

**FREE**

# The Appalachian VOICE

October/November 2015

## Are we there yet?

The future of  
transportation is right  
around the bend  
— it's just a matter  
of getting there.

**Also Inside:** The Urban Coyote | Biking Appalachia's Rails-to-Trails | Vaughn's Diesel

# The Appalachian VOICE

A publication of  
**AppalachianVoices**

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## GET INVOLVED



## environmental & cultural events

See more at [appvoices.org/calendar](http://appvoices.org/calendar)

### Southwest Virginia's New Economy Forums

Oct. 12-20, 6-8 p.m.: Discuss the future of Southwest Virginia's economy! Share your thoughts at one of eight community forums across the region. For more information, call (276) 679-1691 or visit [swvneweconomy.com/#!schedule/cjg9](http://swvneweconomy.com/#!schedule/cjg9)

### Protect Our Lands Picnic

Oct. 18, 2-5 p.m.: A fun, family-friendly event to raise awareness about Duke Energy's expansion plans. Hosted by the Carolina Land Coalition, Henderson County Heritage Museum, Hendersonville, N.C. Free. Call (828) 258-8737 ext. 205 or visit [carolinalandcoalition.org](http://carolinalandcoalition.org)

### Mountain Makin's' Festival

Oct. 24-25: Weekend folk festival celebrating the traditions of Appalachia, highlighting traditions and their modern interpretations. Exhibitions by crafters and artisans. \$5 admission. Rose Center, Morristown, Tenn. Call (423) 581-4330 or visit [invacation.com/events/45845](http://invacation.com/events/45845)

### Fall Tree ID Hike

Oct. 24, 10 a.m.-12 p.m.: Learn to identify the trees that are producing such beautiful colors. Free, registration required. Holmes Educa-

tional State Forest, Hendersonville, N.C. Call 828-692-0100 or visit [www.enorthcarolina.org](http://www.enorthcarolina.org)

### Elk Viewing Tour

Nov. 7, 3-7 p.m.: Come observe the majestic elk of eastern Kentucky. \$5-30, registration required. Jenny Wiley State Resort Park, Prestonsburg Ky. Call (606) 889-1790 or visit [parks.ky.gov/calendar/details/elk-viewing-tour/21209](http://parks.ky.gov/calendar/details/elk-viewing-tour/21209)

### Trails and Trees Studio Tour

Nov. 7-8: Enjoy the beautiful countryside of Berkeley County, W. Va., while visiting artisans in their studios. Free. Falling Waters, W. Va. Call (304) 271-8872 or visit [trailsandtrees.org](http://trailsandtrees.org)

### Veterans Day Hike

Nov. 11, 12-2 p.m.: This event offers a ranger-guided hike along Wilbour Ridge. Enjoy the spectacular views and wild ponies. Free. Grayson Highlands State Park, Massie Gap, Va. Call 276-579-7092 or visit [dcr.virginia.gov/state-parks/park-event-info.shtml?id=GH150093-00](http://dcr.virginia.gov/state-parks/park-event-info.shtml?id=GH150093-00)

### Pipeline Monitoring Program

Nov. 14, 9:30 a.m.: Learn to monitor water quality, with special emphasis on monitoring sites along the Atlantic Coast Pipeline route. No prior experience necessary, but monthly monitoring at your site is expected. Free, must register

by Oct. 30. Staunton Public Library, Staunton, Va. Call (434) 971-1553 or visit [wildvirginia.org](http://wildvirginia.org)

### Star Party

Nov. 14, 5 p.m.: Come view the night sky through the optical telescopes at the National Radio Astronomy Observatory. If it rains, the indoor planetarium will give guests a stellar presentation. Free. Green Bank, W. Va. Call 304-456-2150 or visit [pocahontascountywv.com](http://pocahontascountywv.com)

### Great Smoky Arts and Holiday Craft Show

Nov. 14, 9 a.m.-3:30 p.m.: Join Elk Knob State Park staff and other volunteers and build the new one-mile Beech Tree Trail and make repairs on the Summit Trail. Tools are provided, but wear closed-toed shoes and bring work gloves, lunch and water. Free. Todd, N.C. Call 828-297-7261 or visit [ncparks.gov/elk-knob-state-park](http://ncparks.gov/elk-knob-state-park)

### Naturalist Niche Series: Survival Skills

Nov. 21, 10:30 a.m.: Learn from local naturalist Clint Calhoun about helpful survival tips and essential gear as you explore the Old Growth Forest at Chimney Rock State Park. \$5-22, registration required. Chimney Rock, N.C. Call 800-277-9611 or visit [ncparks.gov/chimney-rock-state-park](http://ncparks.gov/chimney-rock-state-park)

### Outdoor Family Adventure

Nov. 27-28, 10 a.m.-9 p.m.: Family-friendly activities include hiking, archery, birding, storytelling and astronomy. Contact park for a detailed schedule. Free. Cumberland Falls State Resort Park, Corbin, Ky. Call (800) 325-0063 or visit [parks.ky.gov/calendar/details/outdoor-family-adventure/-41710](http://parks.ky.gov/calendar/details/outdoor-family-adventure/-41710)

### Great Smoky Arts and Holiday Craft Show

Nov. 30-Dec. 6: Explore the craftsmanship of Tennessee's artisans at this Holiday craft show. Painters, potters, jewelry makers and more. Come admire their work and do some of your holiday shopping. Gatlinburg, TN. Call (800) 568-4748 or visit [trvacation.com/events/11310/](http://trvacation.com/events/11310/)

### Audubon Christmas Bird Count

Dec. 13: Join the nation's longest-running citizen science project as participants hike park trails to identify and count as many birds as possible. Gathered data will be sent to the Audubon Society for compilation, so help conservation efforts while enjoying the beautiful outdoors. Free, lunch provided. Mill Point, W. Va. Call (800) 336-7009 or visit [pocahontascountywv.com](http://pocahontascountywv.com)

# Across Appalachia

Environmental News From Around the Region

## Common Connections: An Appalachian-Romanian Exchange

By W. Spencer King

like speed dating," says Melissa Rhodes

of the Clay Center. "People from other countries and people from [West Virginia] got onto the site and tried to find similarities ... we have a lot in common with Romania with our folk music, geology and geography."

In fall 2014, four Romanian students visited Wahama High School in Mason, W.Va., for two weeks, exploring the connections between traditional Romanian folk music and music from Appalachia. The students found that both cultures share a history of coal mining, and the music from both areas reflects themes of wages, labor and class.

"[The Romanian people] are very proud of their heritage and their history," she says. "Tradition is very important to them, and they're very family oriented just like we are here in West Virginia."

"You go to another country and expect things to be really different," says Jamie Adamik of the Clay Center.

"But when you get there you realize that everybody there are people just like us,

teachers, students, we got to visit their homes and see where they lived."

The students and teachers remain in contact through email, Facebook and letters. The Clay Center is working on a grant that, if approved, will continue the project with new schools from West Virginia and Romania.

## Salamanders Under Threat from Deadly Fungus

In a regional study led by biologist Vance Vredenburg, the Southeast was listed as vulnerable to a fungal infection that is deadly to most salamander species.

Batrachochytrium salamandrivorans, or Bsal, is an aquatic fungus that causes lethal skin infections on salamanders. It is thought to be related to a similar infection that is devastating amphibian populations worldwide.

Should Bsal reach the United States, the researchers say, a nationwide die-

out is expected. The southern Appalachians would be especially vulnerable as their cool, wet environments host more salamander species than anywhere else in the world.

The U.S. Fish and Wildlife Service is currently considering a request by the Association of Fish and Wildlife Agencies to enact an emergency ban on pet salamander imports, which the researchers identified as a potential avenue of transmission to the United States.

— Chris Robey

### About the Cover

These splendid fall colors provide a stark contrast to the newly repaved road in this stunning photo taken by Phil Varney.

The Newfound Gap Road passes through Great Smoky Mountains National Park in Tennessee. It is one of the many places to admire the natural beauty of the annual changing of the leaves.



To view more of Varney's work, visit [pvarneyphotography.com](http://pvarneyphotography.com)

## Bear Population Rises, Human Encounters Follow

By W. Spencer King

that is habituating them to humans.

The Tennessee Wildlife Resources Agency in Polk County is attempting to address the problem by relocating bears to different areas, but officials from the agency have found it an inefficient, tedious and arduous process.

In the mid-1970s, bear sanctuaries were opened throughout the Ap-

palachian region to protect the then-shrinking bear population. The decline was the result of overhunting, a practice that erased the native wolves, panthers, buffalo and elk, which were all once prominent big game species in southern and central Appalachia.

Yet increased hunting is among the proposed solutions, and North Carolina wildlife officials are tentatively debating increasing the bag limit for bears from one to two. The goal is to manage the population without sending it back into a declining trend, which officials hope to achieve through careful observation and planning.

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# Across Appalachia

Environmental News From Around the Region

## Intersex Fish Found in N.C. Waterways

By Elizabeth E. Payne

Researchers from North Carolina State University recently announced that more than half of the male black bass tested in rivers across North Carolina exhibited female characteristics, particularly the formation of egg cells in their testes.

According to a related study by NCSU researchers, these natural or synthetic compounds can often be traced to "municipal and agricultural waste flows" that enter waterways. Such compounds can include human contraceptives and growth hormones fed to animals, as well as pesticides that interrupt reproductive cycles.

Once published, their study will add to the evidence that intersex traits are appearing in fish nationwide. A 2009 U.S. Geological Survey study found that 91 percent of the largemouth bass sampled from the Yadkin-Pee Dee River in North Carolina exhibited such traits, the highest instance of any sample across the nation.

Scientists have linked these characteristics to the presence of endocrine-disrupting compounds, particularly estrogens. In both humans and animals, the glands and hormones that make up the endocrine system regulate important functions such

## More KY Parks Certified as Monarch Waystations

This year, five Kentucky state parks, including John James Audubon State Park, Buckhorn Lake State Park and Kentucky Dam State Park, have registered as certified monarch waystations.

Waystations provide milkweed habitat and other resources for migrating Monarch butterflies, currently being considered for protection under the Endangered Species Act.

The Kentucky Garden Club and Kentucky State Parks have been working since 2013 to create waystations across the state. With this year's additions, there are now 18 certified parks.

— Chris Robey

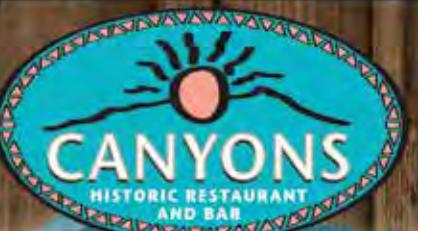
## Auto Titan Laid Low by West Virginia Scientists

German automaker Volkswagen AG was sent teetering after scientists at West Virginia University discovered that its newest four-cylinder diesel car models had software that enabled them to cheat on emissions tests.

The software, known as a "defeat device," switches emission controls on during testing and off during normal operation, allowing the vehicles to emit 40 times the allowable level of nitrogen oxide set by the U.S. Environmental Protection Agency.

Volkswagen admitted to installing the devices after being confronted by the EPA. Former CEO Martin Winterkorn is currently under investigation for suspected fraud.

Read about vehicle emissions on page 11.  
— Chris Robey

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## By the Numbers

By W. Spencer King

11 Ranking the Great Smoky Mountains National Park received from the National Parks Conservation Association of the most polluted national parks, an improvement over its #1 ranking in 2004.

### \$1.2 million

Amount estimated to restore the Blue Ridge Tunnel as a pedestrian and biking path in Nelson County, Va.

### Land and Water Conservation Fund

### 1,000,000,000,000

Dollars from outdoor recreation, preservation, and conservation revenues that are funneled into the American economy annually

### \$42 Million

Funding to states to promote outdoor recreation and conservation through Land and Water Conservation Fund announced by U.S. Secretary of the Interior Sally Jewell in August.

### 50

Trees in Knoxville parks with scanable QR codes that link to informational videos about the trees with cameos by 27 popular musicians.

### 100

Galaxies that the Green Bank Telescope in West Virginia, and the other most powerful telescope in the world, the Parkes Telescope in Australia, will gather data from in a partnership proposed by Stephen Hawking.

### 4

New West Virginia counties declared endemic for tick-borne Lyme disease, bringing the current total up to 11.

### 1965

Year the Land and Water Conservation Fund was established by Congress to aid in the protection of national land.

### 59

Senators who voted at the beginning of the year to permanently reauthorize the Land and Water Conservation Fund. As of September 30, Congress failed to pass the fund's reauthorization, leaving its fate up to future budget negotiations.

### 7,000,000

Acres the fund has helped state and local agencies acquire

## Appalachian Farmers to Benefit from Remote-Sensing Data

An expanded partnership between the U.S. Department of Agriculture and NASA could benefit farmers looking to reduce the effects of climate change on crop yields.

The agreement, announced this summer, promises expanded efforts to gather soil moisture data using satellite remote-sensing. This data could be compiled into maps that would improve farmers' ability to forecast weather and water availability, as well as provide an early-warning system against drought.

Though higher elevation regions such as central Appalachia are not expected to warm as quickly as lowland areas, according to the USDA, extreme weather fluctuations may produce more frequent droughts and flooding. Federal researchers also say irrigation demands on freshwater resources could create water conflicts in a region where annual precipitation ranges from 30-85 inches.

— Chris Robey

## Oak Ridge Pond Clean-Up Underway

The U.S. Department of Energy's Oak Ridge reservation is making strides toward creating a healthier ecosystem in one of its ponds, according to the Knoxville News Sentinel.

The pond is contaminated with polychlorinated biphenyls, a toxic and indirect chemical byproduct of the nuclear weapons once produced on the site. In 2009, all of the fish living in the pond were killed so that a new species could be introduced that would not disrupt the sediments on

— Elizabeth E. Payne



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## The future of transportation is right around the bend — it's just a matter of getting there.

Two-lane country highways snaking around bends, and gravel lanes winding through valleys, are part of the national image of Appalachia. The twists of these roads shape a sense of home, and draw visitors to explore what's around the next curve.

That appeal is epitomized by the Blue Ridge Parkway, a National Park Service scenic roadway in North Carolina and Virginia. More than 15 million visitors each year come to absorb sweeping mountain vistas and hike roadside trails. In southwest Virginia, the aptly named Crooked Road designates a 330-mile heritage music trail that directs travelers to cultural and outdoor destinations in small towns along the route.

Yet while the steep climbs and hairpin turns characteristic of Appalachia have helped protect the rural character of many areas, some argue that the region's roads have also hindered the spread of goods and people.

Harsh winters can drive up the cost of road maintenance, particularly in rural areas, and keep school buses sitting idle. And in parts of the region with extractive industry, heavy truck traffic from coal mining, natural gas drilling and logging operations has wreaked havoc on roadways by accelerating wear and tear. In some areas, locals describe frequent reckless driving and routes blocked by industrial traffic.

No matter what the road conditions are, some of the region's most vulnerable residents — in both rural and urban areas — are left

stranded by lack of a vehicle and insufficient public and private transportation options.

But despite these challenges, there are people in every corner of the region working to pave a smoother path forward, whether by providing rides for neighbors in need, participating in local highway planning, or building the electric vehicle network that might be commonplace for the next generation of Appalachian drivers.

This issue of *The Appalachian Voice* takes a look at where we're going, and how we're getting there.

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Foggy Morning Drive on I-77 in northern West Virginia. Photo by Rob Carter

## Expanding Access to Transportation for Those in Need

By Molly Moore

It's easy to take for granted the ability to get from home to work or to an important medical appointment. But transportation options aren't always available, and car trouble — and the worries that come with not having a car — can be a barrier for many.

The struggle to gain access to transportation affects both rural and urban communities in the region. Tom Sanchez, a professor of urban affairs and planning at Virginia Tech, notes that the core issues are starkly different — dense populations in cities lead to congestion, while sparsely populated rural communities struggle with a lack of transit options. But in both situations, insufficient transportation can make it harder to access healthcare or travel to work or school.

In urban areas, public transportation systems typically combat this by providing scheduled shuttle routes. The

Chattanooga Area Regional Transportation Authority, for instance, features a fleet of emission-free electric buses with regular routes, special van service for passengers with disabilities, and will soon manage 30 bike rental stations.

But in rural areas, demand-response services, where drivers respond to individual needs, are more common. Mitchell Elliot serves as transit director for Mountain Empire Older Citizens, an area agency on aging that serves three southwest Virginia counties and the town of Norton.

The agency's 50 buses, which hold 12 to 19 riders each, serve roughly 95,000 people across 4,400 square miles of rugged terrain. The transit system began in the '80s, and Elliott says rider demand is continually increasing.

"It is sometimes a challenge to get people where they need to be," says Elliot. "We have some people that we

transport to the dialysis center and of course that's pretty much a matter of life and death." Mountain Empire Older Citizens requests a minimum 24-hour advance call, and during tough winters, the agency uses four-wheel drive vehicles to reach high-priority passengers.

Area residents rely on the public system, he says, especially because of a lack of taxis and other private options in the MEOC service territory.

Elliot estimates that 60 percent of the system's riders are elderly, and many use the bus system to travel to senior centers and the agency's PACE Center, which provides health and social services for older citizens. Other riders include low-income families and community college students, and individuals with physical limitations who rely on the system's disability-accessible vehicles.

Many local nonprofit agencies, such as Aid to Distressed Families of Appalachian Counties in Oak Ridge, Tenn., provide car repair assistance as part of their efforts to fight poverty. In some counties, organizations provide veter-

### Expanding Access

Continued from previous page

ans with door-to-door transit to pick up essentials or visit far-flung VA hospitals, and assist with funds for auto repair. Some programs specifically address the connection between transportation and healthcare — in North Carolina's Watauga and Avery counties, the Latino Health Program provides bilingual health assistance, including transportation to medical appointments, for the local Latino population. And in central Appalachia, a grassroots network helps the families of people incarcerated in the region visit their loved ones in prison.

Transportation is also a high-priority need for survivors of domestic abuse, according to Deanna Stoker of A Safe Home for Everyone, a program of Ashe County Partnership for Children. "The majority of the population and most of



## Appalachian Rails Have Strong Ties to Fossil Fuels

By Elizabeth E. Payne

For more than 100 years, railroads have roared through the Appalachian mountains, connecting the region to the rest of the country, and moving resources and people in and out of the region.

Trains first entered Appalachia in 1851, when the Baltimore & Ohio Railroad Company extended one of its lines to the town of Piedmont, which was located in what was then Virginia.

As the rail line expanded, it "was considered so important during the Civil War that its route affected the shape of the new state of West Virginia," according to the West Virginia Department of Transportation.

In most of the region, however, railroads became an important economic factor beginning in the 1890s with the rise of the lumber and coal industries. R. Scott Huffard Jr., of Lees-McRae College, explains that with the railroads came outside investors who extracted these natural resources. In this context, he describes the railroads as "the leading edge of resource exploitation."

Today, the link between the railroads and resources, especially coal, remains strong. According to the Association of American Railroads, "No

single commodity is more important to America's railroads than coal."

The energy sector's shift away from coal toward natural gas in the past decade has negatively impacted the railroad companies that transport much of the coal. The Association of American Railroads reported in July 2015 that coal traffic had fallen almost 23 percent from its peak in 2008.

"In 2008, coal accounted for 45 percent of total US freight carloads moved by rail," according to Mindi Farber-DeAnda, of the U.S. Energy Information Administration. "In 2014, coal accounted for [only] 38 percent of total US freight carloads moved by rail," she said.

Dr. David B. Clarke, director of the Center for Transportation Research at The University of Tennessee, Knoxville, predicts that this decline will "affect the health of the railroad industry, in my opinion, especially the two eastern railroads: Norfolk Southern and CSX. We're already seeing that reflected in their stock prices and their earnings."

In contrast, natural gas is transported primarily by pipeline in the United States, though according to the Omaha World-Herald, Union Pacific Railroad has applied to the Federal Railroad Administration to be the first railroad permitted

## A Baltimore and Ohio train passes through Durbin, W. Va. Photo by Donnie Nunley



to carry natural gas in its liquefied form.

According to Clarke, more trains are now carrying crude oil from the Bakken shale formation in North Dakota and Montana, which is "poorly served by the pipeline network," in part "to recover some of the lost energy business" resulting from the shift away from coal. In February 2014, The Wall Street Journal reported that roughly 70 percent of Bakken oil was transported by train and was significantly more combustible than oil from other sources.

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# Coalfields Expressway

Virginia Highway Project Raises Questions about Relationship Between Coal and Roads

By Molly Moore

Ever since Appalachian coal began to power the Industrial Revolution, this fuel has influenced the location and condition of roads in the coal-bearing regions. In Virginia, a highway project currently under consideration — and partially under construction — is raising questions about the relationship between coal and the commonwealth's transportation infrastructure.

The Coalfields Expressway was proposed as a way to link U.S. Route 23 in Virginia with Interstate 77 and Interstate 64 in West Virginia, attract new business and tourism to the area and diversify the local economy away from a dependence on coal mining. In the 1990s, the proposed four-lane thoroughfares in both states were designated Congressional High Priority Corridors. And in 2001, the Virginia Department of Transportation completed its environmental review of a host of road proposals, settling on a preferred route.

## The Coal Road

Yet the effort was stymied by the cost of constructing a new highway in the rugged Appalachian landscape — until West Virginia found a financial workaround. The Mountain State developed a partnership where mining companies would extract coal along the highway route, providing a rough-grade roadbed at a steep discount to the state in return.

In 2006, the Virginia Department of Transportation and two coal companies — Alpha Natural Resources and Pioneer Group — decided to follow the West Virginia model and began investigating a similar plan for the commonwealth's



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The approximate route of the proposed Coalfields Expressway would traverse southwest Virginia and southern West Virginia.  
Map courtesy Virginia Department of Transportation

26-mile portion of the Coalfields Expressway, also known as Route 121. A small portion of the road has been approved and is in various stages of construction, but the remainder of the highway is on hold awaiting further review.

After the coal companies joined the process, the public-private partnership announced a new preferred route, one that wasn't part of the 2001 review. The announcement spurred local debate over whether the expressway would bring promised economic development, and raised questions about how high an environmental cost is allowable in the name of a new highway.

The route change also attracted fresh scrutiny from the Federal Highways Administration, which is working with VDOT on a new study of the road's positive and negative impacts that is expected to be released this fall.

Representatives from VDOT say that recovering coal reserves from the roadbed is incidental to the construction of the highway. But opponents of surface mining, including nonprofit organizations Southern Appalachian Mountain Stewards, Appalachian Voices and Sierra Club, are quick to point out that the partnership with the state also qualifies the companies for the Government Finance Exemption.

This state clause means that the coal-mining operations associated with the Coalfields Expressway would be subject to the environmental standards that govern highway-building rather than federal surface mining regulations. The Virginia Department of Mines, Minerals and Energy would be responsible for ensuring that mining occurs only within the boundaries of the new route and is an engineering necessity.

In 2012, VDOT released an assessment of the environmental impacts of the revised project, a study that the nonprofits found inadequate. The groups urged the Federal Highways Administration to require a more comprehensive review to provide the public with information about how the new route would affect natural resources and community health compared with alternative transportation op-

tions. The study, called a supplemental environmental impact statement, would also consider the economic effect of relocating the route away from several town centers.

"The impacts of mountaintop removal are significant, and have been well documented in peer-reviewed studies," says Kate Rooth of Appalachian Voices. "Our concern is not with building a road, but rather, with the reliance on destructive mining practices to build it."

Following the assessment's release, Marley Green, a Sierra Club organizer at the time, stated that a more thorough analysis was needed to determine how the route will affect the health of nearby residents, particularly in light of studies that have connected health problems to surface mining. He also questioned whether the stream damage that would result from the new route might overwhelm already-impaired waterways and violate the Clean Water Act.

The Federal Highways Administration agreed with the request for a more robust review, and the federal agency and VDOT are now conducting a supplemental environmental impact statement.

## Citizen's Alternatives

Environmental advocates including Rooth hoped that the additional analysis provided by the new comprehensive review will help determine whether the Coalfields Expressway — which has an estimated taxpayer price tag of \$2.8 billion — is indeed the strongest long-term economic investment on the table.

In the winter of 2015, Southern Appalachian Mountain Stewards, Appalachian Voices and the Sierra Club convened several hearings to solicit citizen input regarding alternative transportation improvements that could help boost the area's economy. The organizations requested that VDOT consider the citizen proposals alongside the various routes for the Coalfields Expressway, both as alternatives to the new highway and as ideas for future transportation planning.

Among the proposals voiced during those forums were calls to either widen portions of Route 83, the state highway that parallels the proposed route of the Coalfields Expressway, or make it a four-lane road in its entirety.

*Continued on next page*

## Coalfields Expressway

*Continued from previous page*

Transportation dollars should be spent on the secondary roads that need attention and on trail systems that could increase tourism/recreation opportunities," notes Bier.

Area residents also suggested modifications to widen or add bridges to other nearby state highways, such as Route 80 and Route 63, and emphasized the need to improve traffic patterns in several town centers by adding stoplights, turn lanes and traffic circles. Improving access to parks and recreation areas by paving gravel roads and enhancing signage was also a top priority at the sessions, with locals highlighting the John W. Flannagan Reservoir and Cranes Nest Campground in Dickenson County.

Residents also suggested increased investment in the regional agency on aging, which provides the sole public transit option in the area (see page 6), and also recommended support for other projects, such as the Spearhead Trails motorcycle and ATV Park, that have already had a positive impact on the economy.

Like many local leaders, Dickenson County Board of Supervisors Chair David Yates sees roads as economic opportunities. He is in favor of improving Route 83 by increasing the number of turn and passing lanes on this two-lane highway, which is easily clogged by industrial truck traffic.

Yates also supports the Coalfields Expressway, and believes it would make the county a more appealing location for light manufacturing. "The transportation piece would put us on an even playing field," he says. "Our people have an intuitive feeling for solving problems and [making] things work."

Others are more skeptical of the claims that the expressway project would bring economic prosperity. Bier questions claims from VDOT and public officials that the road will result in long-term job creation. "Time, money and efforts of citizens, public officials and agencies would be better spent on looking for other ways to improve [the] economic outlook of the area," she adds.

## Waiting Game

Despite the citizens' alternatives, the government team currently preparing the supplemental review will compare

## Appalachian Rails

*Continued from page 7*

In response, the U.S. Department of Transportation announced new regulations to oversee the transport of these hazardous materials. In May, the agency announced its final rule to increase the safety of trains carrying flammable materials. According to Progressive Railroading, the new rule "focuses on safety improvements designed to prevent crude-by-rail accidents, mitigate consequences if an accident occurs and support emergency-response efforts."

### It's critical that VDOT and Federal



# A Solution Revolution

## Renewable Energy and the Energy-Efficient Electric Vehicle

By Jeff Deal

While the electricity grid that powers much of the 21st century continues to benefit from the adoption of renewable energy sources like solar, wind and geothermal, vehicles powered by gasoline and diesel have lagged behind. But here's some good news: the coming partnership of renewable energy — especially solar — and tailpipe-free electric vehicles can change that for the better! Here's how:

### GREATER ENERGY EFFICIENCY:

Electric vehicles use between 59 and 62 percent of the fuel they expend "at the wheel," or to power the movement of the automobile. Today's gasoline vehicles only use 17 percent to 21 percent of the fuel they consume "at the wheel," making electric cars 290 percent more efficient than their gasoline-powered cousins.

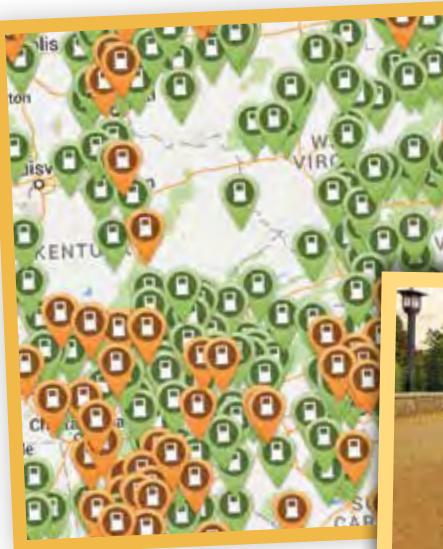
### AFFORDABLE TRANSPORTATION:

The U.S. Department of Energy currently states that fueling electric vehicles costs the equivalent of \$1.22 per gallon of gasoline versus \$2.78 for the average

American gasoline-powered car. The equivalent "per gallon of gasoline" price to fuel an electric vehicle can drop to \$0.61 for families charging their electric vehicles with solar electricity generated by panels on their home that were purchased with state and federal tax credits. The fuel price

can plunge even lower for businesses that additionally depreciate or "write-off" these panels.

**EVERY HOME & OFFICE A CLEAN FUEL REFINERY:** It is difficult, or perhaps impossible, for citizens and businesses to construct and operate their own gasoline or diesel fuel production facility — not to mention acquiring the unrefined petroleum or vegetable oil to produce the fuel. For electric vehicle owners that own or have access to solar panels



This map shows public (green) and high-power (tan) charging stations in the area. Image from plugshare.com



The Apperion solar-powered race car at right, photo courtesy of Appalachian State University.

## Light Speed Racing on the Sun

Students and faculty on the Solar Vehicle Team at Appalachian State University in Boone, N.C., have finished their construction of "Apperion," a solar-powered racing vehicle.

The team has set their sights on the Formula Sun Grand Prix in July 2016. The race is a qualifying competition for the American Solar Challenge, a 1,200 to 1,800-mile race across North America. In October 2017 the team hopes to go to the World Solar Challenge in Australia to compete in the "cruiser class" race alongside cars de-

signed for speeds up to 90 miles per hour.

The team is led by two faculty advisers working with 18 university undergraduate students from a diverse collection of disciplines. While winning races may be a goal for the solar vehicle team, their ultimate aspiration is to inspire people to live more sustainably and raise awareness of the impacts that individuals can make.

Learn more at [appstatesvt.com](http://appstatesvt.com)

— By W. Spencer King

## APPALACHIAN MOUNTAIN PHOTOGRAPHY COMPETITION

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Detail of "Lethal and Leveled" by Lynn Willis, 2015 Winner, Our Ecological Footprint

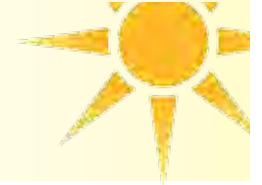
Appalachian Voices is proud to co-sponsor the Our Ecological Footprint category with Mast General Store to raise awareness of the impact that humans have on our surroundings.

Offers a diverse mix of music & informative programming for the heart of Appalachia.

## Music from the Mountains

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Brightfield charging station in Asheville, N.C.



## Driving on Sunshine

### Appalachia's Solar Electric Vehicle Charging Company

Brightfield Transportation Solutions, an Asheville, N.C.-based company, has harnessed the world's largest and longest transportation fuel pipeline. This nearly 93-million-mile wireless pipeline wasn't constructed by a large corporation, isn't causing a political fist fight, never leaks toxic substances and powers every living thing in Appalachia. Now thanks to Brightfield TS — with a lot of help from nature — the sun can power your electric automobile too.

Through its partnerships with auto-

makers, electric vehicle support equipment manufacturers and policy groups, Brightfield TS is deploying solar electric vehicle charging stations across the Southeast, including North Carolina destinations such as Boone, Waynesville and Salisbury. Brightfield TS is now expanding its network of sun-powered fueling stations into Tennessee. To explore the benefits of driving electric vehicles on 200-proof Appalachian sunshine, visit BrightfieldTS.com/Solar-Driven-Calculator

— By Jeff Deal

## Drivers of Pollution

By W. Spencer King

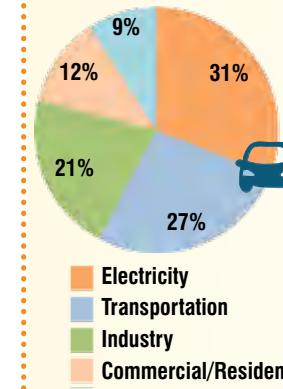
Nearly ninety percent of Americans drive to work everyday, the commute bookending the workday with traffic, red lights and monotony.

Greenhouse gases contribute to climate change and smog, which are detrimental to both the environment and human health. These gases come from many sources including industry and electricity generation, but nearly every commuter is involved with one of the largest factors of greenhouse gas

emissions: gasoline-powered vehicles.

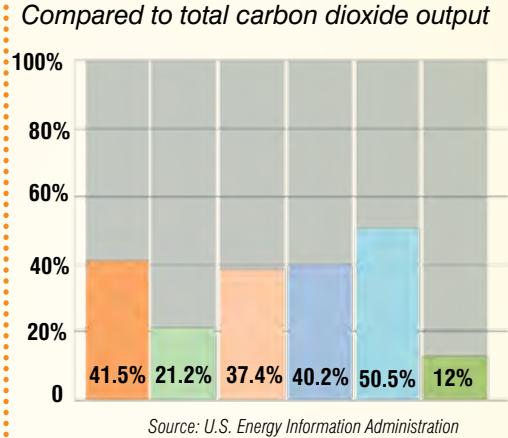
Among the greenhouse gases from the transportation sector, **carbon dioxide** traps heat in the Earth's atmosphere and is a centerpoint in the discussion about global warming. **Methane** affects the upper atmosphere by degrading the ozone layer, and **nitrous oxide** also poses a significant threat to ozone layer depletion. **Fluorinated gases** have a large global warming potential; they leak from refrigerants used in vehicle air-conditioning units and can stay in the atmosphere for decades.

### U.S. Greenhouse Gas Emissions by Sector, 2013



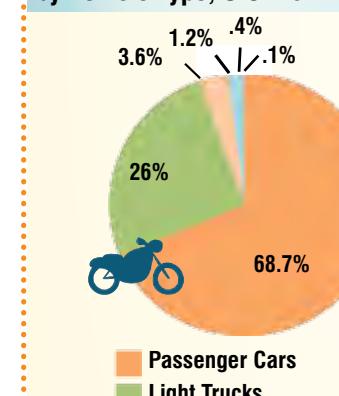
Source: U.S. Environmental Protection Agency

### Percentage of Transportation-related Carbon Dioxide Pollution by State



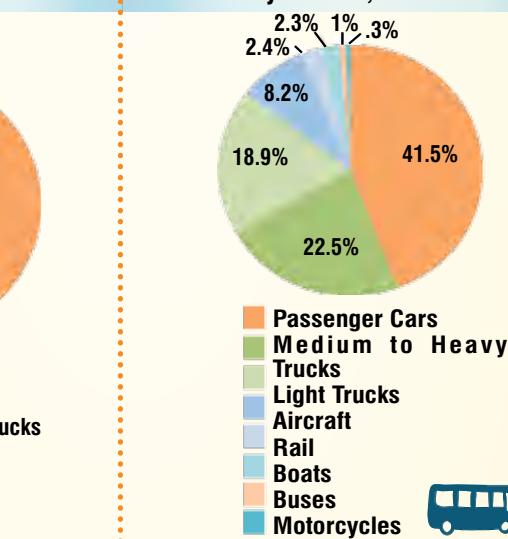
Source: U.S. Energy Information Administration

### Percentage of Gasoline Consumption by Vehicle Type, U.S. 2012



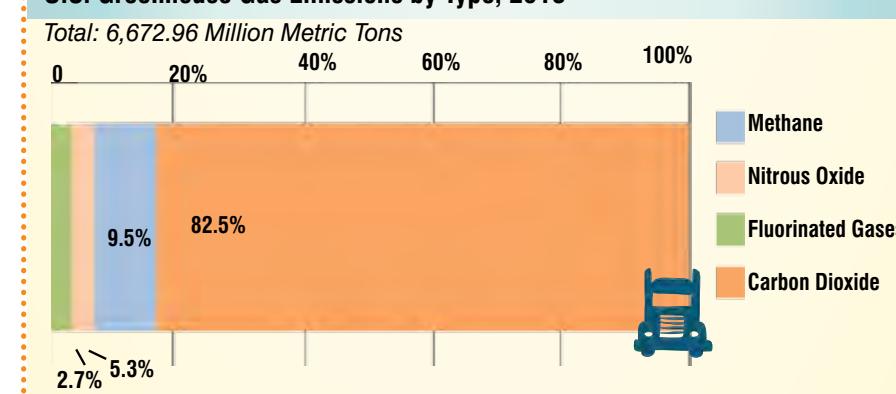
Source: U.S. Energy Information Administration

### Percentage of U.S. Greenhouse Gas Emissions by Vehicle, 2012



Source: U.S. Environmental Protection Agency

### U.S. Greenhouse Gas Emissions by Type, 2013



Vectors designed by Freepik.com

## Asphalt: A Sticky Issue for Communities

Improving roads is critical to the economy of Appalachia, but with paving comes asphalt — a sticky, black, petroleum-based product used for surfacing roadways — and the strong-smelling facilities that process it.

Citizens in Watauga County, N.C., recently organized to protest separate proposals to build two new asphalt plants in their tourism-driven community of 54,000. Under the newly formed High Country WATCH, a chapter of Blue Ridge Environmental Defense League, the residents successfully petitioned county commissioners to add important protections to the county's ordinance governing high impact industry, including setbacks from residential property lines and from scenic byways.

Both permits were rejected by county officials on technical details, but appeals filed by the two companies are up for review this fall. To learn more, visit [highcountrywatch.org](http://highcountrywatch.org).

— By Jamie Goodman



# Biking the Highlands

## Rails To Trails

### Former Railways Find Second Calling as Bicycle Paths

By Joe Tennis

All over the Appalachians, railroads were built in the late 1800s and early 1900s as a means to move coal, timber and people. More than a century later, with expansion of highways and a change in industries, many of those railroads have since been abandoned.

Now, from the Virginias to the Carolinas, old rails have turned to trails. What were once rail lines have become paths for hiking, biking and even horseback riding. Such projects range from the 34-mile downhill grade of the

Virginia Creeper Trail to the river-hugging path of the New River Trail State Park, spanning 57 miles, to the relatively flat 78 miles of the Greenbrier River Trail in West Virginia.

Each rail-turned-to-trail has a tale to tell. Here are three, including some that are new and maybe lesser-known:

*Joe Tennis is the author of "Virginia Rail Trails: Crossing the Commonwealth" (The History Press, 2014).*

### VIRGINIA: Chessie Nature Trail

Chessie Nature Trail follows a path along the Maury River that has been fractured by floods. Its bridges have been broken. Still, the Chessie, which connects Lexington to Buena Vista, remains a remarkable riverside ramble — with chiseled rock walls and scenic views.

Spanning about seven miles, this gravel and dirt path offers a mix of open and forested scenes. Look along the Maury River for the remains of locks and dams. Also see railroad markers, like a "W" (a signal for the engineer to blow the train whistle) that stands along the trail amid cows in a field.

As early as 1860, this line began as a towpath for boats — using the power of mules and horses — at a canal along the North River, which was renamed Maury River in 1945. That towpath was abandoned due to flooding, but a railroad was built in its place in 1881, connecting Lexington to the Balcony Falls on the James River.

That railroad ultimately became part of the Chesapeake and Ohio Railway. Trouble was,

floods continued along the river. Hurricane Camille damaged the line so extensively in 1969 that the railroad to Lexington was abandoned.

In 1978, the Nature Conservancy acquired the railroad grade. Later, the rail became a trail overseen by the VMI Foundation initially, in 1979, and later by Virginia Military Institute in 2009.

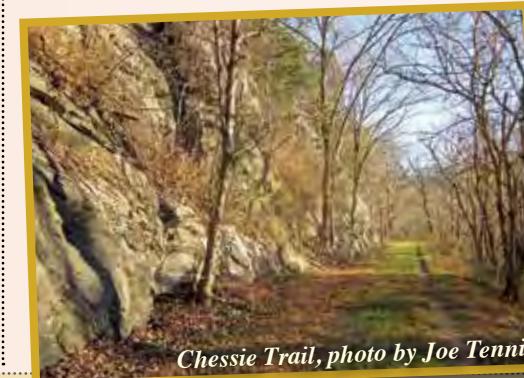
Originally only open to foot traffic, bicyclists are now also welcome, even though the Buena Vista portion of the trail remains a tough trek when encountering cattle gates.

On the north, the trail begins near Mill Creek just off Old Buena Vista Road, east of U.S. 11. Originally, the trail connected to what is locally called "VMI Island," but a flood wiped out a footbridge. Later, Hurricane Isabel slammed the South River crossing in 2003, about halfway between Lexington and Buena Vista, which forced trail-users to use an on-road detour on Stuartsburg Road.

Visit: [vmi.edu](http://vmi.edu)



Chessie Trail, photo by Joe Tennis



Chessie Trail, photo by Joe Tennis

#### North Bend Rail Trail: 72 miles

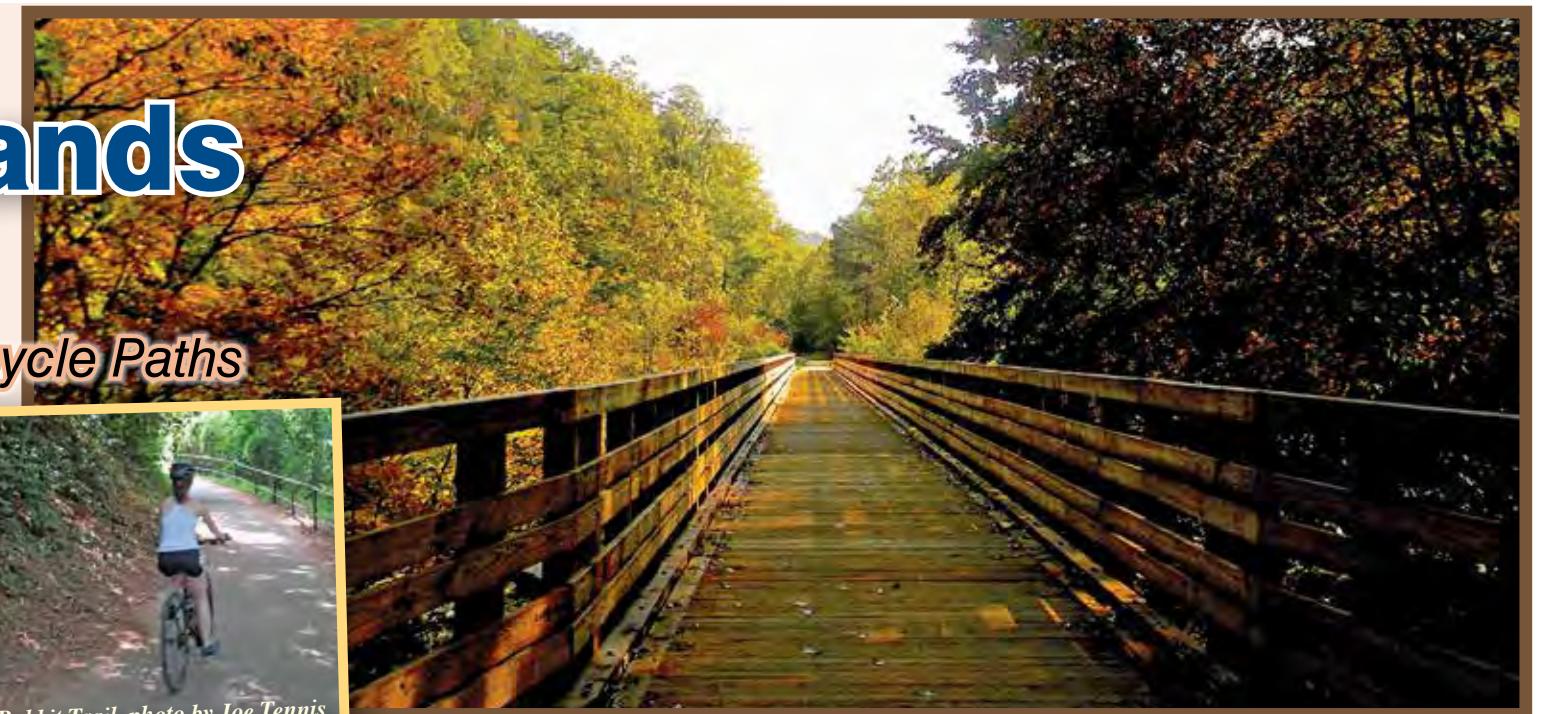
Doddridge, Harrison, Ritchie and Wood Counties, W.Va. See tunnels from 1850s belonging to original line. Biking, horse riding, hiking, skiing. Visit [northbendrailtrail-statepark.com](http://northbendrailtrail-statepark.com)

#### New River Trail State Park: 57 miles

Carroll, Grayson, Pulaski and Wythe Counties, Va. Follow the nation's oldest river. Biking, horse riding, hiking, skiing. Visit [dcr.virginia.gov/state-parks/new-river-trail.shtml#general-information](http://dcr.virginia.gov/state-parks/new-river-trail.shtml#general-information)

#### Brevard Bike Path: 5 miles

Transylvania County, N.C. Flat trail along Carr Lumber Company rail line. Biking and hiking.



Autumn colors emerge along this bike-friendly wooden bridge. Photo courtesy of the Dawkins Line Rail Trail

### KENTUCKY: Dawkins Line Rail Trail

At 18 miles long, the Dawkins Line Rail Trail ranks as the longest rail-to-trail conversion in Kentucky. It's also an affiliate of the state park system.

"We own anywhere from 30 to 60 feet from center of the trail," says Ron Vanover, assistant director of interpretations and program services at Kentucky State Parks.

The first section of the trail opened in 2013, offering a passage for bikers, hikers and horseback riders from Hagerhill in Johnson County to Royalton in Magoffin County. Along the way, the passage travels over a couple dozen trestles

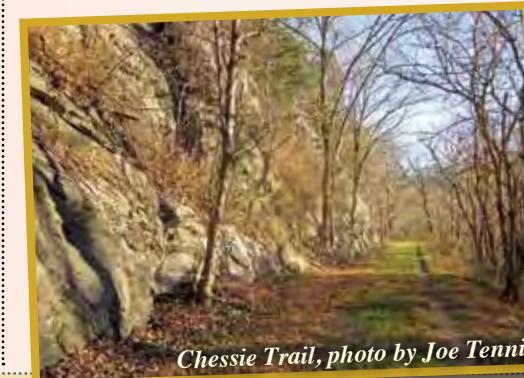
and passes through the 662-foot-long Gun Creek Tunnel.

Now, work continues on expanding the trail. Nearly nine more miles are expected to be open by the end of 2015 while another nine miles will remain under construction in 2016, passing into Breathitt County and through the 1,556-foot-long "Tip Top" Tunnel, Vanover says.

The trail takes its name from the Dawkins Lumber Company, which developed a railroad in the early 1900s to haul timber. The line was silenced to rail traffic in 2004. Next came plans to turn the rail into a trail — with the encouragement of the Kentucky General Assembly, which approved start-up funds for the project.

Today, you can view elk from this trail as it cuts through the rugged mountains of the Bluegrass State. The Dawkins Line Rail Trail can be accessed from a handful of sites, including Jenny's Branch. To get there from Pikeville, Ky., follow U.S. 23 north for 34 miles. Turn right toward KY-825, then turn left onto KY-825 to reach the trail access area.

Visit: [parks.ky.gov](http://parks.ky.gov)



Chessie Trail, photo by Joe Tennis

#### Tweetsie Trail: 9.5 miles

Carter and Washington Counties, Tenn. Enjoy the recently completed trail. Biking and hiking. Read more at [appvoices.org/tweetsie](http://appvoices.org/tweetsie). Visit [tweetsietrail.com](http://tweetsietrail.com)

#### Virginia Creeper National Recreation Trail: 34 miles

Grayson and Washington Counties, Va. Varied landscapes and beautiful views. Biking, horse riding, hiking, skiing. Visit [vacreepertrail.com](http://vacreepertrail.com)



## Rail-Trail Roundup

Dozens of rail-trails are scattered across central Appalachia. For more information about these and other trails in the region, visit [traillink.com](http://traillink.com).

**Allegheny-Highlands Trail: 24.5 miles**  
Randolph, Tucker Counties, W.Va. Scenic mountain views. Biking, horse riding, hiking, skiing. Visit [highlandstrail.org](http://highlandstrail.org)

**Brevard Bike Path: 5 miles**  
Transylvania County, N.C. Flat trail along Carr Lumber Company rail line. Biking and hiking.

Visit [traillink.com/trail/brevard-bike-path.aspx](http://traillink.com/trail/brevard-bike-path.aspx)

#### Kingsport Greenbelt: 8 miles

Sullivan County, Tenn. Civil War sites and historic landmarks. Biking and hiking. Visit [kingsportgreenbelt.com](http://kingsportgreenbelt.com)

#### New River Trail State Park: 57 miles

Carroll, Grayson, Pulaski and Wythe Counties, Va. Follow the nation's oldest river. Biking, horse riding, hiking, skiing. Visit [dcr.virginia.gov/state-parks/new-river-trail.shtml#general-information](http://dcr.virginia.gov/state-parks/new-river-trail.shtml#general-information)

### SOUTH CAROLINA: Swamp Rabbit Trail

Today, what was once a railroad cutting through Greenville has been replaced by what is formally called the "Greenville Health System Swamp Rabbit Trail." This multi-use greenway system for bicycles and foot traffic runs along the Reedy River and overlooks the giant waterfall on the river at the center of the city. It also connects Greenville County with schools, parks and local businesses.

As early as 1889, a group of businessmen gathered to create a new venture called the Carolina, Knoxville and Western Railway. Their purpose? Connect Greenville, S.C., with the ports on the Atlantic coast, as well as Tennessee.

Passengers, however, came up with a new name, calling this railroad the "Swamp Rabbit" — a moniker given, it's believed, from the wetlands along the Reedy River and the bouncy nature of riding these rails.

For about a century, the railroad changed hands — and names — quite frequently. Then the line was abandoned in 1998 and the property acquired by Upstate Forever, a nonprofit group. Greenville County Economic Development Corporation later stepped in

as plans evolved, building a trail from the old rail line. Volunteers also hopped aboard, working to remove vegetation and clear the path for a trail.

The ever-expanding trail between Greenville and Travelers Rest spans nearly 20 miles and has about 500,000 annual users.

"It kind of gives you the option to exercise and ...see the entire city," says 29-year-old Eric Helms, a frequent trail user and a restaurant manager in Greenville. "It's a long trail, and you can ... drop off the trail and stop and see the Reedy River."

Parking is available at several sites, including the corner of Grandview Road and Main Street in Travelers Rest and at Furman University, Mayberry Park and Cleveland Park in Greenville.

Visit: [greenvillerec.com/swamprabbit](http://greenvillerec.com/swamprabbit)



A family bikes at Grayson Highlands State Park campground, near the popular 34-mile Virginia Creeper Trail. Photo courtesy Virginia State Parks

Rock, N.C., for a week every year with friends he met on bike tours. He rides the scenic stretch of the Blue Ridge in that area for its safety, as he feels that cyclists are recognized on the roads in western North Carolina, but he would like to do less searching around to plan his trips.

"Information about rides is important," says Gates, "where is a good place to eat, selections of routes that are easy, moderate and challenging."

*Continued on page 14*

## Plan A Route

- Trails.com features road bike routes by state and includes some topographic maps and trail reviews.
- NCbikeways.com is an initial, beta release of an interactive map where you can plan your own bike route across North Carolina. Provide suggestions to help improve the site!

## Safety First!

- Always use a clip-on rearview mirror when road biking to be aware of motorists behind you.
- Know how to change a tire and bring spare tubes.
- Be prepared for emergencies in areas without cell phone service. Call ahead to your destination to give notice of your arrival before leaving.

# BioBuses

Universities Experiment with Alternative Fuel

By Chris Robey

Universities have long experimented with alternative fuels — engineers at the University of Georgia were tinkering with buses fueled by peanut oil in 1981. But in the decade since Hurricane Katrina caused fuel disruptions nationwide, schools have sought ways to switch their diesel-guzzling bus fleets to alternatives such as biodiesel, a fuel derived from feedstocks, animal fats or used cooking oil.

By 2007, schools such as Appalachian State University, the University of Tennessee-Knoxville and the University of Virginia were receiving praise for their innovative, often student-led biodiesel initiatives. Now, recurring maintenance issues have prompted many of these same universities to temporarily place these initiatives on the backburner. Some schools have no plans of switching back while others, such as Appalachian State, are looking to reintegrate biodiesel after briefly discontinuing its use.

The Association for the Advancement of Sustainability in Higher Education notes that switching to biodiesel does not make a fleet carbon-free. Common blends like B20, or 20 percent biodiesel, are still mostly petroleum.

While biodiesel can be made from recycled used cooking oil, soybeans and other feedstocks are more common sources. Feedstocks require more cropland and must be shipped long distances from growers in regions like the Midwest to fuel suppliers in Appala-

chia. Such complications can throw the actual environmental benefit of using biodiesel into question.

According to Jonathan Monceaux, assistant director of Transportation Services at the University of Virginia, the school's buses once ran up to B30 but have since switched to ultra-low-sulfur diesel. He cites bad luck with engine troubles in cold weather, noting that fuel lines tend to gel up with lower temperatures as biodiesel, especially richer blends like B20, congeals into a sticky mess that the fleet manager at UVA has likened to peanut butter and jelly.

Sustainability analyst Kerby Smithson says that Asheville Redefines Transit, the bus system for the city of Asheville, N.C., has experienced similar issues. The bus system, whose ridership includes students from the University of North Carolina-Asheville as well as nearby Warren Wilson College, upgraded to B20 in 2013. The following year, single-digit temperatures brought a host of issues with gelling and clogged fuel lines. Buses broke down almost daily that winter, says Smithson.

In response, the city reached a compromise with its fuel suppliers, including local producers such as Blue Ridge Biofuels, which manufactures its fuel from used cooking oil. Now, the city runs its buses on B20 for nine months of the year. Come winter, ART buses switch to a low-level blend less likely to gel and clog the engines.

Asheville fleet managers also employ another alternative: biodiesel-



Each of Elon University's 11 BioBuses is equipped to run on a 20 percent biodiesel fuel blend. Photo courtesy of Elon University.

electric hybrids. Seven of Asheville's 23 buses are equipped to run on both electricity and B20. A 2008 report from Purdue University suggests that such hybrids can help transit systems reduce emissions and fossil fuel consumption without compromising fuel economy.

Students at Elon University in North Carolina can ride one of the school's 11 BioBuses, equipped to run on B20. "We liked the B20 so much we changed over our older diesel engines in trucks and other equipment," says Keith Dimont, the university's automo-

tive services manager. He admits there have been problems with clogging in the winter, "though it's not enough of a problem that we can't keep the buses running on time," he says.

Joshua Brooks, project manager for the student-run Renewable Energy Initiative at Appalachian State, says that while the school's AppalCart buses have not run on biodiesel for over a year, they may soon be reintroducing the fuel. As the industry improves and fleet managers adopt more innovative strategies, more schools may yet do the same.

## Pedal in the Mountains

Continued from page 13



Jim Artis, right, stopped in Haywood County, N.C., to visit with Zeke Yount, left, while on a ride from Maine to Florida. Photo by Zeke Yount.

"Cycling clubs are a really good way for people to develop friendships," says Susan Notorangelo, long-distance cyclist and co-founder of Pacific-Atlantic Cycling Tours. Gates will be joining the company's Eastern tour that follows the entire Appalachian Mountain chain from Maine to Georgia for four weeks in summer 2016. The following year, single-digit temperatures brought a host of issues with gelling and clogged fuel lines. Buses broke down almost daily that winter, says Smithson.

In response, the city reached a compromise with its fuel suppliers, including local producers such as Blue Ridge Biofuels, which manufactures its fuel from used cooking oil. Now, the city runs its buses on B20 for nine months of the year. Come winter, ART buses switch to a low-level blend less likely to gel and clog the engines.

Asheville fleet managers also employ another alternative: biodiesel-

working on a 450-mile mountain bike trail extending across Virginia that takes riders deep into the wilderness. The patchwork trail connects existing systems in national forests and was first ridden in its entirety in 2012.

In a region with an extensive hiking network, cycling further promotes eco-tourism near Appalachia's rural towns. Bike companies are catching on to this potential too. Bikes in Beds notes that bike brands are promoting "a new breed of cyclists ... to be travelers and tourists" with the introduction of adventure bikes that cater to those wanting to explore by road, dirt or gravel.

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## This GREEN House Vaughn's Diesel

### Brewing Biofuel On the Farm

By Julia Lindsay

Dean Vaughn is the picture of the Appalachian self-made man. He works at a factory and farms his land in Tennessee. And he also built and runs his very own biodiesel fuel processor.

Biodiesel is a renewable alternative to petroleum-based fuels. Made from corn or soybean oil as well as used cooking oil or animal fats, this degradable biofuel will run in most diesel-powered engines without any modification to the vehicle. Unleaded fuel cars with rubber fuel lines, typically those manufactured prior to 1993, can convert to using biodiesel by replacing their fuel lines with modern synthetic lines.

Vaughn uses his biodiesel for his farm equipment and trucks, and used to have a diesel Jetta and Mercedes that ran on his fuel. He began making his own fuel at the height of the economic crisis in 2008. He calculates his finished product to cost about 75 cents a gallon, upwards of three dollars less than the sky-high gas prices at the time. Though saving money played a role in why he started making fuel, he adds, "I got a kick out of making something usable out of trash."

Recycled cooking oil is the main ingredient, making Vaughn's method of production more sustainable than other biodiesel methods. When mass producers plant corn in industrial agri-

cultural farms for use in biodiesel, for instance, they require more natural resources like land and water.

Vaughn gets his recycled oil from a local hospital cafeteria. When a cafeteria employee told him that the hospital was paying a company to haul off the waste oil, he told her "I'll keep your oil clean and your place clean, and you don't need to pay anybody." Thus, a symbiotic relationship emerged.

"Brewers" of biodiesel use a process called transesterification. Like the word itself, the process is complex, but Vaughn already understood the concept from working at a chemical company. "It's been so many years now, I kind of sleep-walk through the steps," he says.

To remove these, Vaughn runs water through misting heads, like those in the produce section at the grocery store, for six hours. The water molecules attach themselves to the impurities. In the final step, he lets the mixture circulate at 120 degrees to evaporate the water. "You can do it in one day," he says, and voila — biodiesel.

According to the EPA, biodiesel produces 57 to 86 percent less greenhouse gas emissions, depending on the blend, than petroleum. Biodiesel also releases fewer pollutants from a car's exhaust pipe than petroleum.

"The chemistry's different," he says, "but it's like a work in progress; you have good batches and some that don't work out as well." He is still learning and making changes. For example,



The biodiesel stored in Vaughn's 275 gallon storage tanks (left) powers his diesel trucks (above) and his farm equipment. Photos by Dean Vaughn.

he warns, "You don't want to use 100 percent biodiesel in the winter." The cold weather will cause the fuel to gel, rendering a vehicle inoperable. This he learned the hard way.

The solution: blending petroleum-derived diesel and biodiesel. Most biodiesel plants produce a blend with about five to twenty percent biodiesel. In the summer, Vaughn's vehicles run on 100 percent.

Preferring to work in the spring, Vaughn will undertake his 72 gallon-producing process several times and store the fuel in the summer. He has 550 gallons of storage capacity. "If you don't have acreage," he says, "it can be a bit of a headache."

Biodiesel newcomers lacking the space to produce on their own shouldn't look to Vaughn to purchase some, however. "I've never been interested in the liability," he says. "It's just me. What I do. My thing."

For more information on how to make biodiesel, visit [make-biodiesel.org](http://make-biodiesel.org).

## BUILDING BETTER SPONSORED BY Sunny Day Homes Inc.

### A Resource for Responsible Home Ownership

By Sam Zimmerman, Sunny Day Homes

Homes consume a great deal of energy and natural resources during construction, and even more when in operation. This energy is often extracted in ways that are detrimental to the planet, and the pollution from electricity generation is contributing to an increasingly volatile climate with potentially unfortunate consequences for everyone.

By understanding how a home is constructed and where the resources come from, homeowners and building professionals can make careful choices to lessen the impact of the construction project.

Homeowners know that they are using energy to heat and cool their home, run their appliances and heat their water. But what is not as obvious is that the combined impact of all these homes is a very large contributor to global greenhouse emissions. Reduced energy



consumption from the building sector begins with an informed customer asking for more energy-efficient, healthier homes to live in and raise their kids.

The basic formula is very simple:

Reduce your home's energy consumption by eliminating wasted energy due to leaks and poor insulation while improving the efficiency of the appliances and equipment.

Install renewable energy systems to produce emission-free lean energy.

In this column, we hope to help you see where your home fits into the sometimes daunting quest to reduce your overall energy consumption. Feel free to send questions about how to improve your home's energy consumption or topics you'd like to see addressed in future.



# Naturalist's Notebook

## The Coyote Conundrum

By Laura Marion and Elizabeth E. Payne

Once found in the United States only in the western plains, coyotes are increasingly at home in the cities and suburbs of central Appalachia.

After European settlers hunted coyotes and other predators extensively—including wolves, cougars and bobcats—only the coyote population grew, writes Sharon Levy for Nature. With little competition, coyotes expanded east, reaching the Appalachian region several decades ago.

Michael Fies, of the Virginia Department of Game and Inland Fisheries, says that coyotes were first spotted in the mountains of southwestern Virginia in the late 1970s and have since spread throughout the state. This pattern has repeated across the region.

Male coyotes are generally larger than females, weighing 18 to 44 pounds compared with females that weigh on



A coyote hunting in the Tennessee Valley. Photo by Matt Knoth

average three pounds less. Adult coyotes are between three and four and a half feet in length. "Coyotes are now in every county of the nation, except maybe Hawaii," the Fairfax County, Va., Park Authority reports.

Fies estimates that the Virginia coyote population numbers at least 50,000. "Populations grew quickly when they first arrived," he says, "and now they've kind of stabilized," particularly in the western part of the state.

Coyotes are predators that can inflict costly losses when livestock becomes prey. But according to the West Virginia Division of Natural Resources, coyotes also help control the population of animals such as white-tailed deer, mice and rats.

Coyotes are very adaptable and "thrive very well in the presence of humans," says Fries. "We are getting increased reports of coyotes in urban areas. So, although there's not as many of them as there are in the rural areas, I would say that we can expect an increase in urban coyote issues in the future, for sure," he says.

Scientists from Ohio State University studying urban coyotes in the Chicago area have found that male and female pairs mate for life and only seek new partners if their mate dies. According to an article in National Geographic, this behavior gives the urban coyote a competitive advantage, since it allows the female to produce larger litters which the male then helps to raise and protect. This study also found that urban settings tend to make coyotes more nocturnal, since they choose to hunt when fewer humans are outdoors.

According to the Humane Society of the United States, however, encountering a coyote during the daytime does not indicate that the animal sick. While it is true that coyotes have a greater risk of contracting rabies in areas with a large population of unvaccinated domestic dogs, being active during the daytime is not an indication that they have contracted this disease.

A Virginia Tech study of coyotes completed earlier this year documented

## The Wiley Coyote

- Coyotes can run up to 40 mph and are also good swimmers
- The main predator of coyotes in central Appalachia is humans
- Coyotes will eat almost anything, but their main diet consists of fawns, rodents, rabbits, berries, fruits and carrion
- The size of coyote packs depends on the availability of resources
- Gestation lasts approximately 62 days, after which the female coyotes give birth to 4-6 pups

another adaptive behavior: when a population's mortality rate is high, the females respond with a higher reproduction rate.

"Sixty-three percent of the coyotes we collared were killed within the first year of being captured," Dana Morin, a graduate research assistant on the Virginia Tech study told Allegheny Mountain Radio. "But the population density isn't decreasing. And that's because mortality doesn't really have an effect on population density, because their reproduction increases in response to increased mortality."

Coyotes in North Carolina are having a negative impact on the endangered red wolf population, according to the National Wildlife Federation. When unable to find a mate, red wolves will breed with coyotes, and this interbreeding is one of the greatest threats to this fragile wolf population. Red wolves can also be easily mistaken for coyotes by hunters, and since 2013 at least 11 red wolves—or 10 percent of the entire wild population—have been shot.

In response, the N.C. Wildlife Resources Commission approved temporary rules in January that would limit coyote hunting in the counties where the red wolf is being rehabilitated.

Coyotes are naturally afraid of humans and generally avoid them, and attacks on humans are rare. When attacks do occur, however, they often involve coyotes that have been fed by humans or humans who were trying to save their outdoor pets from an attack, according to the Humane Society.

It would seem that coyotes are here to stay. Let's all take precautions so that humans, pets and coyotes can coexist peacefully.

# Living on Bottled Water

## NC Community Struggles with Drinking Well Contamination

By Sarah Kellogg

unsafe levels of hexavalent chromium, while 74 percent of those wells showed levels higher than the averages found in the 24 background wells tested by the state environmental agency.

In addition, Duke's groundwater assessment report for the G.G. Allen plant, required by the Coal Ash Management Act and funded by the company, states that the contaminated groundwater coming from Duke's ash ponds appears to be moving away from neighbors' wells toward the Catawba River. The study did not include any tests for hexavalent chromium.

"Now when I turn on the water," says Brown, "I turn on fear."

Many residents and environmental groups question the validity of Duke's groundwater report.

Brown questions Duke's claim that the multi-acred plume of groundwater contamination under Duke's ponds isn't affecting her well, which is surrounded on 3 sides by the toxic plume. "That must be some pretty smart water," quipped Brown, "to know to go right up to Duke's property line, but never cross it."

Sam Perkins, the Catawba Riverkeeper, has concerns about the location and depth of both the state's and Duke's background wells in addition to the company's analysis of the groundwater flow.

Despite Duke's assurance that their study is good news for their neighbors in Belmont, residents with contaminated wells are not reassured.

"We are living off bottled water and our property is worth nothing," says Belmont resident Larry Mathis, whose



Bottles of water sit in stacks in Amy Brown's living room. She is now familiar with how many bottles are needed for each family meal—boiling spaghetti takes four, while only two are needed for rice. Photo by Sarah Kellogg. Larry Mathis of Belmont, N.C., represents a new statewide coalition of residents affected by coal ash at a September press conference in Raleigh. Photo by Marie Garlock. Read about the coalition on p. 22.

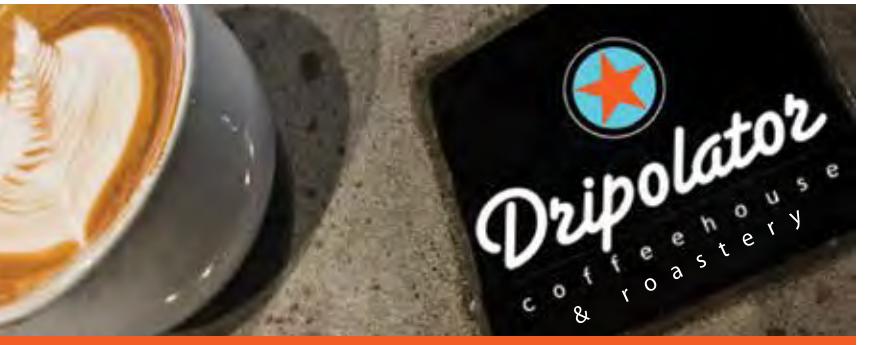
well tested 26.8 times higher than the state's standard for hexavalent chromium.

"Duke says they're a good neighbor, but they need to admit they've done wrong and step up to do better. It's not just our house and our land, it's our home."

Brown was consistently disappointed by the lack of answers she received from both Duke and state environmental regulators about the safety of her well water. Since receiving her do-not-drink letter, she has worked to connect her entire neighborhood to the resources they need to receive bottled water and organized community meetings with agencies she hoped would give her and her neighbors answers.

Duke Energy and the state have yet to make any decisions about how to address the coal ash at G.G. Allen, and neighbors are left to wonder what will come of their homes and their lives.

As Brown put it, "How much more of a prisoner can I feel like in my home, when Duke has contaminated my air and my water?"



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# Appalachia's Political Landscape

## Considering Compliance

### States Respond to the Clean Power Plan

By Brian Sewell

Almost everyone agrees: the Clean Power Plan is a game changer. In form and function, the recently finalized regulations take an innovative approach to incentivize states to reduce carbon dioxide pollution and invest in cleaner energy.

Beyond that, arguments about the Clean Power Plan are often deeply colored by politics and disconnected from the plan's intention or expected outcomes.

Developed by the U.S. Environmental Protection Agency, the plan is the centerpiece of the Obama administration's efforts to combat climate change and cut power plant carbon dioxide emissions that contribute to it.

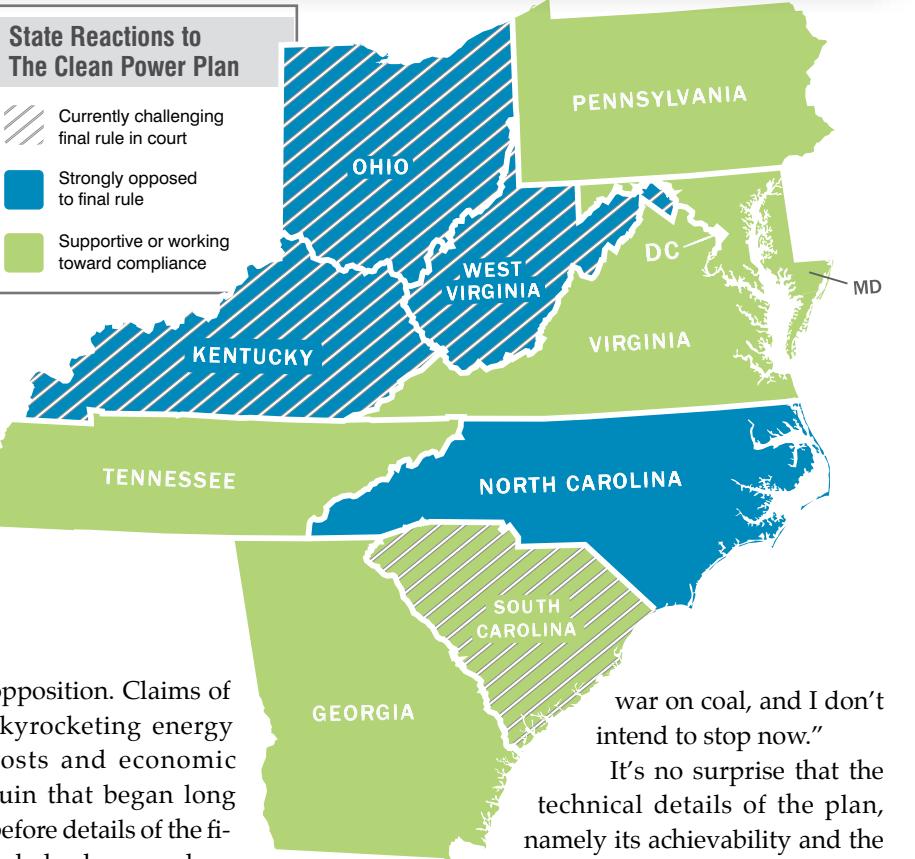
The plan sets custom pollution-reduction targets for states based on their existing

energy mixes and emissions. It also encourages states to come up with their own approach to reach those targets. By 2030, the EPA hopes to see nationwide emissions drop 32 percent below what they were in 2005.

From President Obama's perspective, "It's not radical." After all, dozens of states had already either established market-based programs to cut carbon emissions or set renewable energy goals prior to the rule's release.

"Washington is starting to catch up with the vision of the rest of the country," President Obama told a White House crowd the day of the Clean Power Plan's release. "And by setting these standards, we can actually speed up our transition to a cleaner, safer future."

But in many central Appalachian states, policymakers remain adamant in their



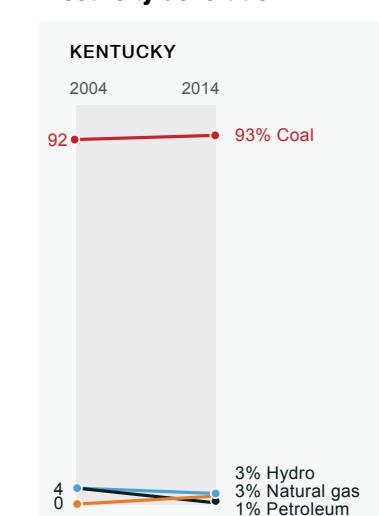
## Where Appalachian States Stand

### KENTUCKY

The final Clean Power Plan came at the height of summer and, in the Bluegrass State, a heated gubernatorial race. Candidates for both parties strongly oppose the plan and have pledged to ignore it if elected. Kentucky Attorney General Jack Conway, who is also the Democratic nominee for governor, sued the EPA in an attempt to prevent the agency from finalizing the plan and, more recently, joined an effort to prevent the final rules from taking effect. The commonwealth's current governor, Steve Beshear (D), hardened his opposition after reviewing the final rule, which increased the emissions Kentucky is required to cut. Still, analysts say that even without the Clean Power Plan, Kentucky is on track

to meet its emissions target a decade early because of coal plants already scheduled to retire.

#### Electricity Generation Mix

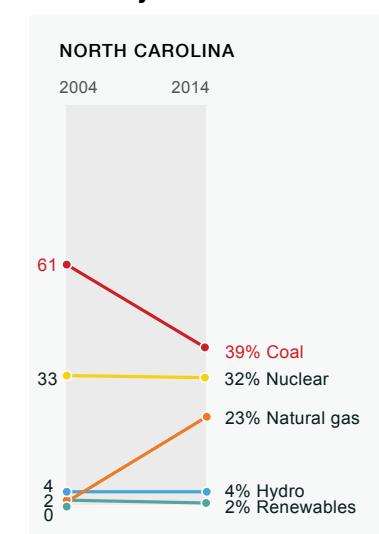


### NORTH CAROLINA

North Carolina Gov. Pat McCrory (R) has been outspoken in his opposition to the Clean Power Plan and has vowed to fight it in court. But Donald van der Vaart, the secretary of the N.C. Department of Environmental Quality, has led the state's charge. In an op-ed for the News & Observer, van der Vaart characterized the plan as a "one-size-fits-all" program and criticized state Attorney General Roy Cooper for encouraging lawmakers to develop a compliance plan. The state legislature, which is dominated by Republicans, seems somewhat divided on the best path forward. In April, the N.C. House of Representatives approved a bill to establish a stakeholder group and direct DENR to begin preparing a plan to comply. A few months later,

a Senate committee voted to bar the state from writing a plan.

#### Electricity Generation Mix

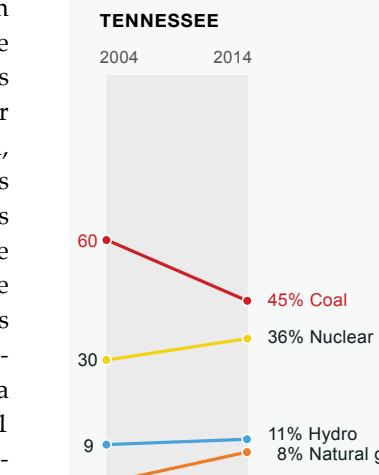


### TENNESSEE

Unlike his counterparts in surrounding states, Tennessee Gov. Bill Haslam (R) has said little about the substance of the Clean Power Plan or discussed the state's approach to compliance, even after 20 state legislators sent a letter to the governor urging him to defy the EPA. This silence may be due to how the final Clean Power Plan treats nuclear power plants currently under construction. Under the final plan, soon-to-be completed nuclear facilities like the Tennessee Valley Authority's Watts Bar Unit 2 can play a larger role in compliance. Other factors that have positioned TVA to meet Tennessee's emissions goal include the utility's recent long-term planning process and a historic Clean Air Act settlement in 2011 that forced a spate of coal plant retire-

ments that continues today. As a result of that agreement with the EPA, a TVA spokesperson said the Clean Power Plan "won't have much impact at all," on the utility's plans for its coal and gas fleet.

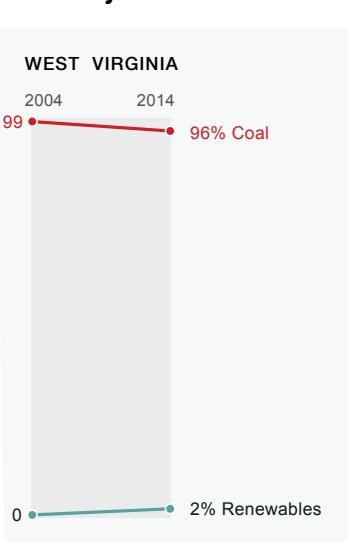
#### Electricity Generation Mix



### WEST VIRGINIA

Days after the final plan's release, West Virginia and 15 other states asked a federal court to block the rule until all legal battles are resolved and ensure "no more taxpayer money or resources are wastefully spent in an attempt to comply with this unlawful rule." But the secretary of the West Virginia Department of Environmental Protection, Randy Huffman, is wary about refusing to develop a compliance plan. "You won't have a seat at the table if you just say no," Huffman told West Virginia Public Broadcasting in August. A new state law requires the DEP to complete a "comprehensive analysis" of the Clean Power Plan's impact on West Virginia by early 2016.

#### Electricity Generation Mix



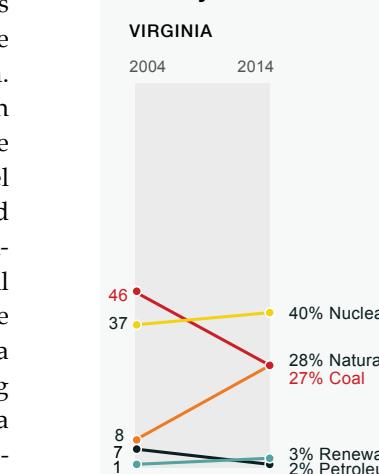
### SOUTH CAROLINA

Similar to stakeholders in Tennessee, South Carolina officials were pleased that under-construction nuclear capacity can now count toward compliance. But that concession was not enough for the Attorney General Alan Wilson, who believes the Clean Power Plan is unconstitutional. Meanwhile, the South Carolina Department of Health and Environmental Control is convening utilities, regulators and the public to develop a plan.

**MARYLAND** As a member of the Regional Greenhouse Gas Initiative, a northeastern carbon-trading market, Maryland is well-positioned to meet its Clean Power Plan goal. The state is also committed under a 2009 law to reducing greenhouse gas pollution by 25 percent by 2020 — two years before the interim deadline set by the Clean Power Plan.

ity began a series of listening sessions across the state in September to gather general input from the public, placing a special emphasis on low-income communities and areas most vulnerable to climate change.

#### Electricity Generation Mix



#### Notes

- "Renewables" includes biomass, geothermal, solar and wind
- Energy categories where both the 2004 and 2014 values were 1 percent or lower have been omitted for clarity.
- Source: U.S. Energy Information Administration
- Credit: Christopher Groskopf, Alyson Hurt and Avie Schneider/NPR

**114<sup>TH</sup> 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 thomas.gov. = pro-environment vote = anti-environment vote = did not vote

#### HOUSE

H.R. 427, the Regulations from the Executive in Need of Scrutiny Act, would require both houses of Congress to approve any major new rule issued by a government agency. **243 AYES 165 NOES 25 NV PASSED**

H.R. 348, the Responsibly And Professionally Invigorating Development Act, would limit the degree of environmental review for major projects such as construction, road-building, drilling and mining, allow project sponsors to prepare environmental review documents for those projects, and prohibit decision-makers from considering the social cost of carbon. **233 AYES 170 NOES 31 DNV PASSED**

H. Amdt 700 to H.R. 348 would require that environmental reviews identify potential effects on low-income communities and communities of color. **320 AYES 88 NOES 26 DNV PASSED**

H. Amdt. 704 to H.R. 348 would strike the provision that blocks decision-makers from considering the social cost of carbon in environmental review. **179 AYES 229 NOES 26 DNV FAILED**

	Kentucky	Tennessee	North Carolina	Virginia	West Virginia
T. Massie (R) KY-04	X	X	X	X	X
H. Rogers (R) KY-05				X	X
A. Barr (R) KY-06				X	X
P. Rose (R) TN-01				X	X
J. Duncan (R) TN-02				X	X
F. Fleischman (R) TN-03				X	X
S. Desjardins (R) TN-04				X	X
V. Fox (R) NC-05				X	X
P. McHenry (R) NC-10				X	X
M. Meadows (R) NC-11				X	X
R. Hurt (R) VA-05				X	X
B. Goodlatte (R) VA-06				X	X
M. Griffith (R) VA-09				X	X
D. McKinley (R) WV-01				X	X
A. Manypenny (R) WV-02				X	X
E. Jenkins (D) WV-03				X	X

## Bankruptcies Roil Coal Industry and Worry Regulators

By Brian Sewell

Major coal company bankruptcies in central Appalachia have gone from being inevitable to routine. But as debt-ridden companies strike deals to survive, their ability to meet obligations to workers and clean up mined land is being called into question.

In August, all eyes were on Alpha Natural Resources, which filed for bankruptcy after months of speculation by industry analysts. The company was drowning in more than \$3 billion of debt, despite being one of the largest U.S. coal producers.

The president of the United Mine

## Clean Energy Advocates Criticize APCo Solar Proposal

By Brian Sewell

A plan by Appalachian Power Company that would impose new costs on non-residential customers who want to go solar is getting negative reviews from clean energy advocates in Virginia.

The utility argues that its proposed Renewable Generation Purchase Program would enable its Virginia customers to purchase solar panels and power from a third party in what is known as a "power-purchase agreement." Appalachian Power would act as a middleman, connecting that solar capacity to the grid and charging a \$30 monthly fee to cover grid maintenance and administrative costs.

Advocates say that extra charge is

## Two Coal Companies Guilty of Water Pollution Violations

By Elizabeth E. Payne

The U.S. Environmental Protection Agency and the Department of Justice reached a settlement with Arch Coal Inc. and several of its subsidiaries in August that "resolves hundreds of Clean Water Act violations related to illegal discharges of pollutants at the companies' coal mines in Kentucky, Pennsylvania, Maryland, Virginia and West Virginia," according to a press release from the agency.

And in West Virginia, a federal judge found Fola Coal Company guilty of water violations at two of their mountaintop coal removal sites and ruled that the company was liable for damages caused downstream by this pollution.

The companies are required to conduct upgrades to ensure compliance with the Clean Water Act and will have to pay \$2 million in civil penalties.

"Businesses have an obligation to en-

Workers of America, Cecil Roberts, said

Patriot Coal, which entered bankruptcy for a second time in May, agreed to sell its assets without significant liabilities to Blackhawk Mining. The only buyer interested in acquiring the rest is the Virginia Conservation Legacy Fund, which has "no experience operating a coal company" or performing reclamation and water treatment, according to an editorial in The Post and Courier.

But commitments to coal miners and retirees are not the only liabilities bankrupt companies face — Alpha has also racked up more than \$680 million in mine cleanup costs. And Alpha is far from the only coal company that has filed for bankruptcy in recent years.

Describing the deal as "destined to fail," the DEP strongly objects to Patriot's plan, as do regulators in Ohio and Pennsylvania.

## Natural Gas Pipelines Encroach on Appalachia

In August, a West Virginia circuit court judge ruled in favor of Bryan and Doris McCurdy of Greenville, W. Va., denying the Mountain Valley Pipeline project access to their private property to conduct a survey. This proposed natural gas pipeline would stretch 300 miles from northwest West Virginia to southern Virginia, but the judge ruled that the pipeline operators "failed to establish that the project would provide sufficient public use to justify entering private property without an owner's permission," according to an article by the Associated Press.

Another proposed natural gas project, Atlantic Coast Pipeline LLC, officially applied to the Federal Energy Regulatory Commission in September for permission to begin construction on a 564-mile pipeline that would extend from north-central West Virginia, across Virginia and into North Carolina. The project is expected to cost \$5.1 billion. — By Elizabeth E. Payne

The company is currently seeking approval of the program from the Virginia State Corporation Commission.

## Cancer Risks from Nuclear Too Expensive To Study

The U.S. Nuclear Regulatory Commission announced that it has canceled a pilot study of the cancer risks associated with living near seven nuclear sites across the country due to budgetary constraints and lack of need. Facilities are monitored and any releases of radiation "are too small to cause observable increases in cancer risk near the facilities," the agency stated.

But residents living near one of the sites, Nuclear Fuel Services in Erwin, Tenn., are concerned, particularly because details surrounding a uranium spill in 2006 were withheld from the public.

Uranium contamination was found downstream from the plant in 2010, and as Barbara O'Neal, a member of the Erwin Citizens Awareness Network, told Public News Service, "The thing with nuclear material is it never goes away." — By Elizabeth E. Payne

arbitrary and unnecessary in Virginia, a state with a negligible amount of installed solar capacity. They also worry it could deter customers that want to economically adopt cleaner energy sources.

"It would flip the situation from allowing the customer to immediately pay less to immediately paying more, so it creates a real disincentive," Appalachian Voices' Virginia campaign coordinator, Hannah Wiegard, told WVTF Public Radio. "... if Virginia is to catch up with other states, we need a freer, more open market."

The company is currently seeking approval of the program from the Virginia State Corporation Commission.

sure that their operations don't threaten the communities they serve, especially those that are overburdened by or more vulnerable to pollution," Cynthia Giles of the EPA stated in the release.

And in West Virginia, a federal judge found Fola Coal Company guilty of water violations at two of their mountaintop coal removal sites and ruled that the company was liable for damages caused downstream by this pollution.

The scientific community repeatedly reaches and reports the same conclusion despite the use of multiple methodologies relying on a variety of datasets and conducted by a range of expert scientists," the judge wrote.

## Robust Opposition to Atlantic Offshore Drilling

The U.S. Department of the Interior released a proposal that could allow offshore drilling in the Atlantic Ocean as early as 2017. Since its release in January, opposition in coastal communities from Virginia to Georgia has grown. "It is hard to recall a grassroots effort that has advanced a cause so rapidly," according to an editorial in The Post and Courier.

## Cross-State Air Pollution Rule Weathers Challenge

The U.S. Court of Appeals for the D.C. Circuit upheld the Cross-State Air Pollution Rule in July. This rule requires states to reduce power plant emissions that impact the air quality in other states. Provisions governing sulfur dioxide and ozone that cross state lines, however, were struck down.

## Benefits of Natural Gas and Coal Refuted

Increased natural gas use did not cause carbon dioxide emissions to fall between 2007 and 2013 — the Great Recession did, a recent study found. And the World Bank has rejected industry claims that coal provides an escape from poverty.

## Proposed Regulations Target Greenhouse Gas

The Environmental Protection Agency proposed regulations in August that would significantly reduce the amount of methane — a gas that traps 25 times more atmospheric heat than carbon dioxide — released during oil and natural gas production. Industry representatives criticize the proposal for being costly and unnecessary, while environmental advocates object that the regulations apply only to new, not existing, infrastructure.

## Proposed Nuclear Plant Would Yield Costs, Not Savings

Dominion Virginia Power's third reactor at North Anna is projected to produce electricity costing 19 cents per kilowatt-hour, according to a recent filing. The average wholesale cost for electricity in that area is 5.3 cents per kilowatt-hour.

## Virginia Establishes Green Community Program

Announced in early September, VirginiaSAVES aims to boost economic development and reduce electricity consumption by subsidizing clean energy projects across the commonwealth. The program will use \$20 million of federally allocated bonds to support eligible projects led by local governments, businesses and nonprofits. Virginia also recently received a \$300,000 grant from the U.S. Department of Energy to help achieve its energy efficiency goals.

## Regulators Hear from Coalfield Residents on Proposed Stream Protections

By Willie Dodson

In September, residents of mining areas, coal industry representatives and others gathered at six public hearings to submit comments on a proposed rule that would restrict mining impacts to waterways. These hearings were held in Lexington, Ky., Big Stone Gap, Va., Charleston, W. Va., Pittsburgh, St. Louis and Denver.

The federal Office of Surface Mining Reclamation and Enforcement's proposed rule is intended to limit and mitigate impacts to streams resulting from mountaintop removal coal mining, an extraction method where the tops of mountains are blasted off and dumped into adjacent valleys in order to access underlying coal seams. The draft rule aims to accomplish this by clarifying what constitutes damage to waterways, raising baseline water monitoring standards, mandating more stringent bonding requirements for surface mining and restricting and clarifying when states may grant exceptions to stream protections.

Approximately 250 people were present at the hearing in Big Stone Gap



Residents register to make comments at the public hearing. Laura Miller, right, wears an "Our Water, Our Future" sticker. Photos by Kendall Bilbrey

Southern Appalachian Mountain Stewards, implored the agency to include clear language allowing for citizen monitoring and enforcement. "We know that government budgets are tight," she said to the panel. "So allowing concerned citizens to help monitor the water quality in our streams makes sense."

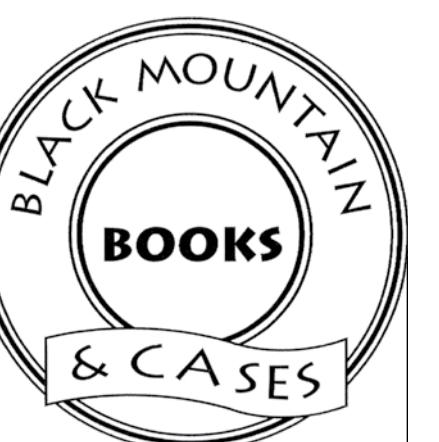
Countering the many who spoke out for clean water, politicians and industry representatives suggested the rule is not needed and is motivated purely by politics. Rep. Morgan Griffith of Virginia's 9th Congressional district described the rule as part of a war on coal, and characterized the stream protection supporters as caring more about insects than human beings.

Scott Barton, a mine superintendent at Murray Energy's Harrison County Mine in northern West Virginia said, "The Obama administration hides behind the myth of global warming to justify its job-destroying agenda. Everyone in the coal industry knows this is a lie."

Adam Malle from Big Stone Gap

spoke in favor of strong regulations as essential to current and future economic development. "We need these rules precisely because of the loss of jobs," said Malle. "We need to ensure that our mountains, our waterways, our streams are available to us, the citizens of this area, to create a local, sustainable economy around non-timber forest products, around tourism, around all the diversified options that are becoming available to us at this time."

The public comment period for the Stream Protection Rule was extended in response to industry requests and will remain open until October 26. To add your voice, visit ilovemountains.org/spr-comments



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Mountaintop removal mining occurs just 377 feet from the community of Bishop, W. Va.

upstream from an early childhood education center near the community of Bishop.

According to a press release from the Center for Biological Diversity, "[The mine] will also destroy more than five miles of streams, threatening another species that has been proposed for protection, the Big Sandy crayfish."

The proposed mine will be in addition to two currently existing surface mines within a one-mile radius of Bishop. In April of this year, Appalachian Voices published a study of 50 communities in central Appalachia that are similarly "at risk" of the worst impacts of mountaintop removal coal mining. These impacts include, but are not limited to, increased blasting, negative health, wealth and population trends, and diminished water quality. Bishop is No. 2 on this list of "Communities at Risk."

Advocates of the Obama administration's recently proposed Stream Protection Rule say strong federal guidelines could go a long way in reducing many of these



### Welcome to New Staff and 2015-16 AmeriCorps Members



Grab some iced tea with lemon and sit on the porch a spell, there are some fresh faces around the organization this fall that we would like to introduce you to!

While new to our Central Appalachian Team, Willie Dodson is no stranger to the environmental struggles of central and southern Appalachia. Currently a resident of Wise County, Va., Willie grew up in the Piedmont and mountains of Virginia, and graduated from Kentucky's Berea College with a degree in Appalachian Studies. He has organized for environmental and social justice

*Willie Dodson*

in the region with groups such as the Southern Appalachian Mountain Stewards, the Southern Energy Network and the Mission and Service Board of Union Church in Berea.

"I have watched Appalachian Voices grow so much over the past decade," Dodson says. "This organization has not only broadened its scope of work, but also grown deeper roots in the region. I have long felt a great affinity with AppVoices and I couldn't be more happy to join the team as a staff member."

Willie serves as one of our Central Appalachian Campaign Coordinators,

### Communities Coming Together To Clean Up Coal Ash

At the General Assembly building in downtown Raleigh, N.C., community organizations and residents concerned about coal ash cleanup held a press conference on Sept. 23 announcing the formation of the Alliance for Carolinians Together (A.C.T.) Against Coal Ash (see full story on page 17).

This new statewide grassroots organization — supported by Appalachian Voices — represents groups impacted by coal ash from across North Carolina. The A.C.T. alliance demands that N.C. Department of Environmental Quality and

other state decision-makers hold Duke Energy accountable for its leaking coal ash containment pits and that decisions about cleanup options include the voices of impacted residents in a transparent process.

We are proud to work alongside our partners to help low-income and minority communities fight to clean up the coal ash pits that are literally leaking in their backyards and polluting their water.

For more information about A.C.T. and our work to clean up coal ash, visit [AppVoices.org/coalash](http://AppVoices.org/coalash)

### Charting the Clean Power Plan in Virginia

In Virginia, a major goal of Appalachian Voices' work in recent years has been getting our state on track toward a safe, reliable and affordable energy future, but Virginia has never had a binding state renewable energy standard. The new Clean Power Plan initiative to cut carbon from electricity generation represents the first requirement that impacts the carbon pollution from Virginia's power plants.

The state Department of Environmental Quality has been holding listening sessions to hear from citizens to address precisely that, soliciting input on how Virginia should respond and plan for compliance. The plan could incentivize energy efficiency programs and drive growth in solar for a more secure grid and shrunken

helping to expand our Appalachian Water Watch and End Mountaintop Removal programs to the folks that need it most. He enjoys making old-time and "not-so-old-time" music, foraging in the forests for wild foods and medicines and listening to tales from elders.

We also welcome two AmeriCorps Project Conserve members for the eleven-month 2015-16 service term that runs through July 2016.

Elizabeth "Lee" Payne joins as our communications associate, and will serve as The Appalachian Voice's associate editor and run our 2016 webinar series. A native of Boone, N.C., Lee earned degrees in archeology and ancient history before pursuing a Ph.D. with a specialty in Assyriology, the study of the languages and cultures of ancient Mesopotamia. After graduation, she worked for six years as the conservator for the Yale Babylonian Collection.

But Lee's love for southern Appalachia never wavered, and this year she became determined to return to her beloved Blue Ridge mountains and find



New AmeriCorps members Lee Payne (left) and Ridge Graham

*Willie Dodson*

a way to give back.

Ridge Graham, our new Education Outreach Associate, grew up in Rock Hill, S.C., and attended Appalachian State University, where he received a degree in ecology and evolutionary biology with a minor in statistics. During his undergraduate years, he worked as a lab assistant studying vertebrate anatomy, bird behavior and water quality, and also as a teaching assistant helping students create documentaries on food issues.

Ridge will divide his service time between our North Carolina coal ash campaign and our Energy Savings for Appalachia program, helping to organize.

To learn more about the Appalachian Voices staff, visit [AppVoices.org/team](http://AppVoices.org/team).

### Shaping Southwest Virginia's New Economy

Appalachian Voices and Virginia Organizing are scheduled to co-host a series of eight community forums during October to gather citizen input about the region's economic future. Set to be held in the three primary southwest Virginia coal counties, each forum will have a professional facilitator and will be open to people of all backgrounds interested in working

together to reshape the area's economic future. Input gathered at the forums will be compiled and presented to our local leaders and community planners to help inform their decision-making on the future of our economy.

Check back next issue for an update, and visit [AppVoices.org/new-economy](http://AppVoices.org/new-economy) to learn more.

### Protecting Streams

Willie Dodson, central Appalachian campaign coordinator with Appalachian Voices, speaks at a public hearing in Big Stone Gap, Va., on the Stream Protection Rule. This fall, Appalachian Voices worked with partner groups to help citizens attend the three public hearings on the rule held in the region. The new guidance, if strengthened and properly enforced, would increase safeguards for streams and people by reining in the ravages of mountaintop removal. Read the full story on page 21.

Learn more and take action at [iLoveMountains.org/spr-comments](http://iLoveMountains.org/spr-comments)



### MEMBER SPOTLIGHT: Pallavi Podapati Digs Into Coal Miner Health Policies

By Julia Lindsay

You just try to stop Pallavi Podapati. Activist and Appalachian Voices Board member, Pallavi talks a thousand words a minute, channelling her voracious drive for social justice through the phone.

Pallavi, now in her twenties, grew up in Hazard, Ky. Her cardiologist father inspired her interest in public health, which blossomed into a focus on the 20th century demands from Appalachian coal miners for pneumoconiosis compensation. Also known as black lung, the fatal disease is caused by exposure to coal mine dust.

While a student at the University of Pennsylvania, she researched American policies regarding black lung and mining accidents. As a sophomore, she met with federal legislators and agencies to demand strong public health and environmental protections from mining



turning to Week In Washington and helping with our Appalachian Water Watch Project.

The level of involvement with the water watch program excited her. "I remember sitting there as an intern and thinking 'we are doing things that regulatory agencies should be doing,'" Pallavi says. The team created a citizen water monitoring project in central Appalachia to work with local residents to identify water pollution and hold coal companies accountable for the damage.

While a student at the University of Pennsylvania, she researched American policies regarding black lung and mining accidents. As a sophomore, she met with federal legislators and agencies to demand strong public health and environmental protections from mining

project. She will conduct a historical analysis of mining-related health policies. America's policies fall on the lower end of the bell curve, Pallavi says, and she plans to investigate "why black lung was recognized as a disease in the 1930's in the U.K., but it wasn't until 1969 that the U.S. recognized it as an occupational illness." Pallavi hopes to apply what she learns abroad to policies in the states when she returns.

"This is a larger, global conversation," she adds, noting that the coal industry has deep pockets and political power. The core of her work focuses on the prevention of suffering by leveling the scales between the coal industry and the common man, wherever that may be.

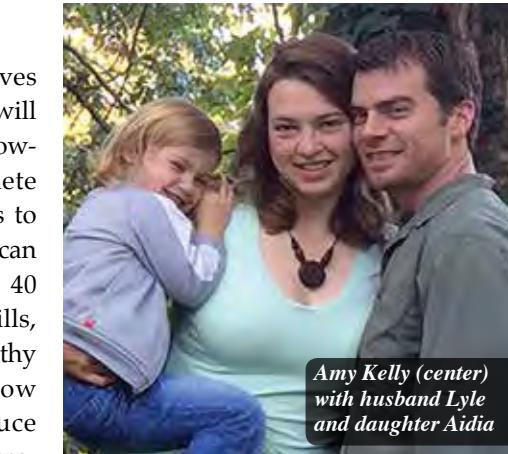
Pallavi joined the Appalachian Voices Board of Directors in 2014. The position has nourished her hunger for involvement. "I get to hear about everything rather than one project, and I love that," she says.

Her current role is another step in a tradition of service — while in college, she played a significant role in a slew of organizations including the Civic House Associates Coalition and Abuse and Sexual Assault Prevention. Without a doubt, Pallavi will continue to challenge the status quo wherever she is.

### A Tennessee Homecoming

Earlier this fall, Appalachian Voices' Amy Kelly completed her move to Knoxville, Tenn., effectively reopening our office — and our program to bring energy efficiency to the Volunteer State. The move was a homecoming in more than one way, as Amy's family has lived in Tennessee since before it was a state, and before mountaintop removal coal mining scarred the landscape she calls home.

As Tennessee Energy Savings Outreach Coordinator, Amy will be working with communities served



Amy Kelly (center) with husband Lyle and daughter Aidia

find out how to get involved with Amy's work, visit [AppVoices.org/energysavings/tennessee](http://AppVoices.org/energysavings/tennessee)

For more information and 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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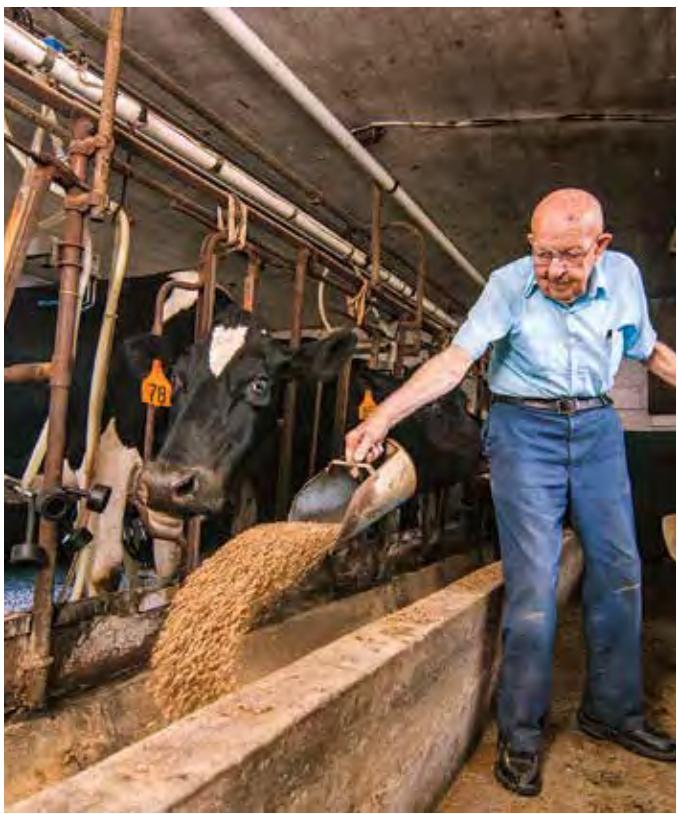
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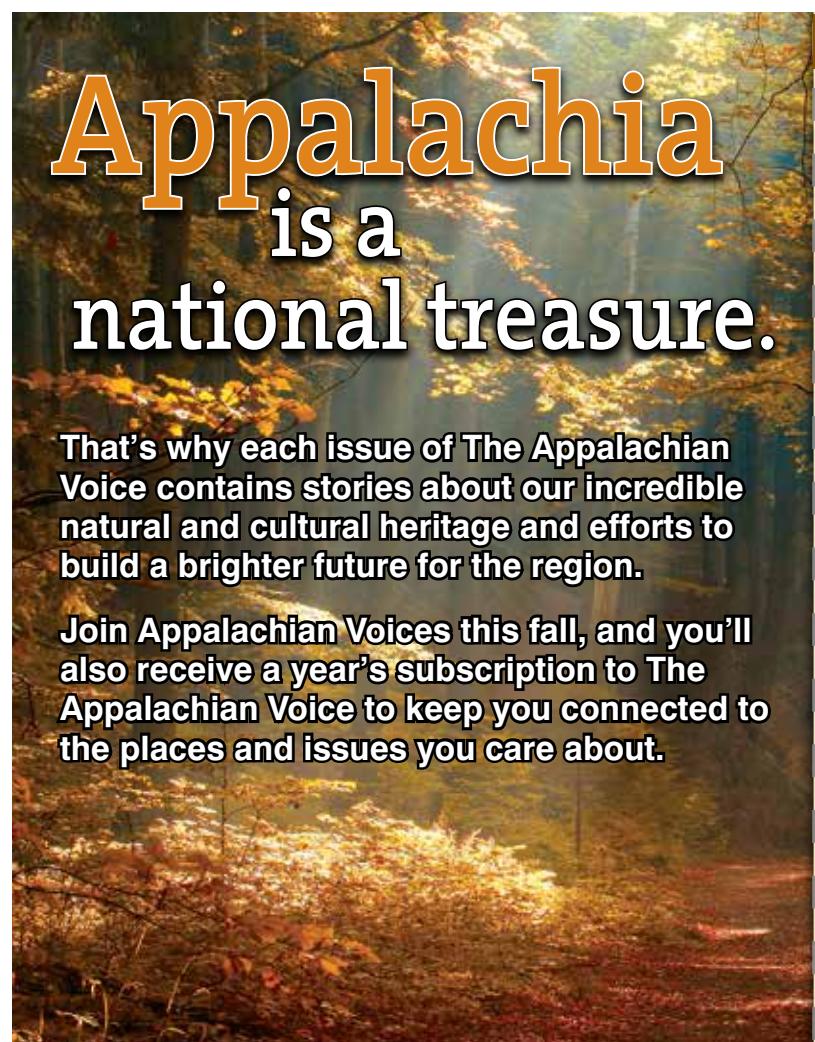
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Buck Cooper's North Carolina dairy farm has been in his family for more than 150 years, and he's been in the business since 1946. This photograph, titled "Hungry, Hungry Holstein," was taken by James K. Fay and was a finalist in the Culture category of the 12th Annual Appalachian Mountain Photography Competition. The deadline to submit a photo to this year's competition is Nov. 20 at 5 p.m.. For more information, visit [appmtnphotocomp.org](http://appmtnphotocomp.org).



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**That's why each issue of The Appalachian Voice contains stories about our incredible natural and cultural heritage and efforts to build a brighter future for the region.**

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