corporation, Mills Gap Road Associates and Northrop Grumman Systems Corporation.

According to the EPA's Superfund website, the 53.54-acre site was used to manufacture electronic components from 1952 to 1986, until it was purchased by Mills Gap Road Associates in 1987. In 1997, 44.59 acres were sold to Biltmore Group and turned into a subdivision. The manu-

facturing building was demolished in 2011 and had been vacant since the mid-1990s.

The site was designated on the EPA's National Priorities List in 2012. According to the EPA, the cleanup will address a 3.1-acre area contaminated by trichloroethylene, a solvent that leached into the groundwater in the area.

Cleanup, which will be overseen by the EPA, will begin in 2017 and is expected to reduce trichloroethene concentrations by 95 percent.

The funding follows unsuccessful challenges by CTS to personal injury claims by nearby residents. — *Carl Blankenship*

Virginia Uranium Mining Ban Lawsuit Continues

There are continued questions about the viability of uranium mining in Virginia, where the practice is currently banned.

According to the online newspaper godanriver.com, in December 2016 lawyers representing the Virginia Attorney General's office responded to a lawsuit filed by Virginia Uranium, Inc., that demands permission to dig for a 119-million-pound uranium deposit just outside of Chatham, Va.

The state's lawyers claim it is uncertain whether the 119-million-pound estimate is accurate and point out that the current market price for uranium is just over half the break-even point for the project.

They also denied that uranium mining is safe, citing an example of a mining operation in Germany that exposed people to the waste and cost \$3.6 billion to clean up.

Uranium exposure is associated with cancer, birth defects and liver and kidney damage. A study by the National Academy of Sciences concluded that the state's humid climate and frequent powerful storms make its water supplies especially susceptible to contamination from uranium mining.

In 2013, a bill to lift the ban on uranium mining in the commonwealth was withdrawn before it made its way to the floor of the Virginia Senate. — *Carl Blankenship*

Birthplace of Country Music Celebrates "Hometown Stars"

Many great musical traditions, including country, folk and blues, were influenced by musicians in the Appalachian Mountains. The town of Bristol, which straddles Tennessee and Virginia, was officially recognized in 1998 by Congress as the birthplace of country music, and the town's Birthplace of Country Music Museum celebrates and preserves that history.

A new exhibit, "Hometown Stars,"

which runs from Feb. 7 until June 4, tells the stories of Southwest Virginia musicians from before World War II who recorded music but never achieved real fame. Instead, they performed locally and often held non-musical jobs, but they still had a big impact on the growing recording industry. Artists showcased in the exhibit include the Powers Family, Carl Martin and the Roanoke Jug Band. — *Adrienne Fouts*

West Virginia Contends with Aftermath of 2014 Chemical Spill

Jan. 9 marked three years since the chemical MCHM spilled from a storage tank into the Elk River, leaving 300,000 West Virginia American Water Company customers without safe drinking water.

On Jan. 25 a tentative settlement was reached between the private water utility and the state Public Service Commission and Consumer Advocate. The deal stipulates that West Virginia American Water to follow new requirements for source water protection, water quality monitoring, emergency preparedness and communications with the public.

According to the Charleston Gazette-Mail, an expert witness testifying in the Public Service Commission's investigation said that if the private water utility had been properly operating at capacity

before the spill, they could have closed the water treatment plant's intake and avoided pumping contaminated water to customers. West Virginia Consumer Advocate Jackie Roberts also asked the commission to investigate the company's actions prior to the 2014 incident.

In late fall 2016, a tentative settlement for up to \$151 million in individual and business damages was reached in a separate class-action suit against West Virginia American Water Co. and Eastman Chemical Co.

Soon after the spill, state legislators passed a law requiring that water utilities review their operations and identify ways to improve water safety. Those plans are currently under review by the State Bureau of Public Health. — *Molly Moore*

Fonta Flora Trail to Span Over 70 Miles in N.C.

A new addition to the North Carolina State Park System, the Fonta Flora Trail, aims to attract visitors and unify towns in Western North Carolina. The foot and bike path will span nearly 80 miles from Asheville to Morganton, with a five-mile section connecting to the Mountains-to-Sea Trail.

The Fonta Flora Trail will feature a loop around Lake James in Burke County, N.C. The trail's name comes from the town of Fonta Flora, which was submerged when Lake James was created to provide hydroelectric power to the region.

Tim Johnson, one of the trail's planners, told The Citizen-Times that the Fonta Flora will provide opportunities for growth in business and tourism throughout the

region, as well as a place for local residents to enjoy nature. Some sections of the trail are complete, including nearly seven miles of the Lake James loop, and the rest will be pieced together over the next few years. Visit tinyurl.com/FontaFlora for updates.

— *Adrienne Fouts*

Newsbites

Asheville to Retain Ownership of Water System

In a 5-2 decision, the North Carolina Supreme Court ruled that the state legislature's move to seize Asheville's water system was unconstitutional. The verdict, delivered in a 42-page opinion on Dec. 21, 2016, reverses an appellate court decision to uphold the legislature's attempt and follows a suit from the City of Asheville.

N.C. Company Exporting Biomass to Europe

According to the Triangle Business Journal, alternative energy company Enviva Biomass is now exporting their wood pellets to Europe from the port at Wilmington, N.C.

The facility has a pair of storage domes that can house about 50,000 metric tons of material.

Large-scale logging by the wood pellet industry has disrupted millions of acres of forest across the Southeast.

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MACED
Mountain Association for Community Economic Development

MACED seeks an energy efficient enterprises program coordinator to serve as the administrator and project manager for MACED's commercial energy work. This position will be based in MACED's Berea office. Visit www.maced.org for details. EOE.

Extending the Growing Season

How Appalachian farmers and gardeners are raising crops through the winter

By Dave Walker

Finding fresh, local food during cold Appalachian winters can be a challenge. “Most folks in our region don’t grow at all in the winter,” says Christopher McKenzie of the nonprofit organization Grow Appalachia. “That limits what’s available and when. We know that families need and like to eat fresh produce year-around, and we want folks to be able to eat out of their garden all year long.”

Some farmers and backyard gardeners in the region are using season extension strategies to do just that.

Season extension expands growing opportunities by controlling the environment around a plant, allowing more favorable conditions for the plant to thrive. From high tunnels to low tunnels to heated greenhouses to straw bales and cold frames, gardeners and farmers are producing fresh vegetables in Appalachia even in the deepest snow.

Crops like carrots, beets, cabbage, kale and lettuce can be planted earlier in the spring or sustained over the winter. Summer vegetables like tomatoes, peppers, beans and cucumbers can also be started earlier and be better managed for disease prevention, water use and consistency.

For Grow Appalachia, based in Berea, Ky., four-season growing matters as the group works to end food insecurity in Appalachia. Founded in 2009, the nonprofit organization provides funding and technical assistance to 40 partner sites in more than 50 counties throughout Central Appalachia. In 2015, they helped 4,644 gardeners grow over 580,000 pounds of food.

“We work in this region for a reason,” says McKenzie. “A lot of the counties that we work in are record-setters, nationwide, for joblessness.

The exit of the coal economy has made an impact on our region.”

By encouraging Appalachians to grow more of their own food, Grow Appalachia partner sites have been able to introduce market farming as an extra income source for families, teach new generations how to preserve their food, and connect fresh food with community centers, assisted living facilities and hunger relief agencies.

High Tunnels for Higher Yields

McKenzie’s work with Grow Appalachia focuses on the organization’s social enterprises — businesses that aim to improve communities, not just make a profit. By manufacturing and selling high tunnels alongside certified-organic fertilizers, Grow Appalachia is able to direct profits back into its gardening program.

High tunnels look like greenhouses, but are unheated, and are an increasing trend with gardeners and farmers. Some structures are small, just six feet wide by



At High Rocks Educational Corporation in Pocohontas County, W.Va., youth help raise beds of lettuce. Photo courtesy Grow Appalachia



Work-release inmates help Chris McKenzie build a high tunnel for the Russellville Urban Gardening Center in Russellville, Ky. McKenzie says they were a great group to work with. Photo courtesy of the Bowling Green Daily News

twelve feet long. Others are much larger, such as 30 feet by 96 feet, with peaked, gothic roofs that allow space for tractors.

These structures enable gardeners to harvest year-round and provide farmers with a market advantage. Over the last several years, Grow Appalachia has built 79 high tunnels for 40 different farms and families in Appalachia, many of whom also participate in Grow Appalachia’s gardening program.

“One of our farmers in Waco, Ky., grows spinach in his high tunnels,” says McKenzie. “He’s able to have fresh spinach in February when no one else has fresh greens. He once told me that he was making better money in February than the height of the summer growing season.”

Grow Appalachia’s initial high tunnel design was flexible in its size and did not require grading the land or pouring concrete. Known as a quonset-style high tunnel, it looks like a series of semi-circular hoops that are short and narrow, without a peaked roof. These smaller high tunnels work well on slopes or in compact growing spaces.

“Later, we worked with the University of Kentucky’s research farm to develop a gothic-style high tunnel that has a peaked

roof,” says McKenzie. This allows the high tunnel to be larger and to perform better in harsh weather conditions.

Grow Appalachia works with farmers and gardeners to develop unique high tunnels for each client. The organization receives raw materials such as lumber, galvanized steel, hardware and plastic, and manufactures pre-built kits: galvanized steel tubes are bent, doors are fabricated and holes are drilled. The hoop houses are then delivered by Grow Appalachia, which can also assist with construction and follow-up technical assistance.

While high tunnels constructed with galvanized steel can last a long time, their plastic covers and wood support-sidings have a limited lifetime. Greenhouse-specific plastics are engineered with UV inhibitors, often guaranteed for four years. After that, the plastic begins to discolor and needs to be replaced.

Depending on scale and style, high tunnels vary in price. But for market farmers, support can be found through the Natural Resources Conservation Service, which offers a cost-share program. Grow Appalachia’s high tunnel enterprise meets NRCS standards, and the organization can assist farmers through the cost-share process. The nonprofit also serves as a NRCS technical assistance provider in Southeast Kentucky, helping high tunnel farmers with growing plans, guidance on pests and weeds, and assistance designing irrigation systems.

“Grow Appalachia has helped us do patchwork on our high tunnels by adding new plastic and building new sides,” says Christina Lane of GreenHouse17 in Lexington, Ky., an advocacy agency committed to ending intimate partner abuse in families and the community. Serving 17 Kentucky counties, seven of which are in Appalachia, GreenHouse17 grows flowers, fruits and vegetables in six high tunnels on its 40-acre farm.

Since 2012, GreenHouse17 has worked with the University of Kentucky

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Growing Season

continued from previous page

and Grow Appalachia to develop its high tunnels. Participants in GreenHouse17’s farm-training program earn stipends and learn the basics of farming and running a small business. Produce is used for meals at the center and sent to the 75 members of the organization’s Community-Supported Agriculture flower program.

“High tunnels are super helpful,” says Jessica Ballard of GreenHouse17. “We’re able to grow winter root vegetables, cabbage and kale while also putting flower seeds in the ground earlier. Our flowers’ stem strength is better and our high-dollar flowers won’t break from the wind and rain.”

Severe weather, though, presents challenges. “Over the past years with interesting weather patterns, we’ve seen a lot of collapses due to snow because folks have sourced them as cheaply as

possible or they’re getting a kit from outside the region which may not be built for the snow load,” McKenzie says. “Season extension is an investment, and if you invest in season extension it will pay off. High tunnels have the potential to be a game-changer for farmers, especially where weather can be a challenge.”

At the Laurel County African American Heritage Center in London, Ky., Wayne Riley works with local youth to grow food for community members, an assisted-living center and the county’s jail. Riley grows lettuce, cabbage, broccoli and cauliflower in the winter and tomatoes, cucumbers, peppers and beans in the summer. With plans for two more high tunnels, the Laurel County African American Heri-



Grow Appalachia Program Director David Cooke stands inside a gothic-style high tunnel built for Greenhouse17, a domestic violence shelter outside of Lexington, Ky. Photo courtesy Grow Appalachia

tage Center will soon have six through Grow Appalachia’s social enterprise.

Riley prefers smaller high tunnels because they allow him to better rotate crops and control disease within the garden.

“Trying to overlap growing each season in a high tunnel can be hard,” says McKenzie. “With smaller tunnels, you can have one for spring, one for summer, and one for a cover crop. This lends itself to a sustainable production plan.”

Beyond Season Extension

In addition to its high tunnel social enterprise, Grow Appalachia works with partner sites across the region. These community groups collaborate with backyard gardeners, farmers and

garden or farm year-round,” he says.

At the Cowan Creek Community Center in Letcher County, Ky., canning classes sponsored by Grow Appalachia lead to a greater sense of community. “People from all over Letcher County come to learn how to can like their mom or grandma used to do. It brings people from different economic backgrounds and experiences together,” says McKenzie. “In doing so, they’ve formed this interesting community where preconceptions are dropped.”

In Hindman, Ky., the Hindman Settlement School is reviving its agrarian history by experimenting with low tunnels, which are comprised of small hoops over crop beds that are blanketed with row cover.

This winter, the 114-year-old resident settlement school is busy

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Lengthening the Life of Your Garden

Each season extension strategy is unique to the backyard garden or farm. But several simple methods can go a long way toward enjoying fresh, hyper-local greens in the middle of winter.

Hardy plants — including arugula, cabbage, mustard greens, kale, swiss chard, mâche, miner’s lettuce and turnip greens — can grow well throughout the region unaided or with some simple frost protection. Many of these are sown in the fall for winter eating, but some can be started in December for early spring harvests.

Use row covers to blanket plants and insulate them from the cold. They come as fabric

rolls from garden supply companies, and can be cut for the gardener’s bed size and reused each year. By adding more layers, the gardener increases their insulation. Small metal hoops lift the row covers above garden beds and plants, much like a tiny high tunnel or greenhouse.

Straw bale cold frames can be constructed by placing straw bales in a rectangle. By adding a window frame on top, the gardener has made a mini-greenhouse. This simple and inexpensive strategy can be very useful when starting vegetables for the spring. To control temperatures, the gardener can ventilate the cold frame by propping open the window with a stick at different heights.

Winter Greens with Executive Director Tom Cormons

For Appalachian Voices’ Executive Director Tom Cormons, gardening and self-sufficiency has always been a passion. He grew up eating fresh, wholesome food and wanted to share the experience with his family when he moved to his current home in Charlottesville, Va.

“I read Eliot Coleman’s Four Season Harvest and learned what’s possible through that book,” says Cormons. “He’s up in Maine and grows a tremendous amount of food year-round. If he can do it in Maine, I can do it more modestly in Virginia. One thing that I learned from him is that certain vegetables and varieties are incredibly cold-tolerant.”

In Cormons’ 500-square-foot garden, two of his favorite home-grown cold-season greens are mâche and miner’s lettuce. Mâche, also known as corn salad, is a small

leafy green with a nutty flavor. Miner’s lettuce leaves are even smaller. He plants them densely, harvesting them with scissors. Both are incredibly productive in Charlottesville’s 7a hardiness zone, regrowing after each harvest for several successions.

Other vegetables that he regularly grows and harvests throughout the winter are komatsuna, a mild, mustard-like brassica that is fast-growing and can survive the winter with some protection, as well as kale, arugula, and mustard or turnip greens. Cormons also plants lettuce in November or December, which will lead to a strong harvest in late February or early March and produce until July.



Tom Cormons’ son stands in the family’s four-season backyard garden. Photo by Tom Cormons

any other strategies,” Cormons says. “I’m always able to get all the salad greens that we can eat through the cold season, as well as a lot of cooking greens.”

“I grow anything my kids are fired up about trying. They are involved every step of the way, from ordering the seeds through the harvest. That’s one of the most wonderful things about it for me,” he says. “It’s really nice to be able to eat greens picked a few minutes before you eat them, year-around.” Cormons also notes that growing greens in the winter is easier and less labor-intensive than summer since there are no weed, pest or water shortage concerns.

Several things to look out for are: one, get things in on time and two, keep an eye on them. “It doesn’t require a lot of energy or time for the luxury of fresh greens,” says Cormons.

Making the Best of a Bad Situation

Could concrete help get coal ash out of neighborhoods?

By Elizabeth E. Payne

By its own estimate, Duke Energy is currently storing nearly 160 million tons of coal ash throughout North Carolina. Finding a way to properly recycle this ash could remove a heavy burden from the communities that live near it.

Coal ash — a byproduct of burning coal for electricity — contains numerous heavy metals that pose health risks to humans, including heart disease, lung disease and certain types of cancer.

Most of Duke Energy's coal ash is now disposed of in unlined impoundment ponds near the utility's 14 active and retired coal-fired power plants across North Carolina. In 2015, the state's environmental agency identified nearly 200 wells near impoundment ponds that contained elevated levels of hexavalent chromium and vanadium, both known carcinogens.

In response to the disastrous 2014 Dan River spill that contaminated the river with nearly 40,000 tons of coal ash, the state passed the Coal Ash Management Act later that year to oversee the closure and cleanup of these ponds. Last year, an amendment to the law mandated that recycling be part of the closure strategies at three Duke Energy plants.

For Caroline Armijo, who is concerned about the coal ash near her hometown of Walnut Cove, N.C., these recycling projects open the door to thinking about the coal ash impoundments in a different way.

"We have serious issues going on in the world right now," she says. "You've gotta stop thinking about today's penny [and] really put some brainpower behind these problems. I feel like it can be solved."

Reusing Coal Ash as Fill

The U.S. Environmental Protection Agency defines beneficial use as "the recycling or reuse of coal ash in lieu of disposal." Finding another purpose for the ash can keep it out of landfills and impoundment ponds.

In 2015, Duke Energy — one of the largest utilities in the country and by far the largest utility in North Carolina — recycled 63 percent of the coal ash it



Caroline Armijo speaks about cleaning up coal ash in North Carolina. Photo courtesy of Caroline Rutledge Armijo. Coal ash stored at Duke Energy's power plant in Asheville, N.C., was used as structural fill at the city's airport. Photo © Copyright 2011 Roy Tennant, FreeLargePhotos.com

sand, rock and water with cement — a dry powder often made from burned limestone. Because of its chemical properties, coal ash can be substituted for cement when making concrete. Encapsulating the coal ash into a solid state minimizes the risk of contaminants leaching into the surrounding soil, water and air. The resulting concrete is also generally used for non-residential infrastructure projects, which further reduces risks to human health.

"It's not the perfect solution, but it's the best solution we have available to remove the ash from communities and to find a beneficial use for it," says Amy Adams, North Carolina program manager for Appalachian Voices, the publisher of this paper.

Ash from coal-fired power plants can be recycled at two stages. First, it can be used immediately after it has been produced from burning coal at a power plant. This is called production ash. Coal ash can also be recycled from impoundment ponds or landfills. This ash is more difficult to reuse because it has been mixed with water and contains ash of different types and qualities. It also may have deteriorated over time.

In order to repurpose stored ash it must first be processed, which is what Duke's facilities at the three new recycling locations would be responsible for. According to Jimmy Knowles, the vice president of research and market development at The SEFA Group, a com-

pany that specializes in marketing coal ash, production ash can be used by the concrete market with less processing and at a lower cost, since only ash that meets industry standards is collected and sold.

Coal ash has been incorporated into concrete for more than 60 years, according to a paper presented at an industry conference in 2005. Coal ash is not required for making concrete, but according to Knowles, when it is added the resulting concrete is more stable, stronger and often less expensive to make than concrete made from limestone-based cement.

"When it's used in the concrete, not only does it make the concrete better, but it ties up these trace elements, these 'constituents of concern,'" he says.

"From our perspective, [production] ash is our product. It's not a pollution," Knowles says. "It goes back to the 'One man's trash is another man's treasure' concept. But that's the way recycling is."

Location, Location

The 2016 amendment to the Coal Ash Management Act requires Duke Energy to identify three of its North Carolina power plants where processing facilities can be built to prepare coal ash for use in concrete. Each year, each of these sites must provide 300,000 tons of ash that meet industry standards for use in concrete.

Two of the sites — Buck Steam Station in Salisbury, N.C., and H.F. Lee Plant in Goldsboro, N.C. — have already been announced. A third site

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Concrete & Coal Ash

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must be announced by July 1, 2017.

"I just keep saying, 'Oh my God, this is all that we have asked for.' After all the years of litigation and controversy, they're finally going to remove [the coal ash]," Deborah Graham, a community advocate near the Buck Steam Station, told the Charlotte Observer when the deal was announced in October.

Duke Energy has retired both the Buck and Lee power plants, and neither is producing new coal ash. Together these two sites store only 12.6 million tons of the nearly 160 million tons of coal ash in the state. Duke Energy plans to leave the vast majority of the state's ash in unlined, drained impoundments covered with a liner, a technique known as cap-in-place.

According to Amy Adams, several of Duke's power plants that continue to produce and store large volumes of ash should be considered for recycling facilities. For example, the Belews Creek Power Station in Stokes County, N.C., stores nearly 20 million tons of ash, and the Roxboro Plant in Person County stores 34.6 million tons of ash.

According to a recent study by the Electric Power Research Institute, these two sites generate much of the state's new production ash and store much of the state's pond ash on-site. Both the Belews Creek and Roxboro plants already provide production ash to the concrete market. But neither can currently recycle its stored ash.

Henry Batten, president of Concrete Supply Co. in Charlotte, N.C., purchases some of that ash and is a strong advocate for more coal ash recycling. According to Southeast Energy News, his company "consumes about 2.1 to 2.5 million tons of ash annually" in North and South Carolina — and wants to buy more.

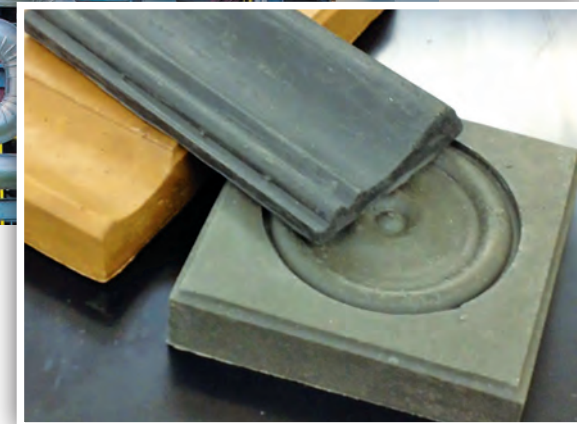
Batten sees a market in recycled pond ash. "We would hope that every plant that ever gets capped would eventually allow us, or someone like us, to harvest that ash for reuse in concrete because it's better — it's a more sustainable option than leaving it in the impoundments," he told Southeast Energy News.

The Greenhouse Gas Factor

Burning limestone to make cement creates a significant amount of carbon dioxide, a greenhouse gas that contrib-



A coal ash recycling facility, at top. Courtesy of The SEFA Group. At right, compounds made of coal ash. Courtesy of Dr. Kunigal Shivakumar, N.C. A&T University.



utes to climate change. In 2009, cement manufacturing "was the fourth-largest source of U.S. carbon dioxide emissions," according to the U.S. Energy Information Administration.

But every ton of production ash — which already lost most of its carbon when the coal was burned for electricity — used in cement reduces the carbon footprint of the resulting concrete by approximately one ton.

Recycled pond ash has a slightly larger carbon footprint, since lingering carbon must be burned off before it can be used in cement. According to Knowles of The SEFA Group, the reduction in carbon dioxide emissions gained from recycled pond ash versus traditional cement varies by the quality of the ash, but he estimates that a two-thirds ton reduction can be expected for every ton of recycled ash used.

He acknowledges that carbon dioxide is released when the carbon is removed from the coal ash, but he points to the overall reduction in emissions in the concrete industry when coal ash is used.

From Pond to Concrete

"The only large-scale commercial operation in the U.S. that is currently processing wet ash is the SEFA STAR process," the Electric Power Research Institute study states. The SEFA Group's plant in Georgetown, S.C., processes pond ash from the Santee Cooper Winayah Generating Station.

Recycling plants dry the ash to remove moisture, burn off any remaining

scale market. But other technologies are also being developed.

Dr. Kunigal Shivakumar is a professor at North Carolina A&T University, where his research focuses on developing new composite materials that are lightweight and high strength.

Following the Dan River spill, his research took on new urgency. He and his colleagues developed a technique of mixing coal ash with other substances to create a plastic-like composite with many potential uses, including roof tiles, barrier walls or railroad ties.

The composite he has developed could also be formed into large blocks that would safely encase the coal ash for long-term storage.

"Coal ash is not a problematic waste material, it is a resource if we handle

it properly," Shivakumar says. "But it requires an investment." His team is seeking funding to continue their research.

Local Support

For families impacted by the coal ash impoundment ponds, getting the ash cleaned up and ensuring access to clean water remain the highest priority.

Caroline Armijo, who grew up near the Belews Creek Power Station, and is fighting to get the coal ash in that community cleaned up, sees innovative recycling projects as a step in the right direction.

"We could easily be a leader in this, an international leader, in this issue. And I hope that we will be," she says.

For more information about coal ash recycling in North Carolina, visit tinyurl.com/ActAgainstCoalAsh ♦

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A Sweet Harvest

Maple syrup in Central and Southern Appalachia

By Dan Radmacher

When most people think of maple syrup production, they picture a bucket hanging off a tree in Vermont, New Hampshire or some other New England state. But modern tapping involves miles of plastic tubing, not buckets — and a surprising amount of it is taking place in Appalachia, far from the Northeastern region best known for maple syrup.

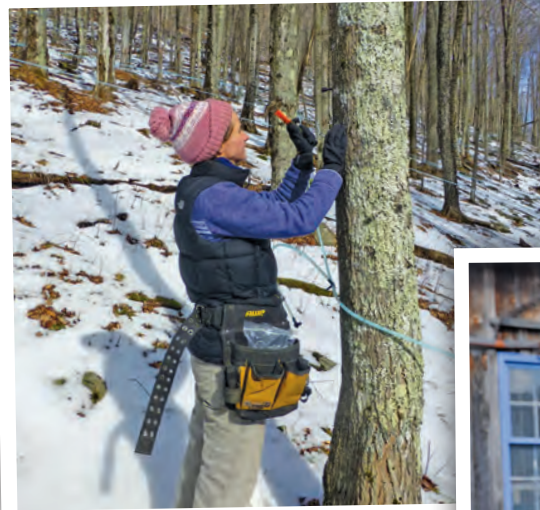
“The Appalachian Mountains are home to some large populations of sugar maples, especially in the higher elevations,” says Ryan Huish, assistant professor of biology at the University of Virginia’s College at Wise. “Historically, there was much more tapping in the region. You can still see names of roads, cities and geographic areas here that reflect the cultural significance of sugaring — Sugar Run Road, Sugar Grove, Sugar Hill, and so on.”

Miike Rechlin, a member of the board of the West Virginia Maple Syrup Producers Association, says mapling is seeing a resurgence in Appalachia. “The number of taps is expanding dramatically,” he says. “There are lots of people looking to get into the game.”

Dry Fork Maple Works in Randolph County, W.Va., which Rechlin helps operate, has 18,000 taps. “Traditionally, we hung buckets to collect sap,” he says. “The sap would flow out of a hole into a bucket, then you’d boil it down, adding nothing until the sugars are concentrated.”

Modern operations run a bit differently. “When you’ve got 18,000 taps, that’s a lot of buckets,” Rechlin says with a laugh. Today, plastic tubing runs from tree to tree to bring the sap down to a collection tank. While it’s possible to turn sap into maple sugar with nothing more than a pan and a heat source to boil it, Rechlin says commercial operations need to increase energy efficiency, so most use reverse osmosis filtering that concentrates the sugar in sap — about 2 percent when it comes out of a maple tree — up to about 12 to 15 percent before they start boiling it to create syrup.

“The reverse osmosis filtering removes water in advance to reduce energy consumption and save time,”



Bethany Boyer-Rechlin works on a maple syrup tap at the Dry Fork Maple Works in Randolph County, W.Va. Photo by Mike Rechlin



Ryan Huish, above right, enjoys the day with student researchers and a sugar maple in Bolar, Va. Mike Puffenbarger, at left, owns Southernmost Maple in Bolar, Va. Photos by David Bruce



Rechlin says. “The heat in the evaporation process also results in chemical conversions that result in that classic maple flavor and color.”

Those chemical conversions create a variety of compounds in the syrup — and researchers are studying them to determine whether they have any health benefits, Huish says. “Researchers are still finding new compounds in syrup, some of which show antimicrobial and anticancer properties,” he says. “Some may even be novel therapeutics to manage diabetes — compounds that help the body process sugars more slowly.”

Huish says sugar maples can be found from eastern Canada and down along the Appalachian Mountains as far south as North Carolina and Tennessee. “With more and more people recognizing the values of local roots and traditions — and the health benefits of maple syrup — there seems to be a resurgence of maple tapping beginning in the Appalachians, which is refreshing,” he says.

Neil Shinholt of S&S Maple Camp in Maryland isn’t part of any resurgence — he’s been making syrup for 58 years, since he was 10 years old. “My granpap had this farm in the ‘30s,” he says. “We raise beef and make syrup. These trees, I learn from them every year. When I was a boy, we only had a couple of trees tapped, all on buckets, and every day we had to gather sugar.”

Now the farm has about 9,000 trees tapped. Shinholt has seen a lot of seasons, and every one has been different. Weather is key. Sap flows best when temperatures are freezing during the nighttime and thawing during the day.

During the summer, sugar maples produce carbohydrates from the sun’s energy through a process known as photosynthesis. Those carbohydrates are stored as starch in the trees’ roots, creating an energy reserve dormant trees use to kick-start growth in the spring. When cycles of freezing and thawing occur in the early spring, it creates pressure within the tree that draws water and dissolved sugars up through the tree to the buds. That’s the sap that taps collect.

“If you put a tire gauge in a hole in a maple, it will actually read the air pressure,” says Rechlin. “The hole in the tree relieves that pressure and causes the sap to flow out. Sap flow 101: no freeze and thaw cycle, no tap flow.”

That puts a definite crimp in the business. “Last year, we had a different kind of winter,” Shinholt says. “It didn’t get cold until late in the year. Temperatures were getting so warm in the day, up to the 70s. That’s something you don’t want. The water was cloudy coming

into the tank. It had already ruined the flavor of the syrup, so we quit. Northern people were having ideal weather. They had a great year.”

A lot of different factors go into creating a good sap harvest, Shinholt says. The best he can remember in recent years was 2014. “The weather was perfect,” he says. “We just had to keep buying barrels. It’s the temperature fluctuation that makes the sugar flow. The ideal temperature is 25 at night and 45 during the day. You want wet, sloppy ground, too. Trees won’t produce if the soil’s dry.”

The Maple Climate

With the harvest so dependent on weather, it’s natural to wonder about the impact of climate change, which has resulted in record-breaking temperatures the last three years in a row. Shinholt has seen some changes during his lifetime. “I’m not going to say that I see temperatures warming,” he says. “But I do see that there are more of the prolonged cold and warm spells. And maples don’t operate in that kind of weather. A prolonged warm spell is really bad. Once the tree goes dormant, each warm day after that sap moves up from the roots to the bud pocket and it will eat some of that sugar. You want it to stay cold until the spring when things are starting to come back to life.”

The impact of climate change on the industry worries Rechlin, a native of upstate New York who’s lived in West Virginia for the last six years. “That is

Sweet Harvest

continued from previous page

the \$64,000 question,” he says. “I haven’t been down here long enough to answer that question, but I’ve been down here long enough to know we need to ask it. We need to have more serious research on some of those climatic issues here to be comfortable expanding the industry. The harvest was terrible last year because of the weather. We went 15 days without a freeze / thaw cycle in what should have been prime sugaring season.”

Huish says such concern is understandable, and climate change could definitely have impacts on the sap harvest. “Maple tapping is very dependent on the climate,” he says. “The sap won’t flow if conditions aren’t just right.” But he doesn’t believe the Appalachian industry is in mortal danger, at least for now.

“I see maple syrup production continuing in the Southern Appalachians for a long time — maybe even centuries,” Huish says. “However, there could be some threats to the southern [tree] populations that could jeopardize successful tapping in the very long-



Different grades of maple syrup are displayed in a window, above. Maple pork barbecue is popular at the Highland County Maple Festival in Monterey, Va. Photos by David Bruce

term. There are some climate projection models that suggest sugar maple may not prefer the climate so much in our neck of the woods in the future.”

Climate change could impact the quality of the syrup, as well. “When plants get stressed out, their defense mechanisms kick in, and their chemistry changes,” Huish says. “It is still unclear exactly how and to what level this is influencing the syrup, but we are

investigating this.”

Huish is part of the Acer Climate and Socio-Ecological Research Network, a team funded by the U.S. Geological Survey and Northeast Science Center, with scientists from the University of Massachusetts, Dartmouth College, University of Quebec and Montana State University. The ACERnet team is looking into potential strategies for sap harvesting and syrup production in a changing climate.

Meanwhile, the market for Appalachian syrup and other maple products is booming. “The market is a great, great

market,” says Shinholt. “The market is diversifying. People use maple syrup for a lot more than just pancakes. Some folks are even taking the water from the tree, pasteurizing and bottling it. People are drinking that. It’s supposed to be good for you, there are so many great things in this water for the human body.”

Highland County, Va., is holding its 59th annual maple festival in mid-March. “That festival draws thousands of people every year,” says Huish. The town of Pickens, W.Va., will also host an annual maple syrup festival in March.

Huish believes southern Appalachian maples may have higher concentrations of antioxidants and other phenolic compounds — and some people say it has more flavor. “Many people we’ve spoken to from both the north and the south have mentioned the southern syrup tastes better,” says the researcher. “Of course, that’s just anecdotal, and ongoing research will need to confirm this. We are still eagerly collecting and analyzing data.”

Last year, demand outpaced supply in Appalachia, Rechlin says. “Demand is good and growing as more people learn that we actually make it here,” he says. ♦

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Minimizing Air Leaks

We’ve recently completed work on the unique, energy-efficient house that we’ve described in the past few columns. The house takes full advantage of the sun, and our client has been staying warm and cozy, even during a sharp cold snap.

The house was also built on a concrete slab, so there is no air leakage through the floor and very little through the walls and ceiling because of the continuous layer of foam-board insulation encapsulating the home.

Once the house was finished, we conducted a blower-door test, which indicates the amount of air leakage in a house. The test uses a giant fan in an otherwise-sealed door to suck air out and depressurize the home to a set rate. A digital manometer tracks how many cubic feet of air are removed per minute.

North Carolina’s Residential Energy Conservation Code requires that homes meet one of two standards for air leakage. Both standards use the blower-

door test. One metric calculates the rate of cubic feet of air removed per minute divided by the total square footage of a home. To meet code, that metric needs to be 30 percent or less. This home tested at 7 percent.

The other standard calculates how many times the entire volume of air in the house is replaced in an hour. North Carolina code requires that number to be 5 or less — this home reached a standard of 1.1.

This means very little conditioned air is being lost. The lower these numbers, the tighter the house, the more comfortable you are and the lower your energy bill.

During the blower-door test on this home, we also found a spot that had not been properly sealed. Now that we’ve fixed that issue, the air-leakage numbers will get even better.

It’s good practice to do a blower-door test on any new home because it helps the builder find air leaks that they might not otherwise have found.

ABOUT SUNNY DAY HOMES: Sunny Day homes is a small, family-owned general contracting firm that has been incorporated since 1997. They built the first certified green home in North Carolina’s High Country in 2008 and have been advocating for non-toxic, environmentally responsible and energy-efficient building ever since. Call/text (828) 964-3419 or visit sunnydayhomesinc.com

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The Energy Burden

Inefficient housing and financial difficulties can lead to insurmountable energy bills for rural residents

By Lou Murrey

Gerlene and Ronald Wilmoth of Tazewell, Tenn., had always paid their electric bill on time.

That is, until August of 2015 when Ronald suffered a stroke at the age of 55 that left him unable to use much of the right side of his body and unable to return to his job as a truck driver. Gerlene had to quit her job cleaning homes to take care of her husband. With both of them unable to work, the couple's monthly income was reduced to just \$400 a month to cover all of their expenses.

Their home is drafty and in desperate need of repairs to the roof and foundation, which has led to high electric bills and uncomfortable living conditions. It turns out that \$400 a month doesn't stretch far for residents trying to pay for everyday living expenses on top of medical bills and high utility bills.

Residents in East Tennessee, like in many places across Appalachia, spend a significant portion of their income on energy bills. When federal funding for utility payment assistance and weatherization can't

meet the need, it falls on a small number of local service agencies and churches to fill the gap. Many of these service agencies and churches already struggle to help everyone in their communities who needs it, but with threats to federal funding, they may face an even greater demand. Relief could take the form of energy efficiency programs through the Tennessee Valley Authority and local power companies.

Available Resources

For the first few months following Ronald's stroke, he and Gerlene received aid from the few service agencies who provide utility bill payment assistance around Claiborne County. First Baptist Church of New Tazewell was able to pay one month. Manna House, a Christian charity that offers one-time bill relief, was able to pay \$25 the next, and the Claiborne County Office on Aging was then able to pay for three months' worth of bills. The Wilmoths also received the maximum available \$450 from the federal Low Income Home Energy Assistance Program known as LIHEAP, but that only covered two months' worth of electric bills.

Then came July of 2016, when temperatures in Claiborne County consistently hovered in the low nineties. The heat was relentless, and it got especially bad for Gerlene and Ronald when the heat pump responsible for their air conditioning broke down and temperatures in their home reached 95 degrees, sending Ronald to the hospital for heat exhaustion.

As if the stress of Ronald's hospitalization wasn't enough, right as they reached the last little bit of their LIHEAP money, July's electric bill arrived. Gerlene felt like she'd been socked in the gut. It was the highest one yet, at \$225, and not knowing where she was going to turn for help, she started to feel a little panicky. She began making phone calls to just

about everyone who had helped her before in the hope that they might be able to help again. This time she had no luck.

"I was totally freaking out," says Gerlene. "I called so many people, and they wouldn't have the resources to be able to help, so they would refer me to someone else, and they wouldn't have the resources either."

Having seemingly exhausted all of her resources, it felt like there was nowhere to turn for Gerlene. She remembers the terrifying feeling of helplessness.

"I was almost in disbelief," she says, recalling her reaction at the time. "Like, how are we gonna pay it? They are gonna cut it off. With him being sick in July is when he had the heat exhaustion, and with that and the power bill being so high, how can we pay this? They are going to turn our power off, and we are going to smother in here."

High Bills, High Need

Of course, churches and service agencies intend to help as many people as possible. But, according to Terry Ramsey at the Claiborne County East Tennessee Human Resource Agency office, they are struggling to keep up with the demand. ETHRA is a regional agency that serves 12 counties, and Ramsey says, "we try to help as many people we can. We go above and beyond."

The U.S. Department of Energy defines energy burden as the "ratio of energy expenditures to household income." According to a 2016 study by the American Council for an Energy Efficient Economy's study "Lifting the High Energy Burden in America's Largest Cities: How Energy Efficient



When Ronald Wilmoth, above, had his heat exhaustion episode, his cat wouldn't leave his side until the ambulance arrived. Left, Gerlene Wilmoth surveys the damage to the foundation of their home in Tazewell, Tenn. Photos by Lou Murrey

Can Improve Low Income and Underserved Communities," the energy burden for low-income households is nearly three times higher than that of higher income households.

According to economist Roger Colton, an affordable energy burden for any household in the United States should not exceed 6 percent of a household's gross income. Colton concluded in his 2015 study of the Home Energy Affordability Gap that low-income families were paying far more than that, depending on where they were in the country.

In East Tennessee, households earning 50 percent below the federal poverty line spend around 30 percent of their income on utilities, according to data from Colton's firm. Gerlene and Ronald's energy burden was around 50 percent of their household income.

The ACEEE study found that high energy burdens are primarily caused by inefficiencies in the home such as lack of insulation, leaky roofs, inefficient appliances and improper air sealing. But this is exacerbated by a person's economic situation, high fixed utility rates and insufficient or inaccessible weatherization and bill assistance programs.

Lack of home weatherization is definitely a major factor in causing

the Wilmoths' high energy burden. "Where we don't have the insulation and weatherization it's too hot in the summer months and too cold in the winter months," Gerlene says.

"My feet stay cold more than anything where the air comes up through the floor," she says, reasoning that there can't be much insulation under the house. In their bedroom there is a grapefruit-sized hole in the floor. She knows there are multiple roof leaks around their home because when it rains, water runs down the walls. Pointing to the kitchen, Gerlene continues, "when it rains, water blows in from the vent above the stove, and water comes in behind the stove."

The Wilmoths have replaced all the their incandescent lightbulbs with more efficient compact fluorescents, but the major air leaks in the couple's home resulting from improper sealing around doors and windows, a leaky roof and poor insulation are likely the greatest contributors to their high electric bill.

Where the Wilmoths live, the federal Weatherization Assistance Program is provided by ETHRA. Gerlene and Ronald are on the waiting list for ETHRA's Weatherization Assistance Program, but the waiting list for Claiborne County alone is around 280 homes. As of November

2016, 2,709 families were on the waiting list for all 12 counties that ETHRA serves.

Steve Bandy, operations director of housing and energy services at ETHRA, reports that despite the long waiting list, the agency only has funding to complete 41 homes in the 2016-2017 budget year. At that rate it would take approximately 66 years to weatherize all the homes — if no new homes were added to the list.

Finding Relief

Part of the reason for the low number of homes being weatherized in East Tennessee is not enough funding.

"More funding would be great, if it was available, you'd be able to help more families," says Lisa Condrey, ETHRA's finance director of housing and energy services. "Because 41 families this year is not a whole lot. We serve 12 counties, so in some counties we are only able to serve two or three families."

The funding ship may have sailed, though. Since 1976, funding for the Weatherization Assistance Program has been provided by the U.S. Department of Energy and has helped over 7 million families in the United States reduce their energy burden through energy efficiency upgrades to their home. On Jan. 19, the political news website The

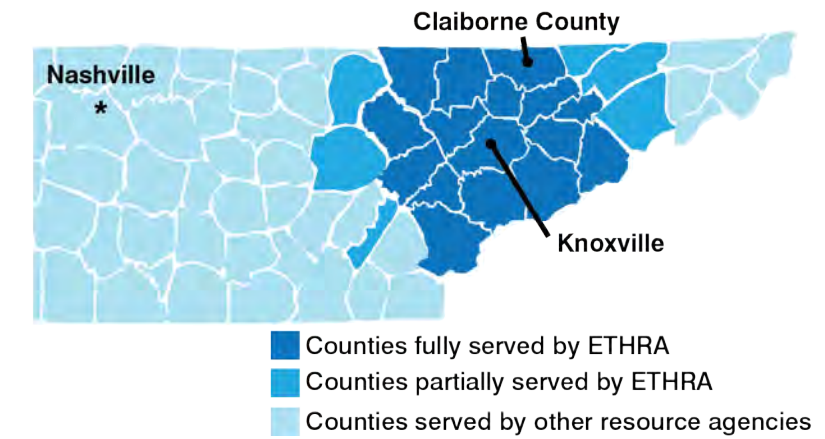
Hill reported that a blueprint of the Trump Administration's proposed 2017-2018 budget included massive cuts to a number of government agencies, including the U.S. Department of Energy. With the new administration threatening to gut the Department of Energy, the future of the Weatherization Assistance Program is uncertain.

Weatherization improvements such as sealing leaky air ducts, adding insulation and replacing inefficient heating and cooling systems can provide a long-term fix for a high energy burden since they take care of the home inefficiencies that cause high utility bills in the first place.

For people like Gerlene who need help immediately, there is LIHEAP. Funding for LIHEAP comes from the U.S. Department of Health and Human Services, and in Tennessee it is administered by the Tennessee Housing Development Agency through human resource agencies like ETHRA.

LIHEAP is the nation's largest source of federal funding for utility bill assistance, and it is available to low-income households once in a 12-month period. Kathy Hicks, LIHEAP coordinator for ETHRA, says they receive around 5,500

East Tennessee Human Resource Agency Service Territory

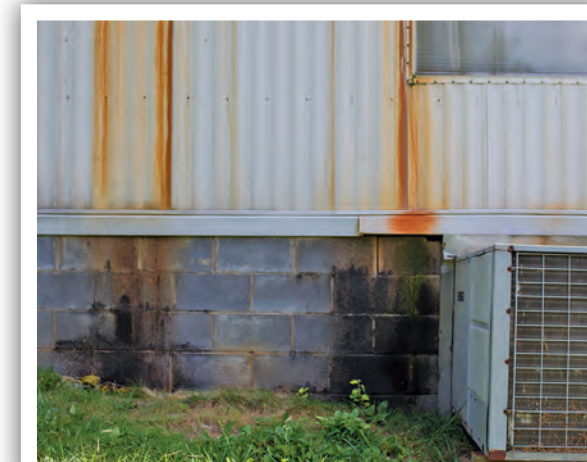


applications each year from residents in the 12 counties they serve and are able to provide assistance to all of those clients.

The nonpartisan Congressional Research Service found that only about 22 percent of people eligible for LIHEAP nationwide apply. Local nonprofit organizations, churches and service agencies are left to fill in the gap, meeting the demand the best they can with the limited resources they have.

In rural areas like Claiborne County, there are only so many places to turn for energy bill payment assistance. In addition, areas served by rural electric cooperatives generally have higher energy burdens due in part to aging homes, higher electricity rates and lower average incomes, according to Rory McIlmoil, energy savings program manager at Appalachian Voices, the publisher of this newspaper.

This means a smaller number of agencies have a large gap to fill. Last year, First Baptist Church in New Tazewell, Tenn., received around 200 calls from people asking for bill assistance.



Rust stains indicate water damage on the side of the Wilmoths' home. Photo by Lou Murrey

"We used to provide assistance once every six months but [the demand] was too much. It got to a point that people called every six months, and the church and the team had to come to a decision that we could only do every 12 months, and we only serve people living in Tazewell and New Tazewell," explains Beverly, the administrative assistant at First Baptist Church, who asked that her last name not be used.

The demand for utility assistance wasn't always so high. She explains that the church saw an uptick in demand a couple years ago when the local electric cooperative, Powell Valley Electric, ended their WeCare program, a donation-funded program that paid \$50 toward the bill of members in need during the winter months. According to Powell Valley Electric, they ended the program when not enough people were donating to the fund.

Where do people like Gerlene go when they've exhausted all the resources available to them? Denise West, director of the Claiborne County Office on Aging, says if someone has already been to First Baptist Church and Manna House, then she sends them back to ETHRA to apply for LIHEAP again. She can also help provide assistance to people over the age of 60 through a client-needs grant from the United Way.

"If we have the resource we'll help them, but what we can't do is pay people's bill month after month after month. You can't keep doing that, there has to be some kind

continued on next page



The Wilmoths sealed a door shut to keep air from escaping. Photo by Lou Murrey

Growing Season

continued from page 7

planning for the spring. In February, it will distribute onion sets and pea seeds to more than 50 family gardeners. Many of these gardeners choose to only have a summer garden, but in the last few years Jacob Mack-Boll and Ashton Huxtable of Hindman have seen more and more gardeners continue to grow well into the winter.

“Some participants have been growing their whole lives,” says Mack-Boll. “They might need help tilling, while others have never grown anything before. So it’s a fun connection to have, bridging the gap between a generation ago and today for the folks we work with and the Hindman Settlement School’s history.”

During February, Mack-Boll and Huxtable will work with their area extension office to help gardeners prepare for the season. They will provide soil testing, advice on soil amendments, and will encourage gardeners to keep good long-term records. “We will talk about cover crops and crop rotation to put nu-

trients back in the soil,” says Mack-Boll.

Their hope is that this work, as well as their promotion of season extension strategies, will lead to a more vibrant and longer-lasting local farmers’ market. “One struggle is that our farmers’ market is just two months long, July and August,” says Mack-Boll. “With more late and early-season crops, we hope that it can run a little longer.”

Expanding the growing season gives farmers, customers and backyard gardeners alike the opportunity to enjoy local food beyond the traditional summer months. That leads to a greater abundance of healthy, fresh options, and the feeling of self-sufficiency that comes from a flourishing winter harvest. ♦

Dave Walker is the program manager for Blue Ridge Women in Agriculture’s CRAFT (Collaborative Regional Alliance for Farmer Training) program in northwestern North Carolina. He also is working with community stakeholders to establish a seed library and a local food policy council.

The Energy Burden

continued from previous page

of change made somewhere,” West says. She worked first-hand with Gerlene to see if they could make that change and find her the help she needed. “When you see people in that shape, first of all you’re angry because it takes so long to get help, and secondly you’re more willing to help them because you know they’ve done everything they can to help themselves,” West says.

Home Improvements

Advocates in the region agree that there does have to be a change made somewhere. While these programs provide emergency assistance, they don’t address the fact that too many people are living in inefficient homes without the money, ability or programs to fix them.

There are programs in Tennessee aside from the Weatherization Assistance Program that can provide energy efficiency upgrades, but the majority of those are in cities. The Tennessee Valley Authority, which is the federally owned energy generator for most of Tennessee and parts of six other states, funded Extreme Energy Makeover programs in Knoxville, Cleveland and Oak Ridge through a 2011 Clean Air Act violation settlement. Though the funding for these programs will end in September 2017, the Knoxville Extreme Energy Makeover program will have been able to weatherize 1,200 homes.

In an August 2016 meeting between TVA staff and low-income stakeholders in Claiborne County, Gerlene and the other community members in attendance wondered why TVA couldn’t replicate the program in the more rural areas of its territory. TVA staff member Michael Scalf told community members at the meeting that while TVA “would love to see the Extreme Energy Makeover valley-wide,” there are already state programs, churches, and nonprofits already doing energy efficiency upgrades and TVA is more interested in how these entities can work better together to provide much needed services.

Increasingly, inclusive on-bill financing for energy efficiency upgrades is being adopted by rural electric cooperatives across the Southeast. An example of an inclusive model for on-bill financing is Pay As You Save, which is tied to the electric meter and would allow people

living in rental and multi-family homes to receive energy efficiency upgrades and pay for them through low-interest monthly payments on their electric bill. The energy upgrades not only benefit people by reducing their energy burden and making their home more comfortable, they also lower costs for the utility.

Roanoke Electric Cooperative in Eastern North Carolina launched an on-bill finance program called Upgrade to \$ave in early 2015. According to Roanoke, the first 175 participants received an average of more than \$6,000 per home in efficiency improvements, including weatherization and new heating and cooling systems. Those homes are saving nearly \$500 a year on their electric bills, even after accounting for repaying the utility for the initial investment. Unfortunately, Roanoke’s program is the only one available in the Southeast, outside of Kentucky.

Before the Wilmoths’ electricity could be cut off, they received Ronald’s first disability payment and were able to pay July’s \$225 electric bill. Since he started getting disability the couple has not sought help for their electric bills, but they have not had any weatherization done on their home either. Their electric bill has not gone down — in December their bill was \$263.

That is money Gerlene has better uses for. “I need tires for my car and can’t get ‘em because the utilities are too high,” she contends. The Wilmoths still find themselves having to decide between being comfortable in their home and having enough money for food and medical bills. “We usually try to keep the heat at 65 in the winter, but where he’s on the blood thinner he freezes to death so we have to turn it up,” she explains, referring to her husband.

While she is glad Ronald got his disability money, she is frustrated that their food assistance got reduced to just \$15 a month as a result. In January, rains flooded the Wilmoths’ bathroom and bedroom, and they learned that Ronald will be needing heart surgery. Gerlene sighs, “You just can’t get ahead.” ♦

Lou Murrey serves as the OSMRE/VIS-TA Tennessee Outreach Associate with Appalachian Voices. Learn more about Appalachian Voices’ energy efficiency work at appvoices.org/energysavings

Inside Looking Out Using Art to Combat Environmental Destruction

By Andrew Tarley

Monongalia Arts Center, the historic home for arts and culture in Morgantown, W.Va., is collaborating with local artist Betsy Jaeger to show the visible changes in the rural countryside caused by the fossil fuel industry in an exhibition titled “Inside Looking Out.”

The arts center provides a forum for activism through the arts. This time, the issue is one that affects residents throughout the county: fracking and strip mining.

Jaeger lives in rural Monongalia County, just west of Morgantown and outside of the commotion of the small city. She moved to Morgantown from Chicago in 1976 to earn a Master of the Arts from West Virginia University. While at WVU, she met her husband, a sculptor, and the two married and moved to a serene 12-

acre plot of land in the countryside.

“Many of our neighbors, then, earned their living by raising cattle to send to the big feedlots. Our little community was beautiful, and we really enjoyed the quiet and night-time darkness to see the stars and planets,” Jaeger writes. “But inevitably, all things change, and our rural idyll was no exception.”

With the advent of modern mining equipment in the mid-2000s, surface coal mining in Monongalia County quickly grew in scale, and Jaeger perceived a seismic shift in her community. She refused to sell her rural home and mineral rights to a coal company, even though some of her neighbors had begun, one by one, to agree to sell their mineral rights. According to Jaeger, some also sold their entire properties.

“We watched what had been a charming farm community become an industrial wasteland in just two years,” she says. “There was not enough bond money to pay for adequate reclamation.”

In 2012, strip mining began directly in front of her home, adjacent to her property line. Jaeger tracked more than 200 blasts, which rattled the foundation of her home, and she monitored the water quality in her local stream, finding high levels of heavy metals near mining outfalls.

Fracking companies and their trucks also arrived to build drilling stations. “They caused much less damage to the physical landscape than the strip mines, but the air and water quality continued to degrade,”



Inside Looking Out: Northeast Windows (Betsy Jaeger)

Jaeger says. Wastewater from the fracking sites caused a massive fish-kill on a creek north of her home.

Jaeger created “Inside Looking Out” to share the drastic changes that occurred. This exhibition recreates the views outside of her 12 windows, past and present, using mixed-media elements such as sculpture, photographs and paintings. She says she hopes that this exhibition will spark local discussion and energize the community.

“People in Morgantown need to be aware of what is happening to their air and water and landscape,” Jaeger says.

“We need to be aware of what is going on outside of the city because it affects us all.”

The exhibition is free and will open with a public reception on Friday, March 3, 2017, at 6 p.m. Refreshments and snacks will be available. “Inside Looking Out” will be on display until April 1. Monongalia Arts Center is located at 107 High Street, Morgantown, W.Va. Inquiries should be directed to info@monartscenter.com or 304-292-3325. ♦

Andrew Tarley is the Media and Advertising Coordinator at Monongalia Arts Center and a former Appalachian Voices intern.

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Inside Looking Out: Southeast Windows (Betsy Jaeger)

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Appalachian Festivals Gatherings and events to enliven 2017

By Kevin Ridder

Within the storied hills of Appalachia is a wealth of cultural and ecological diversity. Take the time to look and you'll quickly find celebrations of every shape and color.

There are festivals steeped in decades of history, festivals that arose from environmental movements, festivals centered around music, art and storytelling, and festivals that are more than a little bit quirky. Some are

simply an appreciation of natural beauty.

But they all have one thing in common: you, the people of Appalachia. While this is by no means an exhaustive list of every happening around the mountains, it showcases some of the homegrown celebrations that tell the story of people who are proud to call the mountains home.

For a listing of Appalachian environmental and cultural events updated throughout the year, visit appvoices.org/calendar.

Fasnacht

Feb. 25. 10 a.m. - 1 a.m.

Helvetia, W.Va.

Founded in 1869 by Swiss craftsmen, the town of Helvetia, W.Va., holds a strong connection to its cultural roots. On the Saturday before Ash Wednesday, hundreds of visitors join the village's 59 residents to celebrate Fasnacht, "the night before the fast."

The General Store and Helvetia Mask Museum open at 10 a.m., and festivities begin Saturday afternoon with a Swiss feast, drinks and open mic in the Star Band Hall, known locally as the Red Hall. After nightfall, a lamp-lit parade featuring larger-than-life and often frightening masks travels to the Community Hall, where the costumes are judged and traditional flower-shaped fried doughnuts are served. A masked ball whips up a frenzy under the piercing gaze of an effigy of Old Man Winter. At midnight, the massive effigy is cut down, carried to the bonfire outside and set alight to signify the end of winter.

Free. Bring a sleeping bag and stay at the Red Hall for \$5. Visit helvetiawv.com for details on this and other Helvetian festivals.

EarthFest

April 15. Knoxville, Tenn.

Knoxville's EarthFest brings a host of food, fun and entertainment for the whole

family. This year's zero-waste festival will be in the Knoxville Botanical Gardens, which offers an incredible view of the Smoky Mountains as the backdrop to music, environmental exhibits and a scavenger hunt through the bamboo maze and gardens, to name a few.

Free. Visit knox-earthfest.org.

Earth Day: Music, Arts and Activism

April 22, 11 a.m. - 11 p.m. Pipestem, W.Va.

Celebrate Earth Day at the Appalachian South Folklife Center. This event features panel discussions, educational activities, demonstrations and live music. Their website states, "activities in years past have included a butterfly pavilion, giant telescopes and astronomy demos, puppet and dance performances, recycled art fashion shows and more."

Free. Visit folklifecenter.org.

Shakori Hills Grass-Roots Festival of Music & Dance

May 4-7. Near Pittsboro, N.C.

Shakori Hills Community Arts Center hosts its 15th annual festival on 72-acres of farmland just outside of Pittsboro, N.C. In addition to over 50 bands on four stages, children and families can visit the expansive kids village with hands-on art projects, a climbing wall and even a parade. Attendees can also learn to dance, play an instrument and make their homes more sustainable through various classes and workshops. Don't forget to stop by the Appalachian Voices table!

For tickets and camping information, visit shakorihillsgrassroots.org.

LEAF Festival

May 11-14, Oct. TBD. Black Mountain, N.C.

Now in its 44th year, the LEAF Festival brings thousands of people each spring and fall to the shores of scenic Lake Eden. The festival will feature over 400 performing artists, six stages featuring musicians and slam poets, eight family adventure villages and 100-plus vendors on its 200 acre expanse.

For tickets, lodging and camping info and more, visit theleaf.org.

Appalachian Festival

May 12-14. Cincinnati, Ohio

Entering its 48th year, the Appalachian Community Development Association will celebrate Mother's Day Weekend with food, dance, crafts, storytelling, music and what their website describes as "educational Living History that embraces the Appalachian Heritage." The first day also features an "Education Day" at Coney Island. Festival proceeds fund grants supporting organizations involved in Appalachian life.

Fri.: \$5, Sat. and Sun.: \$10. For information, visit appalachianfestival.org.

Appalachian Trail Days Festival

May 19-21. Damascus, Va.

For the 31st year, the town of Damascus, Va., will celebrate Appalachian Trail thru-hikers with a weekend festival. Past festivities



Appalachian Trail hikers parade through Damascus, Va., during Trail Days at left. Photo by Todd Bush. At top, cyclists ride during the Rally in the Valley. Photo by Ellis Hughes. Participants learn crafts during Whippoorwill Festival. Photo courtesy Jameson Pfiel

have included a Hiker Parade through the town, free gear repair, auctions, outdoor movies, music, vendors and more. Stop by the Appalachian Voices table!

\$5 campground fee, \$20 parking fee. Visit traildays.us.

Matewan Massacre Reenactment

May 20. Matewan, W.Va.

On May 19, 1920, a shootout between miners attempting to unionize and the enforcers sent to fire and evict the pro-union miners erupted in the town of Matewan, W.Va. The massacre and the event that followed led to an uprising of some 10,000 coal miners at the Battle of Blair Mountain and their eventual unionization. Today, Matewan celebrates their history each year with reenactments, street vendors, plays and scavenger hunts.

Free. Visit historicmatewan.com.

Rally in the Valley

May 27. Oconee Valley, S.C.

Now in its sixth year, Rally in the Valley brings well over 100 cyclists and conservationists each year to the beautiful Blue Ridge Mountains. A 60-mile bike ride kicks off the day at 8 a.m., followed by a 30-mile ride at 9 a.m. At 11:30 a.m., bikers and non-bikers alike can enjoy locally slow-cooked barbecue, craft beer and music on the shores of Lake Jemiki. All proceeds will go toward conservation efforts in Oconee Valley.

\$35 for cyclists, \$25 for non-cyclists. Visit oconee4ever.org/rallyvalley.

Whippoorwill Festival

Summer, dates TBD. Beattyville, Ky.

Founded in 2011 with roots in the anti-mountaintop removal movement, the Whippoorwill Festival's self-stated goal is "to promote sustainable living in Appalachia by sharing earth-friendly living skills with one another

in a joyful, healthy, family-friendly atmosphere."

The festival emphasizes connecting more young people with nature. Whippoorwill has several kid-friendly workshops, but also encourages unstructured play and activities.

Tucked away in Lago Linda Hideaway, past festivals have held four days of guest speakers, tent camping, a community campfire, folk music, dancing and over 75 educational workshops about topics such as foraging and organic beekeeping.

For tickets and more, visit whippoorwillfest.com.

Seedtime on the Cumberland

Summer, TBD. Whitesburg, Ky.

Appalshop, a multi-media cultural arts organization serving southeast Kentucky communities for over 40 years, hosts this annual festival in Whitesburg, Ky. Seedtime's self-stated goal is to be "a mirror for the mountain people and communities," with a festival full of music, arts, crafts, dance, writing, filmmaking and more.

Visit seedtimefestival.org for schedule, ticket prices and more.

Mountains of Music Homecoming

June 9-17. Across Southwest Virginia

Pack your bags for a 330-mile musical road trip along The Crooked Road. Twisting and turning throughout Southwest Virginia, attendees will see musical performances at nine historic venues and have the opportunity to explore what the festival's website describes as "a thriving network of over 60 traditional music jams, festivals, and concerts in gracious communities all along the way."

For tickets and more, visit mtnsfmusic.com.

Bluff Mountain Festival

June 10, 10 a.m. - 6 p.m. Hot Springs, N.C.

This grassroots conservation festival started in 1996 as a humble gathering of musicians, artists, hunters, environmentalists and community members from around Hot Springs, N.C., who raised funds and awareness to successfully stop a destructive logging and road-building operation on Bluff Mountain. The festival continues as a fundraiser for the Madison County Arts Council and other local non-profits.

Free. Visit madisoncountyarts.com/bluff-mountain-festival

Rhododendron Festival

June 17-18, 10 a.m. - 5 p.m.. Roan Mountain, Tenn.

The Roan Mountain Citizens Club first held this festival in 1947 to celebrate the world's largest natural rhododendron gardens. The festival is held at the foot of Roan Mountain, with traditional music, handmade craft and food vendors, auctions and hikes up to the 6,000 foot peak to contemplate the scenic vista.

Parking by donation. Visit roanmountain.com.

Supermoon Music & Arts Festival

July 6-9. Pine Mountain, Ky.

Supermoon brings a potpourri of music, fun and Swarp to Wiley's Last Resort on top of Pine Mountain, one of the state's highest peaks right outside of Whitesburg, Ky. What's Swarp, you ask? There's only one place to find out.

For tickets, visit facebook.com/supermoonfest.

FloydFest

July 26-30. Near Floyd, Va.

FloydFest is a 5-day annual music and arts festival near Floyd, Va., that highlights musical performances from stellar artists of all genres. The festival also features family-oriented camping, outdoor activities and workshops. FloydFest's environmental ethic ensures that 74 percent of waste stays out of the landfill, and Appalachian Voices has been the featured nonprofit for the past two years!

For tickets and more, visit floydfest.com.

Fall Folk Arts Festival

Sept. 23-24, Sat: 10 a.m. - 5 p.m., Sun: 12 p.m. - 5 p.m. Kingsport, Tenn.

The aroma of Brunswick Stew and apple butter kettles greeting you as you walk onto The Farm at Exchange Place is the perfect way to get into the autumn spirit. Heritage craftspeople dot the 62-acre expanse demonstrating 1850's crafts such as vegetable dyeing, blacksmithing, chair-making, weaving, toymaking and more.

\$3. Visit exchangeplace.info for details on this and other festivals at Exchange Place.

Cave Run Storytelling Festival

Sept. 29-30. Near Morehead, Ky.

Although Carolyn Franzini was first inspired to hold a storytelling festival in her hometown after attending the National Storytelling Festival. The Twin Knobs Recreation Area in the Daniel Boone National Forest provides a striking backdrop for the wide variety of stories shared at this festival.

For tickets and more, visit caverunstoryfest.org.

National Storytelling Festival

Oct. 6-8. Jonesborough, Tenn.

Every fall for 43 years, storytellers have flocked to circus tents in Jonesborough, Tenn., to breathe life into folktales old and new. In addition to the main performances, attendees can experience the Ghost Story Concerts, Wine and Beer Garden, the Swappin' Ground and the (adults only) Midnight Caberet.

For tickets, visit storytellingcenter.net/festival.

American Conservation Film Festival

Oct. 13-15 & 20-22. Shepherdstown, W.Va.

Now in its 15th year, this film festival describes itself as "promoting outstanding films



and the arts to educate and inspire people to become engaged in conservation." Independent, historic, publicly funded and Appalachian films are showcased. Submissions are open through April 1.

For tickets and more, visit conservationfilm.org.

Woodbooger Festival

Oct., TBD. Flag Rock Recreation Area, Norton, Va.

The Woodbooger, Bigfoot's Appalachian cousin, is said to wander the hills of Norton, Va. To preserve the enigmatic ape, Norton was declared a sanctuary for the Woodbooger in October 2014 with a festival centered around conservation of the area and possibly catching a glimpse of the noble beast.

Annual search events have been held ever since, attracting hundreds of people. Past festivals have also included guided mountain bike rides, food vendors, salamander hikes, and kayak and canoe rides.

\$3 park admission. Visit woodboogerfest.com.

HemlockFest

Nov. 3-5. Dahlenega, Ga.

In 1951, the Hemlock woolly adelgid was

musicians jam during HemlockFest. Photo by Dave Elmore. A statue of the Woodbooger in Norton, Va., above. Photo by Molly Moore

accidentally brought to Virginia. The adelgid, an aphid-like insect native to Asia, quickly infested hemlock forests in the Southeast, causing a massive decline in the tree species.

In 2005, HemlockFest began as a music festival to raise funds for hemlock preservation efforts. Now in its 13th year, the festival has helped several Georgia labs in their efforts to breed and raise predatory beetles to combat the woolly adelgid as an alternative to chemical controls.

At HemlockFest you can listen to live music, experience primitive camping, engage in knife throwing and archery, canoe on Lake Merlin, attend interactive exhibits, presentations and kid-friendly activities, talk to experts in the field of hemlock preservation and much more. HemlockFest is run by the Lumpkin Coalition, a nonprofit organization that supports environmental quality and responsible growth in North Georgia.

For tickets and more, visit hemlockfest.org

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Appalachia's Political Landscape

State Politics Across the Region By Elizabeth E. Payne and Molly Moore

While national political headlines might dominate newsstands and newsfeeds, there is also plenty of action happening in state legislatures across the region. Here's an overview of some of the energy and environmental topics at hand.

Georgia

Session is expected to run from Jan. 9 through late March or early April.

According to the Georgia Conservancy, an environmental organization, key issues in the 2017 state legislature will include efforts to establish more transparency and environmental protections for any future petroleum pipelines, as well as legislation to protect freshwater sources by enhancing buffer zones.

Conservationists also hope to see passage of the Georgia Outdoor Stewardship Act, which would establish a permanent source of funding for environmental efforts such as establishing buffer zones around military bases and protecting the gopher tortoise, the state's official reptile.

Kentucky

Session runs from Jan. 3 to March 30
Kentucky Gov.

Matt Bevin began the year by announcing state budget cuts. According to the Courier-Journal, the Energy and Environment Cabinet's budget will fall 9.7 percent from 2016 to 2018, and that's on top of a 16-percent cut from 2012 to 2016.

Meanwhile, Bluegrass State legislators have introduced a suite of anti-environmental bills. Among them, H.B. 37 would exempt unmined coal reserves from state and local property taxation — these taxes support the Kentucky Heritage Land and Conservation Fund.

Other bills would make it more difficult for citizens to challenge environmentally harmful land uses, remove the requirement that any nuclear power facilities have a permanent waste disposal plan and make it more difficult for sewer districts to fund green infrastructure. H.B. 165 would restore a coal incentive tax credit that sunsetted for most facilities in 2009.

But there are also several bills that could benefit the state's natural resources. H.B. 35 would establish public benefit corporations, where the business is accountable not just to shareholders but also to fulfilling a public-interest mission. And H.B. 61 would enhance the share of coal and mineral severance taxes that go to local governments.

The Kentucky Student Environmental Coalition is advocating for passage of the Energy Opportunity Act, which would lead

to increased renewable energy and energy efficiency in the commonwealth.

Maryland

Session runs from Jan. 11 to April 10

Maryland's Republican governor, Larry Hogan, has outlined a 2017 budget that offers \$65 million in environmental investments including workforce training for green jobs, incentives for electric vehicles and efforts to improve water quality in the Chesapeake Bay.

Yet in 2016 the governor vetoed the Clean Energy Jobs Act, a bill that supporters say would have created jobs by requiring that Maryland derive 25 percent of the state's energy from renewable sources by 2020, instead of the current target of 20 percent by 2022. The Maryland League of Conservation Voters intends to push for a legislative override of the veto in the 2017 session.

North Carolina

Session runs from Jan. 25 through July

At the beginning of 2017, North Carolina welcomed Roy Cooper, the state's new Democratic governor, and welcomed back its Republican-controlled legislature.

The 2017 legislative session picked up where the December 2016 special session called by then-Governor Pat McCrory left off. In December, legislators limited the power of local election boards and limited the power of the incoming governor. Many of these initiatives are being challenged in court.

Cooper chose Michael Regan to head the state's Department of Environmental Quality. Regan served at the U.S. Environmental Protection Agency under both the Clinton and G.W. Bush administrations and recently worked with a nonprofit environmental advocacy organization.

Due to the restrictions on gubernatorial powers imposed by the special session, Regan's appointment must now be confirmed by the state Senate.

If passed, two bills filed in the House could help smooth the way for the Atlantic Coast Pipeline. H.B. 3 would add a section to the state's constitution expanding the situations in which government can apply eminent domain to take private property for public use.

H.B. 10 uses this revised definition to

extend eminent domain to infrastructure projects including "facilities related to the distribution of natural gas, and pipelines or mains for the transportation of petroleum products, coal, natural gas, limestone or minerals."

Ohio

Session runs from Jan. 3 to late June or July as needed

In December 2016, Gov. John Kasich, a Republican, vetoed a bill passed by the state's Republican legislature that would have frozen the state's renewable energy standards. Gov. Kasich had signed off on the freeze in 2014.

The state's dominant utilities, American Electric Power and FirstEnergy, are also pushing the legislature to change to the way Ohio regulates utilities, in part to help keep AEP's fleet of older coal-fired power plants profitable.

Pennsylvania

Session runs from Jan. 3 to June 30

Pennsylvania's Democratic governor, Tom Wolf, is advocating for a severance tax on natural gas. It's the third year he's tried to institute such a tax — earlier efforts were defeated by the legislature's Republican majority.

Several legislators introduced memos supporting use of the potential new tax revenue for various projects, including pension obligations and low-income utility bill assistance. The state faces a \$3 billion budget shortfall, according to the Associated Press.

South Carolina

Session runs from Jan. 10 through June 1

State Sen. Campsen introduced a bill to reauthorize and fund the South Carolina Conservation Bank, a land protection institution that also facilitates public access to these areas. Another of Campsen's proposals aims to restore certain wetlands.

In the House, Rep. Neal proposed an Environmental Bill of Rights asserting South Carolinians' rights to clean air and water and allowing local governments to enact environmental protections that are stronger than state standards.

Another House bill, from Rep. Atwater, would allow all regulations to expire after five years unless they meet specific provisions, while a bill from Rep. Pitts would create an industrial hemp agriculture program.

Tennessee

Session runs from Jan. 10 through mid-April

One bill headed for the Senate would amend the tax code for oil and natural gas severance payments in order to provide more resources to impacted communities. If passed, funds could go towards infrastructure, which expands economic opportunities and decreases respiratory ailments caused by dusty roads.

Another Senate bill seeks to expand broadband internet service to underserved rural communities in Tennessee. Gov. Bill Haslam has also proposed a plan to invest \$45 million in expanding broadband access over the next three years.

Environmental groups are seeking support for a bill that would expand how families and companies could finance energy upgrades, according to WMOT Radio.

The state's environmental agency is also planning to privatize portions of Fall Creek Falls State Park.

Virginia

Session runs from Jan. 11 through late February

Parallel bills introduced in the Virginia House and Senate would encourage pumped hydroelectric storage facilities powered by renewable energy in Southwest Virginia. In facilities of this sort, wind or solar energy would pump water from a reservoir at a lower elevation to one at a higher elevation. That water can then be used for hydroelectric power whenever there is need on the energy grid.

Gov. Terry McAuliffe is expected to veto H.B. 2198, which would extend until 2022 tax credits to the coal industry that were set to expire in 2017. S.B. 990 aims to reduce electricity usage in the retail sector.

H.B. 1678 would exempt as "trade secrets" any chemicals and ingredients submitted to the DMME — such as those used in fracking — from requests under the Virginia Freedom of Information Act.

In the Senate, three bills sponsored by Sen. Frank W. Wagner focus on renewable energy. One bill would create community solar pilot projects in Dominion Virginia Power and Appalachian Power territories. Another bill sets parameters for small-scale generators at agricultural businesses that use renewable energy to sell any excess electricity. A third bill would allow wind and solar facilities up to 150 megawatts to benefit from an easier permitting process.

continued on next page

Congress Blocks Stream Protection Rule

By Elizabeth E. Payne

On Feb. 1, the U.S. House of Representatives invoked a seldom-used procedure to strike down the Stream Protection Rule. The Senate followed suit the next day.

The rule, enacted by the U.S. Department of the Interior in the final days of the Obama administration, offered modest steps toward protecting streams from surface mining.

The Office of Surface Mining Reclamation and Enforcement worked on the rule since 2009. It required increased water monitoring and forest reclamation, among other provisions to update the 1983 stream buffer zone rule.

"I have watched the creek that flows past my grandmother's home in Floyd County, Ky., become ruined by the strip mining above it. I used to catch crawdads in that creek, but now it smells and looks noxious," said David Wasilko, of Kingston, Tenn., in comments submitted to the federal office that wrote the rule. "There is no life in the water and the terrible odor permeates the entire hollow. Citizens of the coalfields deserve the best possible Stream Protection Rule

that the OSM can provide."

The 1996 Congressional Review Act, the tool used against the Stream Protection Rule, allows Congress to block federal regulations within 60 congressional days of their passage and makes it difficult to write "substantially similar" rules in the future. It had only been successfully used by Congress once in the past.

"We have failed to protect the families in these communities, and passage of this bill will inflict another blow to their health and wellbeing. They deserve far better," Rep. John Yarmuth (D-KY) told fellow members of the House.

As of press time in early February, members of Congress have challenged at least a dozen other rules using this law. Also at risk is the Methane and Waste Prevention Rule requiring oil and gas companies operating on federal and tribal lands to decrease the amount of natural gas that is vented each year into the atmosphere.

On Feb. 1, the House also struck down a regulation passed by the Obama administration that required oil, gas and mining companies to report payments from foreign governments, according to the Washington Post.

"This is troublesome news," Angie Rosser, executive director of the West Virginia Rivers Coalition, told the Charleston Gazette-Mail. "Radcliff has been the direct line for citizen concerns to help make sure the agency is accountable to the public."

When the state's legislature convenes, the West Virginia Mineral Owners Coalition intends to lobby for legislation that would support landowners, such as protecting a landowner's right to deny access to pipeline surveyors and upholding minimum royalty payments for minerals.

Maintaining water quality standards, promoting energy efficiency upgrades in commercial buildings, and advocating for disclosure of campaign financing are among the legislative priorities of the West Virginia Environmental Council.

Environmental Protections Targeted

By Molly Moore

The Trump administration and 115th Congress quickly began rolling back pro-environment policies. By press time Feb. 2, two weeks into the Trump presidency, executive orders and actions in Congress were already changing the ground rules for environmental protections.

Trump signed 19 presidential directives in his first 10 days, according to USA Today, including an order that requires two regulations be repealed for every new regulation an agency issues.

President Trump also issued orders to revive the Keystone XL Pipeline, fast-track approval of the Dakota Access Pipeline, and expedite environmental review and approval for high-priority infrastructure projects. The proposed Atlantic Coast Pipeline is ranked No. 20 on Trump's list.

In an interview with the Guardian, EPA transition leader and climate change denier Myron Ebell described the president's plans to review or withdraw climate change education material and reconsider automobile fuel efficiency standards.

He also referenced the president's campaign statement to abolish or "leave a little bit" of the environmental agency. "It is a goal he has and sometimes it takes a long time to achieve goals," Ebell told the Guardian. "You can't abolish the EPA by waving a magic wand."

Many of Trump's cabinet nominees were criticized by conservation organizations — perhaps none more than Scott Pruitt, who was nominated to lead the U.S. Environmental Protection Agency. As Oklahoma's attorney general, Pruitt sued the EPA 14 times, opposing federal ozone and mercury limits among other programs. During his confirmation hearing, he did not say whether he would recuse himself from involvement in

those cases and he voiced doubts about the scientific consensus that human activity is causing climate change. William K. Reilly, a Republican who once headed the EPA, said Pruitt "cannot effectively lead the agency."

Other cabinet nominees skeptical of climate science include Rick Perry, Trump's pick for energy secretary, and Jeff Sessions, the nominee for attorney general. Ryan Zinke, nominated to lead the Dept. of the Interior, acknowledged that climate change is real but hedged on the role that humans play and expressed favor for continued fossil fuel development on public lands.

Wilbur Ross, a billionaire investor with ties to Appalachia, was nominated for secretary of commerce. He was president of International Coal Group during the 2006 Sago Mine disaster, which killed 12 workers, and during the time that roughly 14,000 Clean Water Act violations occurred at the company.

At press time, the full Senate had not voted on confirmation for these men, but Rex Tillerson, who served as CEO of Exxon-Mobil until his nomination, was confirmed as secretary of state.

In response to the administration's actions, anonymous former and current employees at numerous federal agencies such as national parks, NASA and the EPA created alternative Twitter accounts, not funded by taxpayer dollars, to share environmental news.

Public resistance against a move to sell federal lands also saw some success. In January, House Republicans enacted a rule change that encourages transferring federal land to states. But a House bill that would have sold 3.3 million acres of public lands was withdrawn on Feb. 1 after widespread opposition from hunters, anglers and the conservation community.

State Politics

continued from previous page

West Virginia

Session runs from Feb. 8 through April 8

West Virginia's Democratic governor and coal-mine owner Jim Justice appointed Austin Caperton, another man with deep ties to the coal industry, secretary of the state's Department of Environmental Protection.

On Jan. 27, Caperton fired Wendy Radcliff, the department's environmental advocate. He also fired the department's communications director.

115 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			
HOUSE	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	Fleischman (R) TN-03	S. Desjardais (R) TN-04	V. Foxx (R) NC-05	P. McHenry (R) NC-10	M. Meadows (R) NC-11	T. Garrett (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
H.J. Res. 38 nullifies the Stream Protection Rule finalized by the Department of the Interior's Office of Surface Mining Reclamation and Enforcement and prevents the department from authorizing similar rules in the future. 228 AYES 194 NOES 10 NV PASSED	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
SENATE	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)						
H.J. Res. 38 nullifies the Stream Protection Rule finalized by the Department of the Interior's Office of Surface Mining Reclamation and Enforcement and prevents the department from authorizing similar rules in the future. 56 AYES 42 NOES 2 NV PASSED	✗	✗	✗	✗	✗	✗	●	●	✗	✗						

Surface Mining Banned in 75,000 Acres of Tennessee, But New Mine Proposed

By Elizabeth E. Payne

On Dec. 7, 2016, the U.S. Department of the Interior approved the state of Tennessee's 2010 petition to designate nearly 75,000 acres off-limits for surface coal mining.

The ban includes ridgelines in the North Cumberland Wildlife Management Area and the Emory River Tact Conservation Easement.

"It will provide tremendous economic value for tourism and recreation for future generations," says DJ

Coker, a resident of Campbell County, Tenn., who lives near the protected land.

The state's petition was filed with the Department of the Interior in 2010 under then-governor Phil Bredesen. The December designation forbids surface coal mining within a 1,200-foot-wide corridor, with a 600-foot buffer on either side of 569 miles of ridgeline.

The decision makes limited exceptions for environmentally beneficial re-mining, such as removing

dangerous features from abandoned mine sites, and it does not extend to existing permits, nor does it prohibit underground mining in this area.

Yet many mountain ridges, including in East Tennessee, are not protected. A new surface coal mine has been proposed on 1,500 acres in Claiborne County, Tenn. The proposed Cooper Ridge Mine is not inside the newly protected area and would negatively impact Valley Creek, Hurricane Creek and other mountain streams.

Regional Coal Ash News

By Elizabeth E. Payne

In North Carolina, Duke Energy submitted a request to the state's Utilities Commission on Dec. 30, 2016, seeking to defer costs associated with cleaning up its coal ash. With a deferral, the costs could be recouped through rate hikes in 2017, according to the Triad Business Journal.

The utility has also presented residents with drinking-water wells near its coal ash ponds a one-time \$5,000 "goodwill" offer, plus additional payments for eligible properties. But any resident that accepts the offer must give up their right to sue Duke Energy for any future contamination or health problems.

"Duke Energy is trying to place a \$5,000 price tag on my past, present, and future groundwater contamination concerns. This is an attempt to limit our ability to protect our families," said Amy Brown of Belmont, N.C., in a statement by the citizen advocacy group Alliance of Carolinians Together (ACT) Against Coal Ash.

Dominion Virginia Power will pay to connect residents living near their Possum Point power plant to public water or provide filtration systems after wells in the area tested positive for contaminants.

On Jan. 25, a trial began against Tennessee Valley Authority for violations of the Clean Water Act. The lawsuit — brought by the Southern Environmental Law Center on behalf of state conservation groups — alleges that the utility's coal ash impoundments have polluted the Cumberland River.

The federal Water Infrastructure Improvements for the Nation Act was signed into law on Dec. 16, 2016. Among other provisions, the law gives states more power to regulate coal ash, and it gives the U.S. Environmental Protection Agency more authority to oversee state permitting processes.

RECLAIM Act Advances in Congress

By Brian Sewell

In December, U.S. senators from four Appalachian states introduced the RECLAIM Act, a bipartisan bill that would direct \$1 billion to clean up abandoned mine sites and repurpose them for an economically beneficial use.

The legislation, which was first introduced in the U.S. House of Representa-

tives by Rep. Hal Rogers (R-KY) in early 2016, is a key component of federal efforts to stimulate economic opportunities in areas impacted by the coal industry's decline, and it has been championed by long-time allies of the industry in Congress.

"We must make sure these communities and their residents get back on their

feet, and this bill will do just that," said Sen. Joe Manchin (D-WV), a sponsor of the Senate bill.

There is also strong public support for the RECLAIM Act in coal states. A September 2016 poll found that 89 percent of registered voters in Kentucky, Virginia, West Virginia, Tennessee, Ohio, Pennsylvania and Indiana support the measure.

The RECLAIM Act is expected to be re-introduced in the House and Senate in early 2017.

similar proposal with added language blaming the Obama administration for the coal industry's decline and calling on Congress to roll back environmental rules.

Manchin described the Miners Protection Act his "No. 1 priority" in an op-ed for the Charleston Gazette-Mail. Both Manchin and Sen. Shelley Moore Capito (R-WV) have called on President Trump to support the bill before miners' benefits expire in April.

Miners' Benefits at Stake in Washington

By Brian Sewell

Appalachian legislators are again exploring ways to shore up thousands of coal miners' health and pension benefits after failing to pass a long-term fix last year.

In December, backers of the Miners Protection Act pushed for the legislation to be included in a package to continue funding the federal government. Ultimately,

the resolution only included a four-month extension of health care benefits, instead of addressing lifelong pensions and health benefits.

Two bills were introduced in January to provide a permanent fix. Sen. Joe Manchin (D-WV) reintroduced the Miners Protection Act. Senate Majority Leader Mitch McConnell (R-KY) put forward a

Mine Permit Disputes on Coal River Mtn.

By Elizabeth E. Payne

Alpha Natural Resources and its subsidiaries continue to hold four active surface coal mining permits on West Virginia's Coal River Mountain. The active permits cover 5,600 acres.

Coal River Mountain Watch argues that one permit for the Eagle 2 Mine, which covers 2,040 acres, should be nullified.

The local nonprofit group cites a provision in federal surface mining law that says permits "shall terminate" if mining hasn't started within three years of a permit being issued.

In dispute is the definition of "shall." The West Virginia Department of Environmental Protection has not interpreted "shall" to be binding. Coal River Mountain Watch has challenged this definition in

district court. A similar case was successful in Alaska. The federal Office of Surface Mining Reclamation and Enforcement is expected to clarify the rule.

In December 2016, the state approved a mountaintop removal permit for the Long Ridge No. 1 Mine. "[WVDEP] placed Alpha Natural Resources' profits over the health of the people, the protection of the environment, and basic human decency," wrote CRMW on its website.

Newsbites

Public Frack Comments Unearthed

Some 9,442 public fracking complaints spanning 12 years were uncovered at the Pennsylvania Department of Environmental Protection by Public Herald, a nonprofit journalism outlet.

Bill to Study Health Impact of Mountaintop Removal Introduced

On Feb. 1, Reps. John Yarmuth (KY-3) and Louise Slaughter (NY-25) sought to stop mountaintop removal coal mining long enough to study its health impacts by

reintroducing the Appalachian Community Health Emergency Act.

N.C. Air Quality Improves

According to the EPA, air quality in North Carolina has improved over the last decade. A 79 percent drop in air emissions can be attributed to fewer pollutants being produced by power plants. Duke Energy has retired seven of its 14 plants in N.C.

EPA to Estimate Coal Job Losses

A federal judge ruled that the U.S. Environmental Protection Agency is required by law to evaluate the number of coal and

power plant jobs put at risk by Clean Air Act regulations. The coal company Murray Energy brought the lawsuit against the EPA. The agency faces a July 1 deadline to identify facilities impacted by Obama-era air regulations.

W.Va. Coal Company Settles Water Pollution Lawsuit

Three environmental groups settled a lawsuit with Pocahontas Land Corporation regarding claims that a mountaintop removal coal mine was polluting the tributaries of the Tug Fork River in West Virginia.

Atlantic Coast Pipeline Federal Environmental Review Underway

By Elizabeth E. Payne

The Federal Energy Regulatory Commission released its draft environmental impact statement for the Atlantic Coast Pipeline on Dec. 30, 2016. This proposed \$5 billion pipeline would carry fracked gas along a 600-mile route from well sites in West Virginia to Virginia and North Carolina.

The pipeline is proposed by energy giants Dominion Resources and Duke Energy, among others.

Current fracked gas infrastructure will meet electricity needs through 2030, according to an independent study by Synapse Energy Economics, Inc. The study concluded that additional pipelines are not needed.

Environmental experts and advocacy groups, including Appalachian Voices, the publisher of this paper, have challenged the federal review because

it did not consider the need for the pipeline or its full environmental and economic impact.

The Dominion Pipeline Monitoring Coalition, a citizen advocacy group fighting the Atlantic Coast Pipeline, has reported that most of the proposed route in West Virginia passes through terrains prone to landslides. These risks have largely been ignored by FERC, according to the coalition.

Yet in Virginia, the Buckingham County Board of Supervisors voted on Jan. 5 to approve a compressor station in the county despite vocal opposition from area residents. The industrial station would be built along the Atlantic Coast Pipeline in order to keep the gas moving inside the pipeline at sufficient pressure.

Many residents have voiced concern about the noise and health problems that may arise if the station is constructed. More than 150 citizens attended the board's meeting in mid-December 2016, and the Jan. 5 meeting was also filled with opponents of the station.

"Shame on every one of you," Annie Parr — a native of Buckingham, Va., is quoted by the Richmond Times-Dispatch as saying to the Board of Supervisors after the vote.

The public comment period for the federal draft environmental impact study will be open until April 6, 2017. See page 22 for a list of public hearings. For more information and to take action, visit appvoices.org/fight-acp.

Newsbites

Pocahontas agreed to test the water and apply for a Clean Water Act permit, as well as pay reasonable costs and attorney fees.

Company Fined for Frack Waste

Kentucky's Energy and Environment Cabinet signed a \$95,000 civil penalty for Advance Disposal Services' Blue Ridge Landfill in Estill County after a state investigation revealed that 92 loads of radioactive fracking waste was illegally brought from West Virginia. Blue Ridge must deposit \$60,000 of the fine into an escrow account for the school district to use toward educational programs or detection and mitigation, according to the Associated Press.

Clean Energy Resolutions in N.C.

On Jan. 19, the Watauga County Board of Commissioners joined the town of Boone, N.C., in approving a resolution of support for 100 percent clean energy for the state and country by 2050.

PA Stream Temporarily Protected

The Pennsylvania Environmental Hearing Board ordered Consol Energy not to mine beneath Kent Run, a stream in Ryerston Station State Park, while an appeal of the company's mining permit is underway. Similar mining operations in the park have drained other streams. A Consol spokesman says the company plans to appeal the decision.

Delay in Mountain Valley Pipeline

The U.S. Environmental Protection Agency and over 16,000 citizens found fault with the Federal Energy Regulatory Commission's draft environmental review of the Mountain Valley Pipeline project, according to The Roanoke Times. The public comment period for the draft environmental review closed in December.

In a letter to Mountain Valley dated Jan. 13, FERC notes the company made changes to their pipeline route in accordance with recommendations in FERC's draft Environmental Impact Statement. A public comment period on the changes is open until Feb. 21.

On Jan. 26, FERC submitted a 28-page request seeking additional information from Mountain Valley. The agency's Final Environmental Impact Statement was originally slated for March 10 but is now delayed indefinitely.

Other Pipeline News

On Dec. 28, 2016, the Southern Environmental Law Center filed a lawsuit against

energy company Kinder Morgan in response to the company's 2014 spill of at least 370,000 gallons of gasoline in South Carolina, according to a statement from the nonprofit law firm.

Citizen and environmental groups are challenging Dominion's proposed 55-mile pipeline from Moore to Chappells, S.C. The pipeline would impact 255 acres along the route and would require approval from the Federal Energy Regulatory Commission.

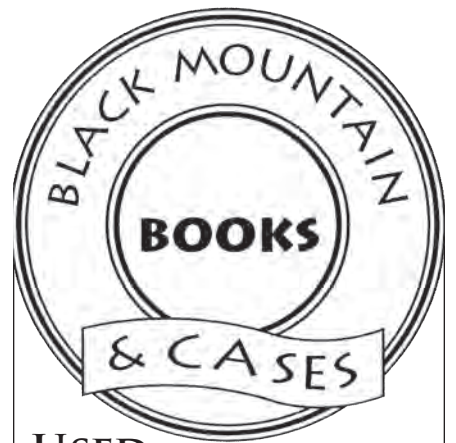
On Jan 24., President Trump signed executive orders to advance the Keystone XL and Dakota Access Pipeline projects. The proposed Keystone XL Pipeline, stretching from Canada to Nebraska, was previously rejected by the Obama administration's Department of State. And the nearly complete Dakota Access Pipeline — spanning from North Dakota to Illinois — was halted by the U.S. Army Corps of Engineers in late 2016 pending further environmental review. Both pipelines face strong opposition. — *Carl Blankenship*

Fracking and Natural Gas Updates

A final comprehensive study by the U.S. Environmental Protection Agency, released in December 2016, concluded that hydraulic fracturing impacts drinking water under some circumstances. The EPA's science adviser said the report requires more research and study.

According to a report from The Dominion Post on Jan. 1, West Virginia University has completed a study claiming the noise from fracking operations can have negative health effects. These noises can lead to anger and anxiety, sleep disturbance, high blood pressure, hypertension and heart disease.

The U.S. Fish and Wildlife Service is considering a permit application that would allow nine oil and gas companies to harm five endangered bat species. The permit would apply to Ohio, Pennsylvania and West Virginia for 50 years. — *KaLeigh Underwood*

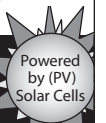


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Atlantic Coast Pipeline Public Comment Period

We are working hard to stop the Atlantic Coast Pipeline. This proposed fracked-gas pipeline would cost \$5 billion and damage farms, forests, communities and historic areas all along its 600-mile route through West Virginia, Virginia and North Carolina.

And all this for a pipeline that isn't needed! Studies have shown that we can meet our energy needs without locking ourselves into another long-term commitment to using fossil fuels.

The Federal Energy Regulatory Commission has the authority to approve or reject this project. The public comment period for FERC's environmental review of the Atlantic Coast Pipeline is open now through April 6, 2017. This is the best opportunity to ensure your voice is heard!

To sign a petition to help stop the ACP, or for more information about a public comment session in your area, please visit appvoices.org/fracking/fight-acp or call (434) 293-6373.

- Most sessions are from 5-9:00 p.m.**
- Feb. 13:** Fayetteville, N.C. at the Doubletree Hotel
 - Feb. 14:** Wilson, N.C. at the Forest Hills Middle School
 - Feb. 15:** Roanoke Rapids, N.C. at the Hilton Garden Inn Roanoke Rapids
 - Feb. 16:** Suffolk, Va. at the Hilton Garden Inn Conference Center (****** starts at 5:30 p.m.**)
 - Feb. 21:** Farmville, Va. at the Moton Museum
 - Feb. 22:** Lovingson, Va. at the Nelson County High School
 - Feb. 23:** Staunton, Va. at the Holiday Inn Hotel and Conference Center
 - Feb. 28:** Monterey, Va. at the Highland Center
 - March 1:** Elkins, W.Va. at the Gandy Dance Theater
 - March 2:** Marlinton, W.Va. at the Marlinton Community Wellness Center



Volunteers pose with the banner for reNew Home, Inc., which donated two energy audits for the project.

Serving Residents Through Energy Savings

Instead of celebrating the first Saturday of the semester by sleeping in, students at Appalachian State University in Boone, N.C., spent Jan. 21 volunteering as part of the school's annual MLK Challenge to honor Dr. Martin Luther King, Jr. Appalachian Voices was glad to once again participate in the service day. With the help of six student volunteers, our Energy Savings team improved the energy efficiency of two local homes.

Energy efficiency upgrades can help lower energy bills and make homes more comfortable, though they often have a high upfront cost that many families cannot afford. There are programs that provide free and low-cost weatherization services, but the need greatly exceeds the available aid. To make energy efficiency more accessible, our Energy Savings team is advocating for the establishment of on-bill financing programs by electric cooperatives in Western North Carolina and East Tennessee.

Energy assessments for both homes were provided by reNew Home, Inc., to identify needed efficiency upgrades. Volunteers completed a variety of projects that included weatherstripping doors, installing insulation and sealing air leaks. Materials were donated by Watauga Building Supply and Lowe's Home Improvement of Lenoir, N.C.

Welcoming a New Board Member

We're proud to welcome Christopher Scotton — CEO and novelist — to the Appalachian Voices Board of Directors.

"Now more than ever, our environment, and indeed our fundamental right to live safely and with dignity, is under threat by those who pursue fossil fuel extraction at any cost," he says. "Americans of conscience are beginning to unite in the face of this threat, and I joined the Appalachian Voices Board to lend my own voice to the growing cacophony of folks standing shoulder-to-shoulder and shouting 'enough!'"

Christopher grew up in the then-undeveloped countryside outside of Washington, D.C. In college, he fell in love with the music and the beauty of Appalachia, and his debut novel, *The Secret Wisdom of the Earth*, is set in a fictionalized eastern Kentucky town.

"The important work of Appalachian Voices has impact far beyond this region we all love so well—I'm excited to help the AV team fulfill its mission," he says.

Christopher currently lives near Washington, D.C., where he is president and CEO of a software company.



Member Spotlight Lynn Brammer

By Elizabeth E. Payne

"One of my favorite quotes," says Lynn Brammer, "is that 'Silence is the voice of complicity.' If you don't speak up, you must be just fine with things."

Based on her words and deeds, Lynn sees things that need improving. So she became active in numerous causes in her hometown of Blacksburg, Va., where she has distributed about 400 copies of each issue of *The Appalachian Voice* since summer 2012.

Professionally, Lynn has served as a technician at the Virginia-Maryland College of Veterinary Medicine for more than 30 years. By now, she's helped train two generations of graduate students to care for the animals they treat.

Lynn's interests extend far beyond her career and often focus on social and environmental issues.

Lynn became a Master Gardener in 1997, and she uses these skills to expand food security for those in need.

Through her Share the Spare project, Lynn and other gardeners and volunteers work with farmers markets in Blacksburg and Christiansburg, Va., to collect donations of produce from the customers and farmers. They also glean fruits and vegetables from local farms.

"We have collected literally tons of produce since 2010 [when the project started]," she says.

When asked what environmental issues were of greatest interest to her, Lynn doesn't hesitate for a second. "The pipeline, the pipeline,

Embodying activism in Blacksburg, Va.



the pipeline," she says. "The [Mountain Valley] Pipeline is a direct threat for the New River Valley and Giles County. Its pathway is coming right through here."

"No corporation can make big money off solar," she says. "So consequently, our political system does not want to back these alternative sources of energy, because they can't make the big bucks off it. So they continue this senseless argument about us needing this natural gas in order to survive, and it's just not the case."

This frustration with current politics extends to other areas. This year, Lynn joined the board of her local NAACP, and she worries that hostile attitudes towards minorities could discourage talented people from making their home here.

"There's going to be people that don't come to this country to follow up their education or to invent a new vaccine or to contribute to our society, because of the nature of our

politics in the upcoming years," she says. "And that to me is horrifying."

Lynn's vision of Appalachia's future requires looking past coal mining. "Let's look forward and think about technology," she says. "Let's think about alternative ways of employing these people and putting them back to work in another profession, another place other than a coal mine, where their health is gonna suffer."

When asked what advice she would offer to someone wanting to become more active in the community, she says, "Look up the facts. Educate yourself about what you're concerned about. Read, and read the right sources ... And then question even that."

To join *The Appalachian Voice* distribution team, email Meredith Shelton at mayzie@appvoices.org



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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A Growing Team in Norton

Matt Hepler, an expert on water issues in coal mining areas, has joined our team as a Water Quality Scientist and Community Organizer. He spent two years in the Geography masters program at Appalachian State University, where he focused on Hydrology. Afterward, Matt worked for five years with Southern Appalachian Mountain Stewards, where he lead the grassroots organization's water program and helped to develop litigation strategies against coal companies.

A Virginia native, Matt currently lives in Washington County, Va. He is a hiker and square dance caller, and loves spending time on the rivers



of Central Appalachia.

We're also thrilled to welcome Terran Young, a 2017 Highlander Appalachian Transition Fellow who will be working with us in collaboration with Southern Appalachian Mountains Stewards and Livelihoods Knowledge Exchange Network. Terran will be focusing on a continuation of Who Owns Appalachia, a project started in the late '70s that researches land ownership in Appalachia. Terran is studying to become a Master Herbalist and is also a writer/producer for Spaceman Productions. She is originally from Wise County, Va., but grew up in Middletown, Ohio.

Terran and Matt are both based in our Norton, Va., office.

Stay Up-to-Date

The first weeks of the Trump Administration and new Congress showed that Americans from all walks of life will need to stand together in order to safeguard our air, water and climate from industry interests.

Join the movement to protect Appalachia. To stay informed about breaking news and action alerts, sign up for our email list at appvoices.org/stay-in-touch, and follow us on Facebook.

AppalachianVoices BUSINESS LEAGUE

New & Renewing Members December 2016 - January 2017

- Apex Clean Energy** Charlottesville, Va.
- reNew Home, Inc.** Boone, N.C.
- Farnum and Christ Travel** Bristol, Tenn.
- Watauga Building Supply** Boone, N.C.
- Lowe's Home Improvement** Lenoir, N.C.

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This detail from "South Mountain Wildfire" was captured by Cathy Anderson in fall 2016, as wildfires raged across the Southeast. The photograph was selected as a Finalist in the 14th annual Appalachian Mountain Photography Competition's Environment category, which Appalachian Voices co-sponsors. View the images at the Turchin Center for the Visual Arts in Boone, N.C., from March 3 to June 2, and vote for the People's Choice Awards online between March 3 and 24. Visit appmntnphotocomp.org

Stand with us.



The communities where Appalachian Voices works have experienced firsthand the high costs of an exploitative, dirty energy economy. The recent transfer of power to anti-environment and pro-fossil-fuel forces in Washington, D.C., puts Appalachia at even greater risk. The new administration's regressive environmental and energy agenda threatens the progress we've made together, compelling us to work even harder to hold the line.

As we anticipate one of the most challenging periods of our organization's 20-year history, your involvement and financial support are critical.

Join Appalachian Voices today.

With your membership, you will receive a copy of *The Appalachian Voice* delivered straight to your home, bringing you in-depth stories about the air, land, water and communities of Appalachia.

AppVoices.org/join

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