

FREE

# The Appalachian Voice

Fall 2010

## Econo- viro-nment

Appalachia's Economic  
& Environmental Forecast

ALSO INSIDE:

Carter Family Fold • Bouldering Stewards • Turning Trash into Art • Red Wolves: Saving A Species

# The APPALACHIAN VOICE



A publication of  
**APPALACHIAN VOICES**  
 191 Howard Street • Boone, NC 28607  
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Appalachian Voices is committed to protecting the land, air and water of the central and southern Appalachian region. Our mission is to empower people to defend our region's rich natural and cultural heritage by providing them with tools and strategies for successful grassroots campaigns. Appalachian Voices sponsors the Upper Watauga Riverkeeper® and is also a Member of the Waterkeeper® Alliance.

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## A Note From Our Executive Director

What can you do to help build a healthier Appalachia?

Senator Jim Webb writes of the unique culture of Appalachia in his book *Born Fighting*. It's the culture I grew up in where honor and truthfulness matter and people are connected to the land. We are also fighters.

Many Appalachia communities have lost their manufacturing base and others have been literally destroyed by enormous surface mines. The economic crisis has further stressed these communities but, true to form, rather than giving up, these communities are working toward a better future. This Appalachian spirit is seen in the growth of new businesses like sustainable food networks, organic farms, community kitchens, alternative energy projects, and outdoor recreation.

Clean air, clean water, and intact ecosystems are necessary to all healthy economies. Yet, we know from experience that some will abuse the land that we love and, if left unchecked, will use it up and move on. At Appalachian Voices we are working every day to hold polluters accountable, to find better solutions, and to realize our vision of vibrant healthy Appalachian communities living in balance with nature.

You are critical to our success. You have the power to grow our network of support. Tell your friends and neighbors to add their voices to ours today—for a better tomorrow.

*Willa*



Photo courtesy of Coal River Mountain Watch

## INSIDE THIS ISSUE

### Features

- Stewards of the Rock: Bouldering the Appalachian Mountains... p. 9
- Turning Trash Into Glass ..... p. 5
- Carter Family Fold Survives In Spite of Tragedy..... p. 7
- Biofuels: Local Gives Way to Large Scale ..... p. 17
- Natural Gas: Is it Right for Appalachia?..... p. 20
- Appalachia's Political Landscape ..... p. 21
- Lawsuits Put Bats on Wind Industry Radar ..... p. 23
- Appalachian Mountains Photography Competition..... p. 28

### Regulars

- Get Involved!..... p. 3
- This Green House ..... p. 4
- Hiking the Highlands ..... p. 8
- Across Appalachia..... p. 11
- Coal Update ..... p. 12
- Opinions and Editorials ..... p. 22
- AV Book Club..... p. 23
- Inside AV ..... p. 24
- Naturalists Notebook ..... p. 27



### Cover photo:

*The cover photo by Nancy Tunison as taken north along the Blue Ridge Parkway in the Shennadoah Mountains.*

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# GET INVOLVED environmental & cultural events in the region

To be included in our listing of environmental and cultural events for the Appalachian areas of VA, W.Va, NC, TN, Ga. and KY, please email [voice@appvoices.org](mailto:voice@appvoices.org). Deadline for the next issue will be Friday, November 12, 2010 at 5 p.m. for events taking place between Dec. 1 and Feb 28.

## MANinfested Destiny

Now until November 5: Artist Daniel Smith showcases his historical exhibition of Daniel Boone's life featuring a mix of paintings, photographs, manmade and natural objects. Turchin Center for the Visual Arts in Boone, N.C. Visit [turchincenter.org](http://turchincenter.org) for more info.

## Coal Ash Public Hearings

September 14, 16, 21, 28: Voice your opinion! The EPA is hosting coal ash regulations public hearings across seven cities this month. Visit [epa.gov](http://epa.gov) for locations.

## Gauley Fest

September 17-19: Come out to Summersville, W.Va., site of the world's largest whitewater festival, featuring live entertainment, vendors, auctions, paddling and partying. [AmericanWhitewater.org](http://AmericanWhitewater.org)

## Bridge-To-Bridge Incredible Challenge Bike Ride

September 19: This 102-mile bike ride takes participants from Lenoir to Grandfather Mountain. There is a registration fee. For more info, call 828-726-0616

## Discovery at Dusk

Sept. 24: Headwaters Outfitters of Rosman offers guided canoe trips on the French Broad River. All trips are \$50, price includes gear, shuttle and guide service, depart at 4 p.m. Call for reservations: 828-877-3106.

## Protecting Forest Treasures

September 25: Join Georgia Forest Watch in Vogel State Park for their Fall Retreat featuring educational hikes and presentations about forest conservation. \$20 registration fee. Call Jill at 706-635-8733.

## Watauga River Clean Up

September 25: Be a part of the solution, participate in BigSweep 2010! Last year, 172 volunteers collected over 6,000 lbs of trash in Watauga County! To get involved, contact [Wendy\\_Patoprsty@ncsu.edu](mailto:Wendy_Patoprsty@ncsu.edu) or call 264-3061.

## Appalachia Rising: Voices from the Mountains

September 25-27: Washington, D.C. conference teaching the basics of mountaintop removal coal mining and nonviolent rallying methods. Ends with a day of action calling for the abolition of mountaintop removal and surface mining. Visit [appalachiarising.org](http://appalachiarising.org)

## Microhydro

October 1-2: Learn about microhydro with national expert Don Harris at this Appalachian State University workshop. Visit two local installations and learn about measurement, design, system components and maintenance. \$300, \$150 for students. 9 a.m. to 4 p.m. Register at [Wind.AppState.edu/Workshops/Workshops.php](http://Wind.AppState.edu/Workshops/Workshops.php)

## Hot Air Balloon Fest

October 1-2: The Pellissippi State Hot Air Balloon Festival in Knoxville, Tenn., offers balloon rides with 24 skilled pilots and tethered rides and lighted nighttime exhibition flights, arts and crafts, performing dogs, live music and kids activities. 4 to 9:30 p.m. Friday, 12 to 9:30 p.m. Saturday. Visit [pstcc15.pstcc.edu/balloons](http://pstcc15.pstcc.edu/balloons).

## An Extraordinary Eye

October 2-January 16: Come celebrate artist Carl Moser's 90th birthday as the Hickory Museum of Art displays his one person retrospective with photographs from around the world. Museum is free and open to the public. 828-327-8576 or visit [hickorymuseumofart.org](http://hickorymuseumofart.org).

## Operation Medicine Cabinet

October 2: Help keep drugs off the streets and out of the rivers during the fall drug take back day in Boone, NC. Call 828-262-1500 or visit [drugtakebackday.com](http://drugtakebackday.com).

## Fall Arts Weekend

October 8-10: Learn about weaving, stone masonry, nature photography or hickory bark seat replacement in Pine Mountain, Ky. Costs of courses vary. Visit [PineMountainSettlementSchool.com](http://PineMountainSettlementSchool.com)

## Southern Festival of Books

October 8-10: Celebrate books with over 200 authors, panel discussions, readings and book signings in Nashville, TN. Free. Visit [tn-humanities.org/festival](http://tn-humanities.org/festival)

## Weekend in Wise

October 8-10: Witness mountain top removal sites and experience the culture, crafts, food and music in Wise County, West Virginia. Weekend attendance on sliding scale of \$75-100. Visit [samsva.org/](http://samsva.org/)

## Grandfather's Foliage

October 9,10,16,17: Join Grandfather Mountain Naturalists in Linville, N.C., on a guided hike and learn why trees change color and how to identify what trees turn what colors. Cost: park admission. Visit [GrandfatherMountain.com](http://GrandfatherMountain.com)

## Coal and After Coal

What can Appalachian learn about coal mining from the small country of Wales? The Appalachia Studies Department at Appalachian State University will host the "Appalachia and Wales: Coal and After Coal" symposium October 14-16 in Boone, N.C. The conference will address the parallel relationship between Appalachia and Wales, a country that suffered from destructive coal mining practices and shut down most of their mines in the 1980s. The symposium speakers will address historic ties and production trends between Appalachia and Wales, economic transitions from coal mining in Wales and will include workshops addressing community organizing after coal. Visit [appstudies.appstate.edu](http://appstudies.appstate.edu) for more information.



## Generating Income from Forest Land

October 12, 14: Learn about different ways to sustain yourself on your forest land, with topics to include Agritourism, destination marketing and forest recreation opportunities. Marshall and Columbus, N.C. Contact 828-649-3313 or [jessica.ocz@gmail.com](mailto:jessica.ocz@gmail.com)

## Blue Ridge Parkway Conference

October 14-16: Virginia Tech College of Natural Sciences will be hosting the conference to address Parkway planning and develop a sustainable future for the scenic byway. Visit [blueridgeparkwaysymposium.cnre.vt.edu/](http://blueridgeparkwaysymposium.cnre.vt.edu/)

## Wolf Awareness Week

October 11-17: National Wolf Awareness Week is a week of events dedicated to dispelling misconceptions and teaching about the role wolves play in maintaining biological diversity. Defenders sponsors events nationwide. To find an event near you, visit [Defenders.org](http://Defenders.org)

## Fall Color Weekend

October 15-17: Enjoy fall foliage hikes, presentations and access to some of Kentucky's most beautiful vistas. Register for lodging and programs. Visit [PineMountainSettlementSchool.com](http://PineMountainSettlementSchool.com)

## Celebrating the Harvest

October 23: Visit Crane Creek Vineyards to celebrate the end of this year's harvest with hayrides, grape

stomping, winery tours and fun activities for the kids! Tickets are \$20 for adults \$20, \$10 for kids and children under 12 get in free, includes wine tasting, souvenir wine glass, lunch and activities. 11 a.m. to 6 p.m. Visit [CraneCreekVineyards.com](http://CraneCreekVineyards.com)

## Photovoltaics

October 22-24 & November 5-7: In this two-weekend workshop, participants will learn the concepts, tools, techniques and designs related to photovoltaic systems. \$750, \$375 for students. Participants who attend both weekends will be eligible to take the NABCEP Entry level exam, which prepares them to enter the solar field. Register at [Wind.AppState.edu](http://Wind.AppState.edu)

## Sculpting the Earth

November 1: Enter to win a unique art sculpture made of coal. Raffle proceeds support the Keeper of the Mountains Foundation. View the sculpture and purchase tickets by visiting [ohvec.org/events\\_calendar](http://ohvec.org/events_calendar)

## Plume and Removing Mountains

November 22-January 28: Daniel Shae narrates the social, political and cultural impacts of mountaintop removal and coal-fired power plants in West Virginia and Appalachia in his exhibits *Plume and Removing Mountains*. Opening night takes place at The Appalachian Center at Berea College, TBD. Visit [bera.edu/appalachiancenter/events/default.asp](http://bera.edu/appalachiancenter/events/default.asp)

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# This GREEN House

## NauHaus—A Sustainable Home For Today

By Maureen Halsema

Combining ancient building methods with modern science, a group of engineers and scientists are striving to change the world through structural design.

The goal: to create a carbon neutral home and increase the structure's efficiency by 90 percent.

Welcome to the Nauhaus—a prototype home in Asheville, N.C., designed by the Nauhaus Institute, a nonprofit organization dedicated to developing sustainable building design and living solutions.

"We want to change how we build in this country," said Jeff Buscher, Nauhaus Institute engineer and designer of the prototype home. "We think that there are a lot of opportunities for improvement and we have combined a lot of ideas to show people the way things could be."

According to the design plan, the building would offset its own construction carbon footprint—with zero net energy. This means that the house would produce more energy than it consumes.

"In order to be carbon neutral, we calculate that the building will need to

produce 200 percent more energy than it will use," said Clarke Snell, managing director of the Nauhaus Institute. "We can do this with a six or seven kilowatt photovoltaic system."

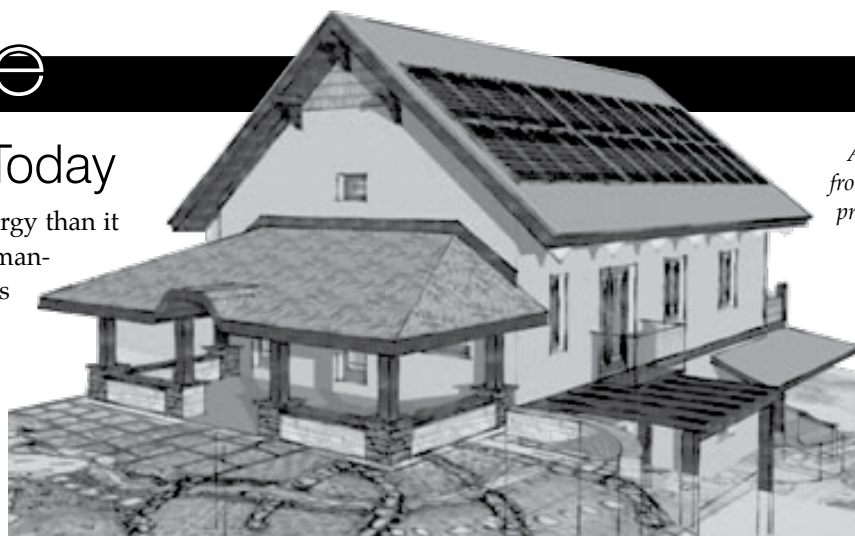
Incorporating renewable energy resources, implementing passive solar design and using high-efficiency appliances can also help accomplish this carbon neutrality feat.

### A Liveable Space

At 1,700 square feet, the Nauhaus is smaller than the average American home. The interior space includes two bedrooms and one bath, and a one bedroom, one bath "mother in-law" apartment.

The smaller design is supplemented by the incorporation of 300 square feet of outdoor living space—such as the sleeping porch off of the master bedroom—that make the house feel larger and help facilitate air movement and natural lighting.

The smaller design also provides the property space needed to develop a garden and natural habitats for local wildlife.



A sketch of the projected front design of the Nauhaus prototype. Provided by the Nauhaus Institute

the first houses built in the U.S. using hempcrete, which has a higher thermal resistance than that of straw bale construction or earthen mixtures.

It replaces the need

for traditional fiberglass insulation and drywall construction materials, creating a superior airtight envelope and enhancing the structure's energy efficiency.

Hempcrete is known as water absorbent—it can absorb water vapor and hold it without rotting, then release the vapor back to the air when humidity levels drop, creating a breathable wall structure. This prevents mold issues inherent to some straw bale structures. The hempcrete's increased response to humidity also improves indoor air quality.

Hempcrete is a flexible product that can be adapted for other uses, such as a soil. Hempcrete is not available in the U.S., however, and was imported from the United Kingdom for the project.

The Nauhaus concept seeks to turn the upfront cost of the house into long-term savings on utilities and maintenance. The designers hope to use the prototype as a learning model to demonstrate the financial, environmental and social benefits of the initial investment.

The house is open for tours every Saturday; visit [TheNauhaus.com](http://TheNauhaus.com) to sign up for a tour.

"The idea is to blur the line where outside and inside meet," Buscher said.

The house is designed to reduce water demands by implementing several water conservation measures, such as rain catchment, greywater irrigation and waterless composting toilets.

In order to reduce the environmental footprint associated with the construction of the house, many of the materials used in its construction are recycled or locally harvested, such as stone, salvaged brick and timber. The flooring materials are composed of compressed dirt from the site.

### Pushing the Envelope

One of the fundamentals of passive solar design is to develop an efficient building "envelope," to prevent energy loss from the home.

"The envelope is the skin of the house," said Buscher. "It's what separates the indoor condition space from the outdoors, keeping the weather out and the heat in."

The Nauhaus team has insulated the house using a product called hempcrete, a unique combination of hemp chips—known as shiv (a waste product of hemp plants)—and a lime-based binder.

The Nauhaus prototype is one of

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# Turning Trash Into Glass

FORMER LANDFILL FUELS THE PURSUIT OF ART

By Maureen Halsema

Nestled in the Black Mountains of western North Carolina, lies a unique twist on a trash heap.

In 1994, creative minds from Yancey and Mitchell counties came together to discuss the closure of their 21-year-old landfill in Burnsville, N.C. From that mountain of trash sprouted an innovative solution: art studios and green houses fueled and radiantly heated by landfill gas, known as the EnergyXchange.

## The Trash Into Gas

As the waste decomposes, a combination of two green house gases is formed—methane and carbon dioxide. When landfills are not equipped with a collection system, the landfill gas is eventually released into the atmosphere, further perpetuating the greenhouse effect.

“Landfills are the largest anthropogenic cause of methane emissions,” said Miriam Makhyoun, research assistant at the Appalachian State University Energy Center in Boone, N.C.

According to the U.S. Environmental Protection Agency, methane gas is 23 times more effective at trapping heat in the atmosphere than carbon dioxide.

When captured and burned, however, methane gas is converted to carbon dioxide, reducing its impact on the atmosphere and helping to curb the effects of global warming.

## The EconomicXchange

The 3.5-acre landfill that fuels the EnergyXchange is covered with 18 inches of compressed clay to trap the gas. Collection wells tap into the landfill and extract the gas, which is piped to the EnergyXchange and burned to fuel the campus' glass ovens and pottery kilns as well as to run boilers to heat the art studios and green houses.



The EnergyXchange estimates that over the course of the landfill's 20 to 25-year gas producing cycle, they will have saved \$1 million in energy costs.

After conducting a feasibility study of the center, the EPA determined that the project's environmental impact is equivalent to planting 14,000 acres of trees or taking 21,000 cars off the road in North Carolina each year.

## An Artisan Impact

In addition to the clay and glass studios, the EnergyXchange campus is also home to four greenhouses featuring horticulture and aquaculture projects, seven cold frames and a craft gallery where visitors can purchase artwork from the resident artisans.

The residencies offered by the EnergyXchange allow artists to create pottery and glasswork using the methane gas free of charge, significantly reducing the inherent costs associated with these arts. They also help mentor artists in developing the business aspect of their work, offering a gallery to market their creations.

“A lot of the artists that stay with us and do the residency program end up staying in the region and continue their own artist businesses,” said Dan Asher, executive director of the EnergyXchange. “It adds more artisans and money to the



Gas from the Yancey-Mitchell landfill fuels the studios' glass oven. Photos by Energy Xchange

economy while giving them the opportunity to establish the ability to do that.”

The campus greenhouses are famous for their native rhododendrons and azaleas, particularly the Flame azalea, all grown from locally collected seeds. There is also a demonstration aquaponics project featuring a tilapia fish farm that recirculates water from the tanks to herbaceous plants.

The EnergyXchange is both a haven for artisans and native horticulturalists and a teaching center, serving as a prototype for economic diversification and energy recovery programs.

“We are supporting the economy as a demo and model type place,” Asher said.

“Just in the past five months, we had government and tourism officials and artists visit from Canada, India, Mexico and Brazil to look at our project and bring it home with them. We estimate about 3,000 to 5,000 visitors a year at the EnergyXchange.”

The center currently supplements the landfill gas energy with solar panels, wood wastes and cooking oil in preparation for the sustainable transition when the gas resource is exhausted.

“We are looking into other options in the years to come, so we are ready for when the gas does go out,” Asher said. “Sort of a piece-by-piece transition off the landfill gas.”

To find out more about this project, artisan residencies or to check out their gallery, click to [EnergyXchange.org](http://EnergyXchange.org).

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The Release

# Keeping On the Sunny Side

## CARTER FAMILY FOLD SURVIVES IN SPITE OF TRAGEDY

Written By Joe Tennis

Like the traditional tunes collected by her grandfather, Rita Forrester carries on, always trying to "Keep On the Sunny Side."

Even in the face of tragedy.

In December 2009, Forrester awoke to find her home in flames, barely escaping in her nightgown.

Forrester, granddaughter of musicians A.P. and Sara Carter, lost everything she had - including her husband Bob, who perished in the fire.

The tragedy still haunts Forrester, who, like her mother, marches through life in a manner that wavers between feisty and easygoing, depending on what the mood calls for.

### The Family Fold

Forrester has dedicated her life to preserving the music of The Carter Family, following a calling from her mother, the late Janette Carter, who in turn had followed the wishes of her father, the late A.P. Carter, the leader of The Carter Family.

Formed in 1926, The Carter Family was discovered by a talent scout at a makeshift recording studio in Bristol, Tenn., in the summer of 1927. The trio, including June Carter's mother, Maybelle, soared into early country music history on the strength of songs like "Wildwood Flower" and "Wabash Cannonball."

The original act lasted more than 15 years. Subsequent groupings include Janette Carter and her brother Joe, a carpenter who helped build The Carter Fold, a music barn in Scott County, Va., now dedicated to preserving old-time mountain music.

With only a few exceptions, the music of the Saturday night shows at The Carter Fold remains acoustic. Often fast-paced, the music is most popular when Carter Fold patrons can get out and dance.

"I've been active since the music shows began back in 1974," Forrester said. "I have served on the board of directors since 1979, and I've been the secretary for the board since that time. I was named the center's executive director in January of 2004, and I still serve in that capacity today."

The executive director title aside, Forrester knows what it's like to work.

"I've planted flowers, mowed, weed-eated, cleaned,



Blanford Collins, left, and Rita Forrester help run The Carter Fold in Scott County, Va. A likeness of Carter Fold founder Janette Carter, at right, can be seen on the wall inside the center. Photos by Joe Tennis.

cooked for multitudes," she said. "I cook until very late Friday night - often into the early morning hours. Setting up the kitchen begins by 9 a.m. Saturdays, and I'm often at the Fold until midnight or later."

### Out of the Ashes

The December fire ripped Forrester's heart out.

"As you can imagine, the fire is quite painful for me to dwell on or discuss," Forrester said. "We know that it began in the living room from an open flame and that the gas logs and ceiling fan operating at the time caused the flames to spread very quickly. Beyond that, I don't know. It's a chapter I'd very much like to close. The emotional scars from it will never completely heal."

Almost immediately, a relief fund was set up to help Forrester and her two sons.

"The public's outpouring of support and affection has

been overwhelming and very uplifting," Forrester said. "We've received gifts and notes from many foreign countries and all over the United States. The majority of those who have given and done the most have been relative strangers."

Family members and friends also helped watch over Forrester.

"It's been a very humbling and life-changing experience," Forrester said. "The things that used to mean so much to me mean relatively nothing now. My priorities have been shifted. I've learned that we shouldn't take one minute of life for granted and that without the Lord we really have nothing at all - something I've always known but the tragedy reinforced with crystal clarity."

Moving on, Forrester works to make the Carter Fold a joyous place on Saturday nights and in early August, when it's time for the Carter Family Memorial Festival.

This year, she welcomed living legend Ralph Stanley of nearby Dickenson County, Va., to the stage, who was joined by long-time Carter Family friend Ronnie Williams, and a family member, Lorrie Carter Bennett, a granddaughter of Maybelle Carter.

"[Stanley] and his brother, Carter, started out in much the same way The Carter Family did - they grew up in a poor family in the Appalachian Mountains," Forrester said.

"For the Stanleys and the Carters to accomplish what they did in the music world is nothing short of phenomenal."

### Want to Go?

The Carter Fold is located along State Route 614 (A.P. Carter Highway) near Hiltons, Va., about four miles from U.S. Hwy. 58. Saturday night shows start at 7:30 p.m. Call (276) 386-6054. Visit [CarterFamilyFold.org](http://CarterFamilyFold.org)



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# Hiking the Highlands

## Hints of Autumn on Falls Branch Trail

Written by Lesley Eaton

In the left hand corner of a small parking lot off the side of a curvy mountain highway sits a trailhead, an entrance into another world of sorts.

A few feet after stepping off the pavement and onto the trail, I close my eyes to thoroughly take in my new surroundings. Fresh air and scents both distinct and familiar, yet intangible; it is the smell of the woods.

I feel the cool respite of the canopy of leaves filtering the light. I hear the stillness surrounding me, along with a rustling of leaves being pushed around by two dog snouts, taking in the woody scent.

With my dogs and my husband, I set out to explore Falls Branch Trail, a short hike to an 80-foot cascade. The first half of the trail is a nice easy stroll through one of the few areas of virgin forest remaining in the Tellico District of Cherokee National Forest.

Bearing left, Falls Branch Trail winds through hardwood forest filled with rhododendron and goes along Sassafras Ridge. Midway, the trail quickly narrows and we begin to climb and then descend the



The fern-lined mossy trail culminates in an 80-foot waterfall. Photos by Lesley Eaton.

steep pathway deeper into the forest. Making my way down the steep incline, I observe it must be much easier to manage balanced on four legs as my furry friends race ahead.

As the trail rolls up and down deeper into the woods, our surroundings become more and more enchanted, with bright green ferns lining our path and thick beautiful moss enveloping the rocks and wood all

around us. It is as if the fern leaves and the moss are gradually preparing us for the pinnacle of our hike, the majestic waterfall.

We cross over the creek once. The next time we happen upon the water we are rewarded with a spectacular panoramic view of the falls. From here, we follow the path through a narrow tunnel between two large boulders and begin our climb through the stream, over and around the slippery rocks, until we feel the mist of the falls on our faces.

On this quiet Sunday afternoon, it seems as though we have our very own private waterfall.

Falls Branch is an enchanted spot, where vibrant rainbows frequent under the streaming water sparkling in the leaf filtered light. Here, one could sit and reflect, or empty their minds of all the clutter

and rest peacefully with an all-natural sound machine running in the background, or take an earth shower, or join four-legged friends and simply run and explore every crevice—whatever your preference may be.

After sitting on the rocks and playing in the creek for a while, we begin the short hike back to the trailhead. The climb back is very steep, and though short it is much more strenuous than we expect.

The dogs enjoy running ahead and back to us as we slowly climb up the trail through the trees. We welcome the flat easy first half of the trail, which provides a nice cool down before hopping back into the car.

As we approach the parking lot, we notice a small grouping of orange leaves in the midst of green. Tails wagging, we happily start to anticipate the chance to experience the smell of the woods again this autumn.

### FALLS BRANCH TRAIL

**LENGTH / DURATION:** 1.3 miles one-way, 1.5 hours with plenty of time for taking photos and sitting at falls

**DIRECTIONS:** From I-75 take TN Hwy 68 South (near Sweetwater) through Madisonville to Tellico Plains continue to TN Hwy 165 East bearing right at the junction with the Indian Boundary Lake turnoff. The parking lot for the trailhead is 8.4 miles from the Indian Boundary Lake turnoff on the left side near Rattlesnake Rock.

**INFO:** LocalHikes.com or Hiking Tennessee by Kelley Roark

**PARKING:** no fee

## Biking the Highlands—Western NC To Get New Mountain Biking Trail

By Megan Naylor

Mountain bikers in northwestern North Carolina have a new reason to rejoice the love of their sport.

The Tourism Development Authority of Watauga County, N.C. announced the purchase of a 45-acre parcel adjacent to the county's former landfill for Rocky Knob Park, with the intention of constructing 10 to 12 miles of mountain biking, hiking and cross country skiing trails.

The purchase compliments the county's current 130-acre tract, forming a 175-acre outdoor recreation center.

Preliminary planning and ground-breaking have begun thanks to a joint effort between the Watauga County Tourism board, Boone area bike shops Magic Cycles

and Boone Bike and Touring and newly formed Boone Area Cyclists Club (BAC), which focuses on coordinating and promoting safe and accessible cycling in the area.

"It's been well documented that this is important for tourism, but this is also great for the locals. There are no mountain bike opportunities close to town," said BAC founder Paul Stahlschmidt. "So, with Rocky Knob Park, those of us who live in Boone will now have a great place to ride that we don't need to drive to."

In addition to the trails, the center will include picnic tables, a restroom area, an information kiosk and green space.

Trails will be designed as a multi-pur-



Laying rock by hand for the new trail systems. Photo by Kristian Jackson.

pose, stacked loop, increasing in difficulty with each additional loop. The trails will accommodate all levels of cyclists, from beginner to advanced downhill.

The first part of the planned trail series will be approximately 1.5 to 2.5 miles and is scheduled to be ready this fall.

Stahlschmidt views Rocky Knob as a stepping stone towards establishing Watauga County, and the town of Boone, as a biking mecca for northwestern North Carolina.

"I hope more people here see cycling as a way to live healthier and happier," he said. "With our overall sedentary lifestyles and obesity and other health problems grabbing headlines, bikes really do help. It's an easy way to be active and enjoy the mountains."

For more information, visit booneareaoutdoors.com and track the trail building progress at rockyknob.wordpress.com.



# Stewards of the Rock Bouldering the Appalachian Mountains

Story and photos by Megan Naylor

Bouldering is a sport of strength, power and dynamics focusing on pure contact with the rock, free from harnesses, ropes and racks of gear.

It brings both climber and rock together in a rhythmic balance of fluid grace and technical moves.

What began as a niche sport is now becoming increasingly popular, with people drawn to the technical challenge of traversing rock uninhibitedly and to the sport's low start up cost on gear.

## Bouldering Issues and Impacts

As more people seek out the beautiful strong rock scattered across the Appalachian Mountains, stewardship of the land becomes more of a concern.

"Areas that see a lot of people can quickly show signs of wear," Amy Ansari said, Grassroots Organizer for The Access Fund. "People may not notice right away but often the vegetation struggles to grow back."

Because many bouldering areas in the Southeast are located on private property or accessed by it, friction often occurs between climbers and landowners regarding issues such as trespassing, parking, litter and noise.

Environmental damage can ensue from lack of knowledge concerning the footprint inflicted on heavily trafficked areas.

Erosion, loss of vegetation, habitat loss and introduction of invasive species often occurs at trails leading between rock faces and at crash pad areas where spotters facilitate safe landings should climbers fall.

## Solutions through Stewardship

Organizations such as The Access Fund and local climbers coalitions are working to mitigate environmental damage and establish cooperation between landowners and individual climbers.

The Access Fund, a national climber's advocacy organization founded in 1990, focuses on keeping U.S. climbing areas open while also providing guidance to climbers, climbing organizations and landowners on



Raleigh White, at left, makes quick work of a boulder near Boone, N.C. Evening falls over boulders in the Blue Ridge Mountains after a successful day's climb, below.

to the top.

"Even though ninety-nine percent of climbers pick up after themselves, sadly there will always be that one percent that don't," said Goose Kears, co-owner of Misty Mountain Threadworks.

Misty doesn't have a specific program for stewardship, instead their business practices and lifestyles reflect the environmental ideals they hold.

"As climbers we want to protect the places we love and lessen our impact," Kears said. "So we recycle as much as possible and cut down on production waste within our company and sponsor local events such as Adopt-a-Crag."

Initiated by The Access Fund, Adopt-a-Crag is the largest climbing volunteer project in the country, and involves an average of 160 events.

Adopt-a-Crag events typically include litter cleanups, trail construction and

restoration, erosion control and invasive weed removal.

According to Ansari, these events are aimed at highlighting climber conservation at the local level, demonstrating to landowners and land managers that climbers care about the places they recreate.

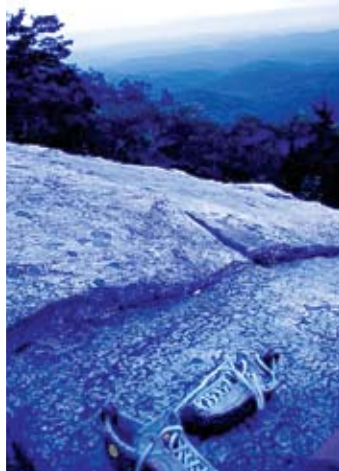
Local coalitions across the country team up and choose boulder-fields and other climbing areas that deserve a little extra love.

"Whenever you can, try to carpool and when bouldering, try to minimize your footprint by minimizing trash generated," said Love. "Please be sensitive to vegetation and trees and avoid climbing in large groups as it concentrates the impact to immediate areas."

Across the board, the resounding response to the question of how climbers can preserve boulders and routes they are passionate about is by being responsible for their own individual impact.

"We shouldn't leave things the way we found them, we should leave them better than when we arrive," said Kears.

For more information on bouldering stewardship and how to get involved visit [AccessFund.org](http://AccessFund.org) or [CarolinaClimbers.org](http://CarolinaClimbers.org).



management strategies. Nationally, they lobby legislature toward mutually agreeable policies concerning the sport.

"We work to educate federal agencies on what climbing is and why it is important to create policies that balance recreation and conservation, while also working with climbers and organizations on how to work proactively with landowners," Ansari said.


Climbing coalitions also exist across the nation to promote stewardship and access on a smaller scale.

According to Anthony Love, president of the Carolina Climbers Coalition, the best way to address private property and liability issues is by being informed of whose land you are on and to ask for public access permission with the help of the local climbing organization.






"Many landowners are worried about liability," Love said. "But in North Carolina and many states, private landowners who open their land for public recreation use are protected from liability of those recreating on their land by recreational user statutes."


Misty Mountain Threadworks, an internationally known climbing company based in Boone, N.C., also shares the view that climbing is about more than getting

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# The COAL REPORT

News From Appalachian Coal Regions and Beyond

## Old Dominion Postpones Seeking Air Permits for Proposed VA Power Plant

By Sandra Diaz

Wise Energy for Virginia coalition, a coalition of several environmental organizations whose mission is help secure a clean energy future for Virginia, has recently seen progress in their campaign to stop construction of a new coal-fired power plant in the Hampton Roads area proposed by Old Dominion Electric Co-op (ODEC).

ODEC recently announced plans to postpone pursuance of air pollution permits for up to two years. The coalition has been working to encourage ODEC to consider investment in energy efficiency and renewable energy over building the plant.

The coalition has long opposed the 1500 megawatt plant which, if built, would be the largest in the Commonwealth of Virginia. Among the coalition's concerns are the resulting air pollution, water pollution from mercury, the use of mountaintop removal coal and the plant's contribution to climate change.

"The degree of citizen opposition to the plant is clearly more than ODEC bargained for. When the Surry County Planning Commission took this up, over 200 people showed up and the great majority of speakers opposed the plant. This gives ODEC a sense of what to expect if it pursues state and federal permits and they can already see the opposition building in the greater Hampton Roads area and among their retail co-ops' ratepayers," said Tom Cormons, Virginia Director for Appalachian Voices, part of the coalition working to stop the plant.

However, the company is still working to advance the plant at the local level and is seeking water pollution permits from the Army Corps of Engineers, which requires a comprehensive Environmental Impact Statement. The coalition is petitioning the Army Corps to critically evaluate ODEC's purposed need for the plant and independently evaluate environmentally preferable alternatives to the proposal. Learn more at [www.WiseEnergyforVa.org](http://www.WiseEnergyforVa.org).

## 4th Circuit Court Overturns NC's Emissions Lawsuit Against TVA

By Jed Grubbs

On July 26, the 4th U.S. Circuit Court of Appeals in Richmond, Va., unanimously voted to overturn a North Carolina judge's ruling requiring the Tennessee Valley Authority (TVA) to improve emission controls at four coal-fired power plants. U.S. District Judge Lacy H. Thornburg, of Asheville had previously determined the plants were having a deleterious effect on air quality in Western North Carolina.

TVA, which was created in 1933, is the nation's largest public utility, servicing most of Tennessee as well as portions of Mississippi, Alabama, Georgia, South Carolina, North Carolina, Kentucky, West Virginia, Virginia and Indiana.

A health expert who appeared during the original lawsuit testified that if targeted emissions controls were implemented there would be 99 fewer premature deaths from cardiovascular and respiratory diseases, 19,000 fewer asthma attacks, 2,300 fewer lost school days, 60 fewer hospital admissions,



This decision will impact North Carolina health. Photo by Jan van der Crabben.

and 55 fewer emergency room visits related to asthma in North Carolina alone.

A TVA health expert, meanwhile, called the impact of the utility's emissions on North Carolina "almost imperceptible."

Judge J. Harvie Wilkinson, III, of the 4th U.S. Circuit Court wrote that allowing Judge Thornburg's ruling to stand would have undermined the nation's carefully crafted regulatory scheme.

Moving forward, North Carolina may appeal the July decision to the U.S. Supreme Court or seek a re-hearing before the full appeals court.

## EPA Stops Fast Track Permitting for Mountaintop Removal

On June 17, the Army Corps of Engineers announced suspension of the Nationwide Permit 21 program effective immediately in Appalachia states from Pennsylvania, Tennessee, Virginia and West Virginia. NWP 21 allowed for the "fast-tracking" of Clean Water Act permits of valley fills permits for surface coal mining activities.

Permits will now be individually reviewed under more rigorous standards and subject to public comment.

In response to this decision and other recent actions by the Environmental Protection Agency to clamp down on the impacts of mountaintop removal mining, the National Mining Association filed a lawsuit against the EPA in July.

## Court Orders Patriot Coal To Control Selenium Pollution

By Parker Stevens

U.S. District Judge Robert Chambers recently ordered Patriot Coal Company to clean up selenium pollution at two of its southern West Virginia mining operations.

The ruling signals a victory for the Ohio Valley Environmental Coalition, The Appalachian Center for the Economy and the Environment and The West Virginia Highlands Conservancy – all plaintiffs in the case against Patriot.

"This will be the first time selenium is treated in this state, and it should be a lesson to both the Department of Environmental Protection and the coal industry that it must be treated," said Margaret Janes, senior policy analyst for the Appalachian Center for the Economy and the Environment. "The results of this case clearly show that the cost of mining high-selenium coal seams exceeds the profits."

Selenium is toxic to humans in high doses, and can impact the reproductive cycle of many aquatic species, impair the development and survival of fish and damage gills or other organs of aquatic organisms subject to prolonged exposure.

As part of the ruling, Patriot Coal will be required to install selenium treatment control systems at its Ruffer Mine and Hobet 21 mine in southern West Virginia.

### THE COAL TRUTH - Notes from all over

**POWERING DOWN:** American Electric Power, one of the nation's largest power generators, will idle 10 of its smaller coal-fired power plants due to slow demand. The plants, located in Ohio, Virginia, Indiana and West Virginia, will be pulled back online as needed during peak demand months of January, July and August.

**SUBSIDIZED:** A draft study from the International Energy Agency revealed that the fossil-fuel industry receives \$550 billion a year in global subsidies, about 75 percent more than previously thought.

**APPLES TO PEACHES:** Responding to pressure from lawmakers and environmentalists, electricity giant Duke Energy is conducting price comparisons of Appalachian coal from mountaintop removal to other sources of coal. Duke energy is required by state laws to provide the cheapest possible electricity. In a report released earlier this year, Duke said "Our goal, as always, is to strike the right balance between economic,

environmental and social considerations."

**DOCTOR KNOWS BEST:** The 62,000-strong American Medical Student Association has formally adopted an amendment opposing the practice of mountaintop removal coal mining as well as the continued reliance on electricity from coal. The AMSA membership includes pre-med and medical students, interns, residents and practicing physicians from across the country.

**ALL RISE:** A trial date of March 14, 2011 has been set in a coal dust lawsuit filed by Williamson attorney Kevin Thompson against Massey Energy and three of its subsidiaries. The suit claims that hundreds of children were exposed to coal dust from a processing plant next to Marsh Fork Elementary School.

**SWOOSH!** Sports giant Nike withdrew an promotional ad campaign for a new West Virginia University uniform when it met with strong disapproval over the image depicting a football stadium that resembled a moun-

taintop removal mine site. The uniforms were originally designed to honor the 29 miners killed at Upper Big Branch mine in April.

**A BYRD IN THE HAND:** West Virginia Governor Joe Manchin announced in July that he will run for the U.S. Senate seat held by the late Robert Byrd. Morgantown business executive John Raese is running on the Republican ticket.

**LABOR BATTLE:** On Labor Day weekend, over 100 people gathered at the Whipple Company Store and Museum in Scarbro, Wv. to support protection of Blair Mountain as a historic site. In 1921 a labor battle occurred between coal companies and miners seeking to unionize. Currently, there is a controversy over the recent listing and then subsequent delisting of the battlefield as a historic site. Food, music, tours of the store and artifacts from Blair Mountain were on hand. The organization Friends of Blair Mountain also discussed the lawsuit they are pursuing over the recent delisting of the site.

# The COAL REPORT

From Appalachian Coal Regions and Beyond

## Wild and Wonderful: Gauley Fest Raises Awareness About River Protection

By Maureen Halsema

Twenty-five miles of wild river featuring Class V whitewater rapids and breathtaking views of the gorge lures adventure seekers and nature lovers from far and wide to West Virginia's Gauley River.

"Guaranteed flows, cool clear water, amazing variety of rapids, play spots and almost every type of craft you can imagine," said Brian Jennings, general manager of North American River Runners. "The Gauley is a whitewater melting pot, not something you see on many other rivers."

In honor of this famed river, American Whitewater, a nonprofit organization focused on conservation and restoration of recreational whitewater resources, founded Gauley Fest in 1983, to celebrate the cessation of a hydroelectric project that would have dewatered the river.

This year, Gauley Fest will be held September 17 to 19 in Summersville, W.Va. The largest whitewater festival in the world, Gauley Fest is an annual fundraising event

featuring live entertainment, vendors, auctions, paddling and partying. The festival's proceeds contribute to American Whitewater's conservation and access projects across the nation.

"Gauley Fest helps raise money to fund river restoration projects that American Whitewater spearheads, particularly with hydroelectric dam projects," said Mark Singleton, executive director of American Whitewater. "Whenever there is a license renewal, we typically weigh in."

Downstream from the epic white water run, the river faces a new threat: mountaintop removal mining.

In a study by American Rivers, an environmental conservation organization dedicated to protecting and restoring rivers, the Gauley River was listed as this year's third most endangered river in the country.



Brian Jennings is launched into the Gauley River. Photo by Ben Edson

The America's Most Endangered Rivers report points to mountaintop removal as the reason for the designation. Mountaintop removal mining practices cause an increase of sediment and toxic wastes to flow into rivers, raising conductivity of the waters and altering habitats.

"The report is a powerful tool for saving these important rivers," said Liz Garland,

associate director of American Rivers' Clean Water Program in Pennsylvania. "It shines a spotlight on key decisions that will impact the rivers and provides clear actions the public can take on their behalf."

The U.S. Environmental Protection Agency is currently accepting public comments on guidelines regarding conductivity limitations downstream from mining operations. Conductivity is a measurement of the amount of salts and metals in water and its ability to carry an electrical current. The proposed limits concern the levels at which the water quality and aquatic life are considered impaired or at risk for impairment.

"Unless the EPA and Army Corps act now to end the devastating practice of mountaintop removal mining, the Gauley River and its communities will suffer irreparable damage," said Rebecca Wodder, president of American Rivers.

## EPA Solicits Comments On Coal Ash

By Kara Dodson and Parker Stevens

The EPA has proposed two options for regulating coal ash, and a public comment period is open until Sept. 21.

The first option, known as Subtitle C, would classify coal ash as a "special waste;" this standard requires ash disposal sites to be lined, slurry ponds to be phased out and a strong national standard for waste disposal.

The second option, Subtitle D, would classify coal ash as a solid waste, and replace federally enforced standards with state guidelines.

Coal ash contains heavy metals including arsenic, mercury, lead and selenium. Hundreds of unlined ash disposal ponds store millions of tons of this hazardous waste across the U.S.

Reports from the Upper Watauga Riverkeeper, Earth Justice and Environmental Integrity Project among other organizations have documented contaminated groundwater and residential wells, polluted public waterways and structurally unsound operations.

Until recently, the EPA partnered with the coal industry to promote the re-use of coal ash, using it in an array of consumer, agricultural and commercial products. The partnership,

called the Coal Combustion Products Partnership (C2P2), was suspended in late spring and the web pages removed from the EPA website while the agency re-evaluates the beneficial uses of coal combustion residues.

Currently, the Army Corps of Engineers is considering using coal ash to seal at least 11 levees along the Mississippi River. The levees, built between the 1930s and 1950s, are weakened and in need of reinforcement. When mixed with lime, coal ash forms a cement-like material that can be injected into the levees, though the possible effects on water quality have not been studied.

For over a decade, coal ash has been used to strengthen levees along the river near Memphis, Tenn. The Army Corps admits to being unaware of any testing to determine if toxic metals have leached into the water. If the EPA does classify coal ash as hazardous material, the Army Corps will reconsider its proposal.

During the public comment period, the EPA held five public hearings concerning the proposed regulation, including ones in Arlington, Va., on Aug. 30, and Charlotte, N.C., on Sept. 14.

Visit [AppVoices.org/Coal-Ash](http://AppVoices.org/Coal-Ash) to read more about the hearings and comment period.

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# Across Appalachia

Environmental News From Around The Region

## "Appalachia Rising" To Rise Up in D.C.

By Jillian Randel

A weekend of mobilizing will take place in Washington D.C., September 25-27, designed to help citizens learn what they can do to help end mountaintop removal coal mining.

The Voices of the Mountains Conference, scheduled for Saturday and Sunday, will feature workshops and panel discussions about Appalachia, civil disobedience, and the issues surrounding the destruction of waterways, mountains and communi-

ties as a result of the controversial mining practice.

The event will culminate on Monday, the 28th, with an Appalachia Rising Day of Action. There will also be a National Lobby day on Tuesday the 29th.

Event coordinators hope to draw policymakers, coalfield residents, miners and other citizens to the event.

Visit [appalachiarising.org](http://appalachiarising.org) for more information or to sign up.

## More Logging for Daniel Boone Forest

By Jillian Randel

The U.S. Forest Service has announced plans to log 365 acres in the Daniel Boone National Forest in Kentucky. The proposed area is part of a forest that has just begun to reach maturity, with half of the trees aged 70 years or older. The forest also includes numerous springs, several species of orchids and a variety of flora. The forest service

has also proposed constructing temporary roads and using herbicides to kill unwanted native trees and invasive species.

The area in question previously experienced substantial quarrying and logging and is the site of significant clearcutting by the Forest Service about 20 years ago.

For more info, visit [kyheartwood.org](http://kyheartwood.org) or email [kentuckyheartwood@gmail.com](mailto:kentuckyheartwood@gmail.com).

## The Little Wonders Project: Biking for Bikers

By Parker Stevens

In August, a crew of Boone-based bike enthusiasts began a trek across the country to raise awareness about bicycle safety. The project started with Brandon McKeever, who is riding in memory of two cycling teammates—avid bikers Garret Wonders and Adam Little—who were both killed by motorists.

One of Wonders' life goals was to bike across the county. Since he never got the chance, McKeever decided to make that trip, raising awareness for bike safety along the way.

"It's sad that it happened, but I think things like this happen for a reason," McKeever said. "I've already seen a lot of good come out of it."

McKeever will be joined by Josh McCauley, Ben Rollins and at least four others. Members of the crew have sold their cars and belongings in order to buy an old school bus, which they have converted to run on used vegetable oil.

The trip began in Charleston, S.C., and will end in San Francisco, Calif. Along the way, they will be working on organic farms and hosting bike safety events for children and adults.

The team will also be raising money for the Garret Wonders Memorial Fund, a nonprofit that provides cycling scholarships for students at the University of Ohio.

To learn more about the trip and how to get involved, visit [TheLittleWondersProject.com](http://TheLittleWondersProject.com).

## Solar Now Cheaper Than Nuclear in North Carolina

A report from Dr. John Blackburn, Duke University's former chancellor and economics department emeritus chair, found that in an "apples-to-apples" comparison in the state of North Carolina, solar electricity can be produced for 14 cents per kilowatt-hour, while the same electricity produced by nuclear power plants would cost between 14 - 18 cents per kilowatt-hour. Read the report in its entirety at [ncwarn.org/?p=2290](http://ncwarn.org/?p=2290).

## Cooking Up Solutions

by Megan Naylor

Appalachian Alternative Agriculture, a nonprofit group based in the town of Anville in Jackson County, Ky., recently opened their kitchen doors to regional farmers.

The newly completed processing kitchen, which has been 8 years in the making, was designed to have a high output capacity. It will provide local farmers an opportunity to increase the market value of their produce by allowing them to sell their goods on a retail basis.

"It will serve as an incubator type facility for farmers and entrepreneurs that have a product they would like to produce and market," Agriculture Natural Resource Agent Jeff Henderson said.

The cost for using the processing facility will be minimal so that small farms can afford to participate and have the chance to use industrial sized equipment.

In addition to the kitchen itself, there will be a docking station for Kentucky State University's mobile chicken processing unit and a pavilion where farmers market days will be held.

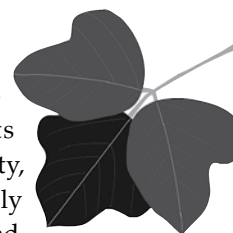
East Kentucky Power Cooperative donated the land for the facility, while funding was provided by a collaboration of partners.

## Coughing up Kudzu

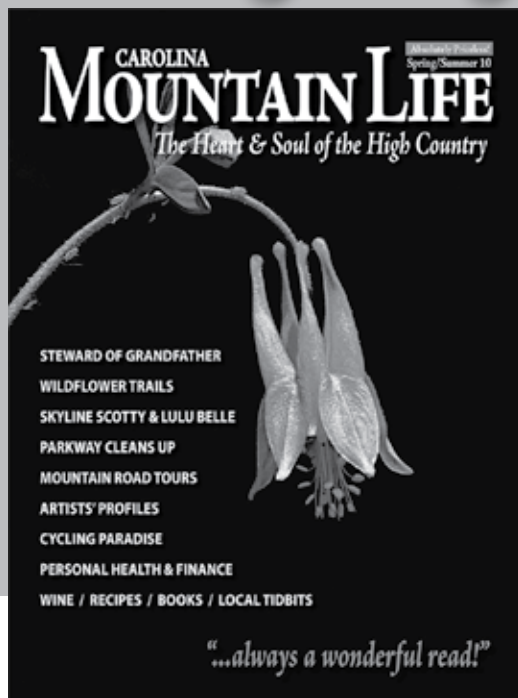
According to atmospheric scientists at Harvard University, kudzu—the tenaciously invasive species spreading across the southeast—is a major contributor to ozone pollution.

As kudzu releases isoprene and nitric oxide, these chemicals combine with nitrogen in the air and form the greenhouse gas. Ozone formation close to the earth's surface is extremely hazardous to human health and the growth of many plants, threatening both air quality and agricultural production.

With a growth rate about three times as fast as trees and other vegetation, kudzu is exceedingly difficult to control. Some measures being used to control the vine include livestock grazing, burning, mowing and herbicides.



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# Across Appalachia

Environmental News From Around The Region

## Gee, Haw! Husky Assist Program Sleds Into Virginia

By Megan Naylor

The last thing that comes to mind when thinking of Virginia is the Siberian Husky, a popular high energy, cold weather breed of dog. That is, until now.

Siberian Husky Assist, a safe haven relief program started in 2003 and based in Bristol, Va., educates the public about the unique breed and rescues neglected Siberian Huskies across the South.

The program rescues dogs from shelters and homes that cannot support them and places them into safe foster homes until they can find permanent relocations.

Their coverage area for rescues ranges from Roanoke, Va. to Knoxville Tenn.

According to Marcia Horne, president of Siberian Husky Assist the goal of the program is to find the dogs loving "forever homes."

Horne first got involved with Siberian huskies when she was searching for a good therapy dog.

"I adopted a husky from the Blountville, Tenn., shelter to be used as a therapy dog and wondered why these dogs were

in shelters," "so, I set up a rescue with the guidance of Sidney Sachs of sled dog rescue in Spring City, Tenn.," Horne said.

Since that day, she has worked diligently to give abandoned huskies a second chance by facilitating rescues, fosters and adoptions while juggling a barrage of daily calls and emails about dogs in need of placement.

"It takes us weeks to months to find a good home for our huskies," Horne said.

Currently, Siberian Husky Assist lacks the land and funds needed to help a large number of dogs.

"This is why I'm driven to set up a sanctuary and dog sledding facility," Horne said. "We and our dogs work to earn our fundraising dollars."

In addition to acting as a facilitator for husky halfway houses (foster homes), the organization has their own sled dog team, which participates in demonstrations and fundraising events.

They also teach dog sled training sessions for beginner and intermediate mushers, offering the public a taste of what Siberian huskies have been trained to do for thousands

of years.

They encourage owners to bring their own dogs to the classes with the understanding that they must be up to date on all shots and friendly with humans and other canines.

Husky Assist plans to open the South's first ever Husky Sanctuary and Dog Sledding Facility, located at the Blue Heron Resort in Saltville, Va., as soon as funds are available to begin building.

The new facility will provide opportunities for further outreach, education and fundraising and serve as an area for dogs to stay when foster homes are in short supply.

The facility will include a Siberian Husky, Northern Breed and Handicapped sanctuary as well as an educational facility for dog sledding classes and outreach.



The Husky Assist sled team, compiled of seven dogs, five of which are Siberian Husky rescues, trains on the Virginia Creeper Trail in the fall of 2009. "Gee" and "haw" are common dog sledding commands for right and left turns. Photo courtesy of Siberian Husky Assist

Horne believes that public outreach and education on Siberian Huskies is essential in finding a good fit for long-term adoption.

"Our goal is to find these special rescued Siberians a home where we feel there is a match made in the characteristics of the dog and the family that adopts them, to ensure they will be there forever."

To get involved, visit [SiberianHuskyAssist.com](http://SiberianHuskyAssist.com).



## Crazy Quilt Project Still Accepting Patches

Floating Lab Collective is still accepting patches for their crazy quilt project designed to document local artists' responses to mountaintop removal. Simply create a patch of any size or shape and dedicate it to a mountain you love. Include the name of the honored mountain somewhere on the fabric and a written description of a personal memory with the mountain.

Patches will be accepted through Spring 2011 and can be mailed to Kate Clark 5308 39th St. NW Washington, D.C., 20015.

## Tennessee Wild Dedicated to Wilderness

By Ray Zimmerman

On June 8, U.S. Senator Lamar Alexander (R-TN) sponsored and introduced the Tennessee Wilderness Act, cosponsored by the Senator Bob Corker (R-TN). If adopted, the act will add 20,000 acres to the designated wilderness areas in Cherokee National Forest.

According to Jeff Hunter, director of the coalition Tennessee Wild, the act will protect sensitive wilderness areas that would otherwise be available for timber harvest, mining, oil and gas development and road building.

Hunter calls this proposal "a window of opportunity to permanently protect these beautiful areas for their significant recreational value and for the ecosystem services these areas provide."

Tennessee Wild has worked to expand the wilderness designation for Big Frog, Little Frog, Joyce Kilmer Slickrock, Big Laurel Branch and Sampson Mountain Wilderness areas.

According to Hunter, the "gem" of this proposal is the Upper Bald River Wilderness

Study Area. "It's a virtually intact watershed with beauty rivaling just about anything you can find in the Smokies," he said.

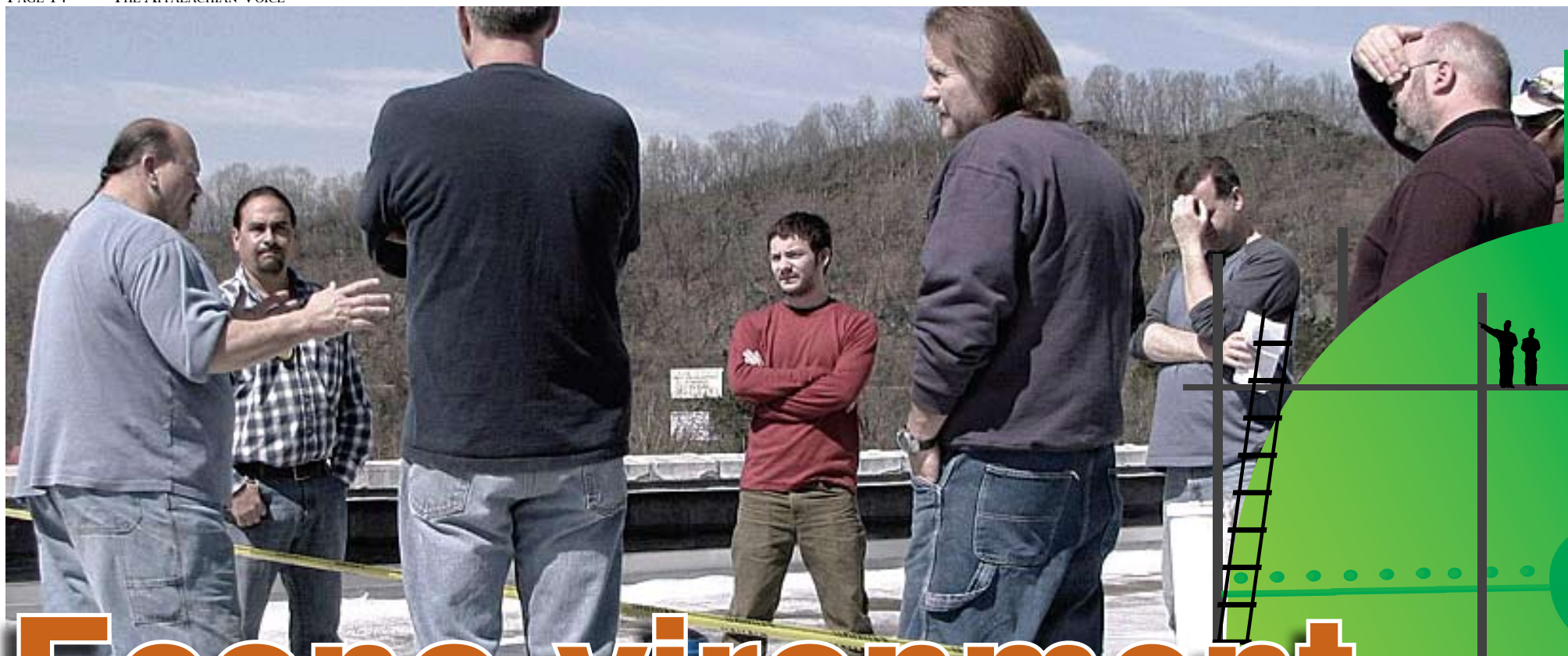
Eight conservation groups have joined with Tennessee Wild, including the Wilderness Society, the Tennessee Chapter of the Sierra Club, Campaign for America's Wilderness (part of the Pew Environmental Group), Cherokee Forest Voices, Southern Appalachian Forest Coalition, Tennessee Citizens for Wilderness Planning, Smoky Mountains Hiking Club, and the Southern Environmental Law Center. These groups encourage citizens to write their representatives in Congress to support the Tennessee Wilderness Act.

Hunter extended an invitation to individuals who want to help more.

"Come hike or maintain a trail with us," Hunter said. "We lead regular outings to the Cherokee. Seeing these places is the best way to understand why Tennessee Wild exists."

All trail maintenance is done with hand tools; no chain saws are permitted.

Visit [TNWild.org](http://TNWild.org) to find a list of their upcoming events.



# Econo-vironment

**Communities across Appalachia strive to ensure the economic and environmental health of their region by launching innovative programs focused on long-term solutions.** *Stories by Julie Johnson*

Since September of 2001, over 6,400 West Virginia National Guardsmen have served in multiple combat tours in Iraq and Afghanistan. Currently, there are 998 active military reservists that will be trickling home to West Virginia in the coming months.

On top of readjusting to civilian life and dealing with possible mental and physical health issues, these men and women are returning to a home state with an average unemployment rate of 8.6%.

Many Reservists and Guardsmen were unable to keep their jobs when they deployed. There are a few federal regulations that require businesses to hold a troop's job when he or she deploys, but they only apply to businesses with 50 or more employees. The job of a veteran that was working independently or for a small business is not protected, and many have been eliminated during the recent economic downturn.

When those 998 return home from deployment, (or in many cases, multiple deployments,) they will find that jobs have been diminished by downsizing and business closure. They will find the state's coal industry offering approximately 20,000 mining jobs, over 100,000 fewer than it did

during the 1950s.

During the years of their duty, the Appalachian region lost more than 35,000 jobs in farming, forestry and natural resources and another 424,000 jobs in manufacturing, accounting for a 22% loss in total employment opportunities.

This leaves vets, like so many other citizens of Appalachia and America, often desperately stuck between job hunting and the unemployment office. All face the daunting task of feeding the kids, keeping the lights on and paying the mortgage in an unforgiving economy.

Some vets can turn to the G.I. Bill, honing their skills at universities and avoiding the job market for at least four years. Some can turn to various government programs, applying for small business loans and assistance through the Veterans Affairs programs.

But the long-term employment solution for both soldier and civilian in Appalachia, and

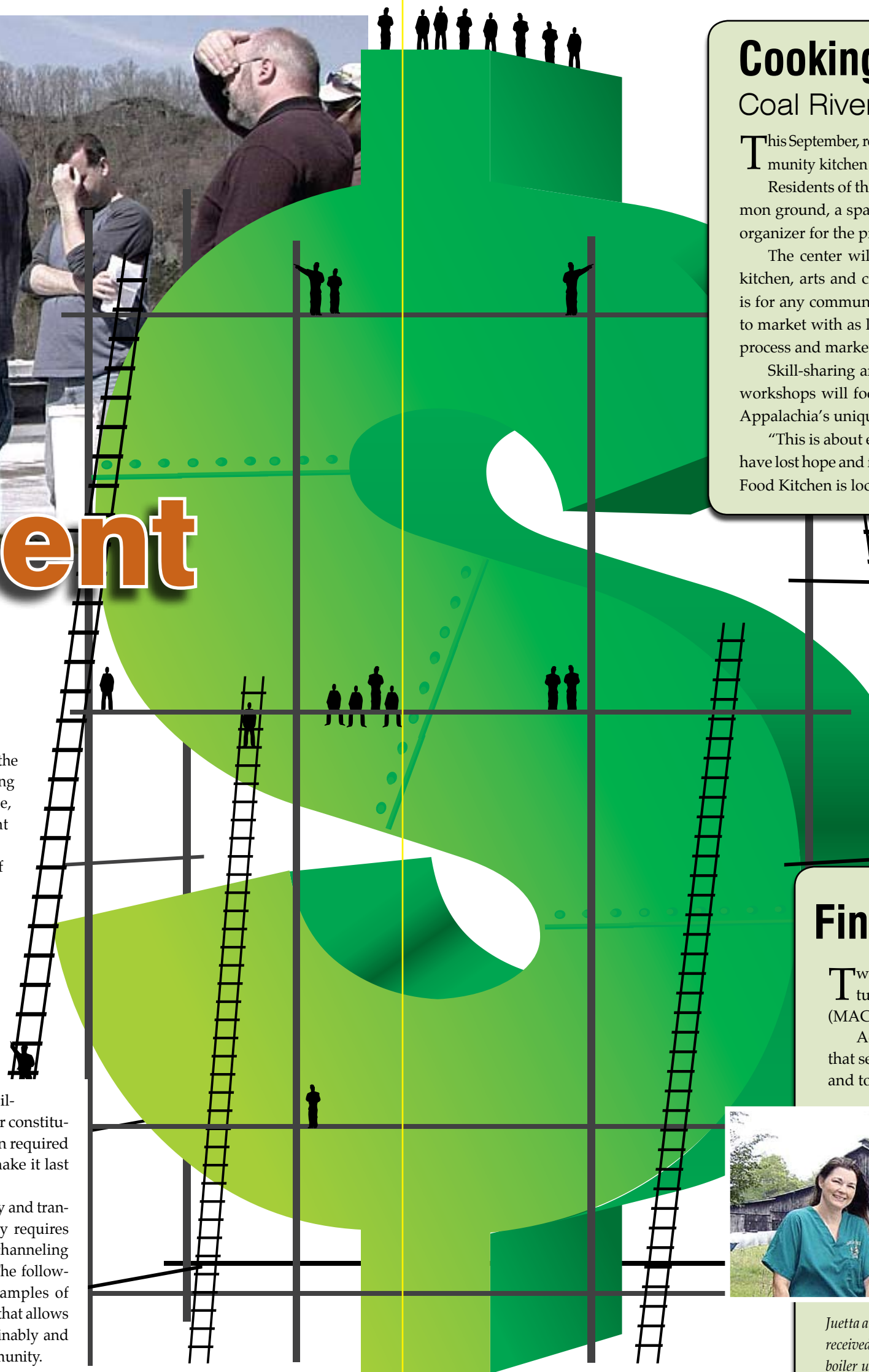
perhaps the economic solution for the region itself, may come in recognizing the huge potential for sustainable, community-centered development in the region.

"Historically, the residents of Appalachia have faced chronic and severe poverty, substandard housing, inadequate schools, and poor health care for many generations," said Richard Greenlee in an April 2010 U.S. Senate hearing on Appalachian Culture and Veterans.

"Despite these many challenges, they have survived and in some situations flourished. Resilience is a major component of their constitution... Their environment has often required them to learn how to make do, make it last and do without," he said.

Creating economic opportunity and transitioning Appalachia to prosperity requires acknowledging these traits and channeling them into practical applications. The following projects provide working examples of grassroots economic development that allows natural resources to be used sustainably and ownership to stay within the community.

*Pictured above, The JOBS project brought Southern West Virginia officials, contractors, electricians and interested community members together to learn the details of solar photovoltaics. Photo courtesy of The Jobs Project*



## Cooking up Small Business Opportunities

### Coal River Valley's Community Food Kitchen

This September, residents of West Virginia's Coal River Valley will find a newly opened community kitchen and small business incubator ready to serve the Boone-Raleigh area.

Residents of the area planned, financed and built the center as a neighborhood common ground, a space to "heal this very divided community," says Lorelei Scarboro, an organizer for the project, formerly of Coal River Mountain Watch.

The center will offer a community greenhouse and gardens and soon a canning kitchen, arts and crafts center, learning center and small business incubator. The goal is for any community member that wishes to be able to get their product from harvest to market with as little overhead cost as possible. "We believe if we can grow, harvest, process and market it locally we will all be healthier and wealthier," says Scarborough.

Skill-sharing and traditional craft workshops will also be held at the center. These workshops will focus on inspiring local craftspeople to pass down the knowledge of Appalachia's unique traditions to younger generations.

"This is about empowering the people who are rooted in the community, those who have lost hope and feel as though their voice is not heard," says Scarboro. The Community Food Kitchen is located at 39037 Coal River Road in Whitesville, W.Va.



## Sunny Skies for West Virginia JOBS

*By Derek Speranza*

Even in the heart of coal country, renewable energy projects are pushing forward - and gaining momentum in the process.

One standout among these projects is the JOBS project, a renewable energy initiative that creates local jobs in Central Appalachia by developing and installing renewable energy systems.

One focus of the JOBS project is the installation of solar panels in West Virginia. Partnering with Mountainview Solar & Energy, the JOBS project made its pilot installation on a Williamson, Va., home just months

ago, and the project was even covered by the BBC.

"We cannot generate enough energy to fuel our current appetite," says Jenny Hudson of the JOBS project, "so the town of Williamson is interested in employing energy efficiency technologies and promoting conservation."

Together, the JOBS project and the town of Williamson are leading the way in new technologies.

The JOBS project is currently preparing for a community event in the Fall surrounding the solar installations, so stay tuned.

Visit [jobs-project.org](http://jobs-project.org) for more information.

## Finding Ways Forward Appalachian Transition Initiative Seeks Strategies for a Sustainable Future

Two Kentucky non-profit organizations are collaborating to create the Appalachian Transition Initiative. Kentuckians for the Commonwealth (KFTC) and Mountain Association for Community Economic Development (MACED) conceived the project as a means of addressing economic disparity in Central Appalachia.

According to their website, "we stand divided in our communities, and are subject to broader economic forces that seek our resources—including the coal under our feet—at the cheapest price possible. It's time for transition, and to get ready we need a real and honest conversation about our future."

The Transition Initiative seeks to generate and expand this conversation through collaborative projects with community members, non-profit organizations and entrepreneurs in Appalachia. Recently, members of the Initiative worked with the Central Appalachian Prosperity Project to complete the Essays Project, 24 white papers that detailed various approaches to transition within the region.

The Transition Initiative's website, found at [appalachiantransition.org](http://appalachiantransition.org), offers a comprehensive list of "ways forward," ranging from

*Continued on page 16*



*Juetta and Gene Potter (above), co-owners of Country Care Daycare, were MACED's first Energy Efficient Enterprises client. The Potters received a free energy assessment and a loan to cover the cost of replacing their dated heating system with a more efficient wood gasification boiler unit, fueled by by dead or dying wood the Potters harvest from their farm. Photo courtesy of [appalachiantransition.org](http://appalachiantransition.org)*

## A Cooperative Approach to Renewing East Kentucky

by Sara Pennington and Randy Wilson

*In this article, excerpted from the July-August 2010 issue of Solutions Journal, the authors propose strengthening the rural Eastern Kentucky Power Cooperative to create innovative programs to invest in energy efficiency, workforce development, and increased renewable energy generation. Read the full version at [thesolutionsjournal.com](http://thesolutionsjournal.com).*

Central Appalachia has much to recommend it. It contains one of the most biologically diverse forests in the world and breathtaking mountains that have inspired artists and writers for centuries. These same mountains have helped to shape the people who call this region home. Appalachian people are proud of their heritage, of the culture that has developed in these mountains, and of the beauty of the landscape that surrounds them.

The people of Appalachia are also faced with more than their share of daunting problems—the byproducts of a century of over-dependence on a coal extraction economy, including persistent poverty, joblessness, poor health, extensive poor-quality and inefficient housing stock, a damaged natural environment with diminishing air and water quality, and a dangerous vulnerability to the quickly rising cost of coal-generated electricity.

To design and implement meaningful solutions, people in the region need to have an honest discussion about the nature and sources of the problems and acknowledge their complex relationship with coal. For generations, many in the region have identified with the coal industry, but many recognize it can cause serious injury and is a finite resource.

John Craft, like so many miners and other workers in eastern Kentucky, acknowledges that coal is “going to be a thing of the past,” and that the industry won’t

be operating in Appalachian Kentucky much longer. He doesn’t believe the industry slogan, “Coal Is Our Future.” He says that coal production “is already declining and will continue to decline in the future.”

With a clear view of the problems and the landscape, eastern Kentuckians can design solutions that offer tangible alternatives and provide real jobs and hope for a future beyond coal. They can design solutions that help initiate whole new sectors of the local economy, develop a new workforce, and foster new economic infrastructure. They can design positive initiatives that the most honest political leaders can promote. But it will require a plan.

We propose that the East Kentucky Power Cooperative and their 16 distribution cooperatives launch an aggressive, well-funded, five-year energy efficiency and renewable energy initiative—called “Renew East Kentucky”—in the EKPC service area.

This initiative, anchored by the distribution cooperatives, would re-tool and expand the local workforce, build up local initiatives already in place, and much more aggressively implement energy efficiency and renewable energy solutions to address the region’s significant infrastructure and economic challenges.

The initiative would offset the need for a risky new coal plant that EKPC is proposing to build and in its stead would yield thousands of new jobs during the initiative’s initial five-year lifespan. It would reduce energy consumption while diversifying energy generation, facilitate new job training, upgrade residential housing, build new renewable energy facilities and capacity, and develop a new economic sector that can grow well beyond the borders of our initial plan.

The co-ops are locally owned and, according to their

publications and messages, democratically controlled by their membership. Though much work is still needed to bring the co-ops into complete adherence to this democratic structure, the members, as owners of the co-ops, collectively will own the solution itself.

Unlike other for-profit, investor-owned utilities that operate in the state—utilities headquartered in Ohio, or North Carolina, or even Europe—the benefits generated in the local co-ops will not increase the shares of distant stockholders, but will stay local. “Profits” made on any of the programs will return to the cooperative members in the form of capital credits and re-enter the local economy when these credits are spent.

It will take the experience and capacity of a network of local agencies and organizations in the region to successfully implement this plan. The co-ops must engage these groups as serious stakeholders in the process and root solutions in local communities in order to ensure that the plan is truly a part of the solution to renew Appalachia.

Appalachian Kentucky is challenged by many daunting and overlapping economic problems. Most have been decades and generations in the making, and it will take years of leadership, initiative, and hard work to solve them. The Renew East Kentucky plan is a grounded, yet sophisticated solution, capable of addressing a broad range of these problems. Because the tangible benefits are so large and the collateral benefits even greater, this is exactly the type of initiative needed to begin our desperately needed transition to a vibrant, healthy economy in Appalachia. It’s a solution—and change—we can believe in and accomplish.

In Wise County, Virginia, recovery and reinvestment are welcome words. One in five people in the county are living in poverty, unemployment is up 2.4 percent from 2008, and people are dying from drug overdoses at the highest rates of anywhere in the state of Virginia.

But the numbers are not all grim. Wise County is currently the recipient of \$128,246,825 in recovery funding from the economic stimulus package, formally the American Recovery and Reinvestment Act, that Congress passed in early 2009. Per capita, Wise Co. is receiving \$3,075, nearly triple the national average per capita rate of \$1,170.

In a region historically dominated economically by coal mining, the Virginia Department of Mines, Minerals, and Energy is designating \$86 million for investments in renewable energy installations and energy efficiency projects, with more than \$9.5 million targeted specifically at small localities in the county.

“I am pleased that funding is being directed to areas of the Commonwealth hit hardest by the economic downturn,” said Virginia senator Jim Webb. His fellow senator Mark Warner said, ““This grant will create jobs and improve the rural infrastructure even as we provide clean drinking water to hundreds of families.”

A portion of the stimulus funding will provide \$2 million for improving water infrastructure county-wide. Over \$850,000 will facilitate drinking water improvement in the town of Appalachia.

Another \$50,000 is allocated for “assistance in the development of detailed designs, drawings, plans and specifications for the implementation of remediation measures to address water quality impacts associated with abandoned mine sites in the North Fork Powell River Watershed.”

Funding throughout the rest of Appalachia varied widely from county to county, with some receiving funds comparable to the average and other counties like Logan in West Virginia receiving barely a third of the national average. Visit [projects.propublica.org/recovery](http://projects.propublica.org/recovery) for an interactive recovery funds tracker.







# Econo-vironment



## Wise Spending in Virginia

County puts stimulus toward green jobs  
By Sarah Vig

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## Appalachian Transition Initiative

Continued from page 15

sustainable agriculture to education and workforce development.

The Millard Area Technology Center is featured as an example of a sustainable workforce development model. Millard offers an energy auditing and home weatherization certifi-

cation program. The current students are already employed by community action agencies and local businesses, and are beginning weatherization projects in homes throughout southeastern Kentucky.

"There is no one single idea or industry that will create a more just,

sustainable and prosperous future in Central Appalachia," according to the site. "But there are a wide variety of efforts and directions to pursue ranging from better and more sustainable utilization of our region's diverse forestland to improvement in the quality of and access to child care for the region's kids."



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# Biofuels: LOCAL GIVES WAY TO LARGE SCALE

By Bill Kovarik

ASHEVILLE, N.C. – Melita Kyriakou watches as a big blue fuel truck with a green biodiesel logo grinds past the fuel tanks, under the bridge and up the hill – off on another delivery to one of the four biodiesel retailers in the mountain city.

The good news, for Blue Ridge Biodiesel, is that they are still in business. The bad news is that half the staff has been laid off, and most other community-scale biodiesel plants in the state of North Carolina are going out of business.

“Its true – I do wake up in the middle of night,” she said. “There’s too much work, too little time, and too many forces against you.”

The biggest headache was the abrupt expiration of a \$1 per gallon federal tax break in December, 2009. Attempts to extend the tax break could eventually succeed in Congress, but for now, biodiesel is quite a bit more expensive than regular diesel.

“Politicians are constantly talking about getting the country free of foreign oil,” Kyriakou said. “Yet here is one industry functioning, viable, directly plugged into the existing infrastructure—and it just had its legs cut out from under it.”

Before the end of the tax credit, the biodiesel industry employed an estimated 53,000 people, according to the National BioDiesel Board. No figures are available for the number of jobs lost so far.

“We just want a level playing field,” she said. “Local foods make sense—why not local fuel?”

Norman Smit of the Biofuels Center of North Carolina, says there is a place for small scale biodiesel. “There certainly is value in being able to convert (waste) into a commodity that can help school busses go,” he said. “The problem is that there isn’t enough of it, it isn’t particularly cheap to produce, and it can’t scale up.”

Replacing large amounts of petroleum is going to take large scale regional planning, he said.

## Local fuel losing ground

Thirty years ago, in the wake of the Arab oil embargoes, the wildly popular idea was that farm and community scale efforts should replace foreign oil. Americans would band



together, throw off the yoke of petroleum, and create healthy, sustainable jobs in their communities.

Thousands of small scale ethanol and biodiesel plants sprang up, including at least a dozen in the Appalachian region. Ribbon-cuttings and station openings provided regular fare for TV and newspapers, and communities took pride in reclaiming transport fuel technology and putting it under local control.

As late as 2002, most Midwestern corn ethanol plants were locally owned, and economic benefits spread through the communities, according to the Institute for Local Self Reliance (ILSR). But in recent years, a dramatic shift from small locally owned plants serving local markets to large plants serving distant markets has occurred.

“Thus, the close relationship between community and manufacturing facility was severed and the percentage of the dollar that stayed in the local community dropped significantly,” ILSR said in its 2008 Rural Power study. The study recommended re-orienting policy to favor local and rural renewable energy projects.

“From a technological perspective, larger may seem more profitable, but from a community perspective, smaller may be more profitable,” the study authors said. “As it turns out, the benefits of building big are small, while the benefits of building

*Locally owned and operated Blue Ridge Biodiesel sells biodiesel at four retailers in the Asheville, N.C. area.*



*In spring 2010 researchers with the University of Tennessee Biofuels Initiative planted 1,000 acres of switchgrass (top) to evaluate the plant’s potential for use in the production of cellulosic ethanol at the Genera Energy/DDCE demonstration scale biorefinery at Vonore, Tenn. Photo by S. Jackson. UTIA.*

*Biodiesel can be made from any fat or oil. Current U.S. biodiesel production is primarily from the oil from soybeans (left) or from recycled restaurant cooking oil. Cleaner burning and renewable biodiesel is most often blended at 20% with petroleum diesel. Photo by Bob Allan, National Renewable Energy Laboratory*

small are quite large.”

It’s ironic that state and federal policies often do just the opposite. Willis, Va., resident Sam Bolt discovered this in 2007 when he sold a few thousand gallons of extra farm-brewed biodiesel. Bolt was charged with tax evasion and given a one year suspended jail sentence. Although many were sympathetic, no one in government asked how they could help.

## Region focuses on non-food crops

Only two large grain ethanol plants exist in the region. A Loudon, Tenn., plant built mostly for the corn sweeteners market in the 1970s produces 65 million gallons of corn ethanol per year along with many kinds of feed products from the leftover corn. Completed this year, Clean Burn Fuels, of Raeford, N.C., is producing about 60 million gallons of ethanol a year and delivering a daily ration of 18,000 bushels of distillers grains to the hog industry.

Most of the regional scale-up and commercialization of biofuels is focused on two new cellulosic ethanol fuel facilities.

- University of Tennessee at Knoxville, in partnership with Dupont Danisco and Genera Energy, will produce nearly 250,000 gallons of ethanol from an enzymatic process at a Biomass Innovation Park. Over 6,000 acres of switchgrass have been planted under contract with farmers in the region.

- Range Fuels in Soperton, Ga., is using waste wood from the paper industry to produce, at full capacity, up to 100 million gallons of ethanol and methanol a year. The wood is gasified and then converted to liquid fuels by a catalyst.

It is too early to tell how successful these efforts might be, but the resource base for biofuels from non-food sources has the potential to replace at least half of U.S. fuel consumption, according to a 2005 Oak Ridge National Labs study. Excluding grains—the second-generation cellulosic potential from perennial crops—farm and forest residues amount to over 1,200 billion tons of feedstock, which at 80 gallons per ton, would amount to just over 100 billion gallons of fuel, ORNL researchers said.

*Continued on page 19*

# Pond Scum Solutions

## Turning Pollution Into Fuel

By Maureen Halsema

The concept is simple—take one of the most effective photosynthetic life forms on earth and put it to work. The secret weapon: algae.

Algae are organisms that grow quickly in aquatic environments via photosynthesis, CO2 and nutrients, and they can be used to produce biomass and biofuel.

Algae have several advantages over food crop biofuels. For instance, an alga grows faster and does not necessitate the use of agricultural land. Farmers can grow algae on land otherwise considered unsuitable for crop production, expanding and diversifying their options. They could even convert algae into biodiesel and use it to fuel their equipment. Algae can actually double in size in one day while other crops may require up to an entire agricultural season to grow.

Algae do not compete with other food sources, preventing escalating food prices as a result of biofuel production. The oil content of algae is also much higher than that of corn and other food-based biofuels.



At Old Dominion University, the site of the Virginia Coastal Energy Research Consortium, they conduct algal biomass research. Photo by Chuck Thomas. According to DOE's National Algal Biofuels Technology Roadmap published in May 2010, algae yields approximately 1,000 to 6,500 gallons of oil per acre per year, while soybeans yield a mere 48 gallons per acre per year and oil palm yields about 635 gallons per acre per year.

Algae production faces several technical challenges, however. In terms of commercial production, expense is the biggest obstacle. Researchers are currently exploring a variety of different methods to cost effectively grow, harvest and convert algae into biofuel. From coupling algae cultivation with wastewater cleanup to using the co-products for green fertilizers, researchers are investigating different means to minimize the production costs.

Many petroleum corporations, including Exxon Mobil, Chevron and Shell have

been working on algae research and development technology. Exxon Mobil projected that it would spend more than \$600 million over the next decade on research and development of algae-based biofuels.

In addition, the U.S. Department of Energy recently dedicated \$24 million to algal biofuel research to supplement the \$140 million allocated from the American Recovery and Reinvestment Act.

While the upfront costs for algal biofuel production may be high, the external costs are low: this technology is essentially

CROP	OIL YIELD (GALLONS/ACRE/YEAR)
Soybean	48
Camelina	62
Sunflower	102
Jatropha	202
Oil Palm	635
Algae	1,000-6,000

carbon-neutral.

Algae absorb CO2 during their growth process and then release it when the CO2 is burnt for fuel.

"The carbon never disappears. It just changes from a greenhouse gas to a fertilizer or fuel through photosynthesis," said Bruce Dannenberg, chief executive officer of Plantonix, a North Carolina corporation dedicated to researching and developing a commercially viable production of algal and cyanobacterial biofuels.

While algae production does require large volumes of water, it does not need treated drinking water; ocean water, polluted river water or treated wastewaters are viable options.

Algae can also consume the CO2 necessary for photosynthesis from power plant and industry emissions—as optimal algal growth occurs in a CO2 rich environment. By strategically placing algae farms near existing power plants, a portion of emissions can effectively be recycled into algae growth fuel for biodiesel. Algae can help

*Continued on next page*

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# Biofuels: Local Gives Way To Large Scale

Continued from page 17

## Impacts of cellulose biofuel crops

Switchgrass, miscanthus and other perennial biomass crops are very much like hay crops and seem to have few environmental drawbacks. According to a 2006 USDA study, benefits include "reduced soil erosion, increased water quality, enhanced soil-carbon sequestration, wildlife habitat and reduced greenhouse gas emissions."

UT Knoxville researchers found that switchgrass can be left standing through most of the winter and can provide critical winter cover for wildlife.

Critics of the idea, like Timothy Searchinger of Princeton University, warn that forest and grassland will be converted to new cropland to replace the grain once grown elsewhere. Switchgrass, if grown on U.S. corn land, increases greenhouse gas emissions by 50%, he estimated.

"Searchinger's argument ... is flat wrong," wrote C. Boyden Gray in a February *Washington Times* article. "He assumes mass conversion of forest land when the opposite is the case... Forest stocks have been stable, not falling, despite increased use of corn for ethanol. There has been no net conversion of land from sustainable forests to biofuel production."

Like other facets of the "food or fuel" and biodiversity issues surrounding biofuels, the questions often involve future impacts, which are difficult to anticipate based on the limited experience to date.

A 2007 law—the Energy and Independence Security Act—requires that ethanol and other fuels have to produce fewer overall emissions of greenhouse gases over the life cycle of the fuel's production, transportation and use. So far, according

## Pond Scum Solutions

Continued from previous page

clean up the environment and provide the fuel and electricity needed to aid the transition from fossil fuels and their damaging environmental impacts.

While many species of algae require consistent sunlight and temperatures, some scientists believe that this biofuel shows great promise in the Southern Appalachian region. The key: using natural native wild algal species that have adapted to the mountain climate over millions of years.



Luciana Vergara shows off the fermentation lab on Friday, January 29, 2010 during the grand opening of the Cellulosic Ethanol Biorefinery in Vonore, Tennessee.

to the U.S. Environmental Protection Agency, the requirement has not proven overly difficult for the biofuels industry.

## Biofuel's future in Appalachia

The focus of research and development in the southeast has been to supply feedstock for the cellulosic ethanol industry, notes Jeremy Ferrell, Biodiesel Operations and Outreach Manager at Appalachian State University.

Yet the technology is not mature. "The promised breakthroughs in cellulosic ethanol technology, namely new lower-cost enzymes, have not yet come to fruition," said Ferrell.

Along with large scale research into liquid fuels, small community-scaled biomass power plants (around 50MW) have proven successful, and there are many examples for the Appalachian region, Ferrell said. The McNeil Power Station in Burlington, for instance, uses waste wood, yard wastes and forest residues to create 50 MW of power while supporting a local forest industry.

"What you try to do is to use biomimicry, basically, what nature has provided naturally, to your advantage at growing the crop," said Dannenberg. "You just have to have the right approach and the right strategy. Planktonix is working with Old Dominion University and we have a joint project to develop a practical, cost-competitive commercial approach to get algae and high lipid cyanobacteria adopted regionally as a new energy microcrop."

Perhaps with some continued research and technological development, Appalachia may play a role in farming algal biofuels.

ASU's emphasis has been training, research and development for community-scale biomass technologies, such as BlueRidge Biofuels in Asheville, EnergyXChange in Burnsville, N.C., and the Jackson County Green Energy Park in Dillsboro, N.C..

Community technologies should include not only biodiesel, but also gasification, and anaerobic digestion with raw materials such as agricultural and forestry residues, municipal solid waste, landfill gas, and used cooking oils.

Replacing even a percentage of petroleum will involve both small and large projects, Smit says.

"The key thing is that biofuels need to be sustainable and we need to have a discussion about it up front."

"If the world switches from petroleum to bio-based materials, rural land is going to become a strategic asset, and biomass is going to become a major discussion point from policy and scientific point of view."

## From Green & Yellow to Simply Green

By Maureen Halsema

"When you compare cost of biofuels to cost of petroleum it's like comparing apples to oranges," said Patrick Hatcher, executive director of the Virginia Coastal Energy Research Consortium. "The cost of petroleum is actually way under valued, because it is subsidized by the government and by the users. For example, one thing not incorporated into conventional fossil fuels, is the cost of abatement of the pollution. Look at the gulf crisis. Is the cost of fixing that going to go into the cost of petroleum? Probably not."

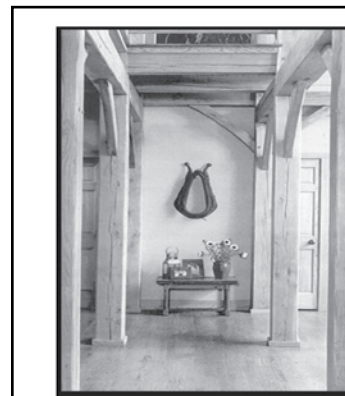
While many other petroleum companies are investing hundreds of millions of dollars into algae research, BP has invested approximately \$10 million into this next-generation biofuel.

Over the past several years, many executives left BP to become more involved in the research and development of algal biofuels and other green sector technologies.

Cynthia "CJ" Warner is one of those executives. After 20 years with BP, she left her position as head of global refining in February 2009 and is now the president of Sapphire Energy, a company based in California whose focus is the production of algal biofuels.

"I had an epiphany that if I was going to put so much personal energy into making something happen, it was a lot better to create the key to the future than to nurse along the dying past," said Warner in an interview with Fast Company.

Other BP execs who have left in favor of greener technologies include: Lee Edwards, former president and CEO of BP Solar, left to work in biofuels at Virent Energy Systems; K'Lynne Johnson of BP's Innovene division, who now leads Elevance Renewable Sciences to search for natural, sustainable alternatives to petrochemicals; and Janet Roemer, also of Innovene, who went on to head up Verenum, focusing on biofuels and enzymes.



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# Natural Gas

## IS IT RIGHT FOR APPALACHIA?

By Derek Speranza

It's the middle of July in West Trenton, N.J. More than 600 protesters have gathered outside a meeting of the Delaware River Basin Commission, speaking out to protect the region's drinking water and water reserves from contamination.

The issue? Natural gas drilling – a controversial practice that has been by some labeled “environmentally safe.” But the citizens of West Trenton are calling to end the process altogether until more environmental research can be done.

Despite the environmental concerns, demand for natural gas as both a transportation fuel and an electricity source has been steadily increasing over the last few decades, which has had small, yet demonstrable economic benefits to Appalachia.

Outside of Asheville, N.C., a greenhouse operation relies on natural gas to heat its facilities in the wintertime. The gas they purchase through PSNC Energy, a large gas provider in North Carolina, is cheaper than oil and burns cleaner than coal.

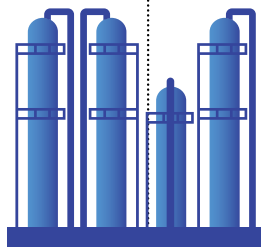
For these reasons, natural gas is gaining popularity – but its position as a sustainable solution for the future of the Appalachian region remains to be determined.

### Some of the Issues

Natural gas is a fossil fuel, and its burning releases new CO2 into the air. That said, it is the single cleanest burning fossil fuel on the market, producing about 45 percent less CO2 than coal, and 30 percent less than petroleum.

While gas burns cleaner than its competitors, the extraction of the gas worries many environmentalists. The most common process of natural gas extraction is hydraulic fracturing, or “fracking” – a technique that involves drilling deeply into the earth, fracturing rock beneath the surface, and injecting a solution of water and chemicals to prop open the fissures in order to remove the gas.

Under current copyright laws, gas companies in many states do not have to disclose the mixture of chemicals they inject during fracking, raising questions about the possible presence of contaminants.



Aside from the injected fluid, large amounts of wastewater are created as a byproduct of hydraulic fracturing, placing unprecedented burden on water treatment plants.

The Marcellus Shale is one of the largest natural gas reserves in the United States. A gigantic gas field located in the heart of the Appalachians (covering large portions of New York, Pennsylvania, Ohio, Virginia and West Virginia), the Marcellus Shale is the source of much debate over the sharp increase of “fracking” permits in the region – and incidentally a sharp increase of wastewater.

The wastewater from hydraulic fracturing contains natural contaminants from the earth – mostly a salty mineral mixture called Total Dissolved Solids (TDS), and sometimes carcinogens such as benzene and cadmium.

According to the Pennsylvania Department of Environmental Protection, water treatment plants in the state are not prepared to handle TDS wastewater in the extreme quantities in which it is being produced – and this is exactly what brought the New Jersey protesters out in droves.

The EPA concluded in a 2004 study that the process of hydraulic fracturing is safe and has no definite effects on drinking water, but criticism of the report prompted the U.S. Congress to request a new study, scheduled for release in 2012.

### Benefits and Concerns

Natural gas is the cleanest burning fossil fuel. It also comes relatively cheap.

PSNC Energy, the North Carolina provider, says the price of the natural gas equivalent to one gallon of gasoline is currently about \$1.50, significantly less than its petroleum counterpart.



Tower for drilling horizontally into the Marcellus Shale Formation for natural gas, from Pennsylvania Route 118 in eastern Moreland Township, Lycoming County, Penn. Photo by Ruhrfisch

At left, a map showing how the Marcellus Shale runs underneath five adjoining states.

more efficient natural gas systems in their homes, offering rebates intended to curb greenhouse gas emissions.

While the use of natural gas in the Appalachian region is not nearly as great as in areas further east, Townshend attributes this to differences in economic development, and says that there is nothing inherently prohibiting Appalachia from further utilizing the resource.

“But PSNC is exclusively a provider,” Townshend reminds. “We don’t do drilling or exploration of any kind.”

The excess load that fracking wastewater places on water treatment plants could potentially burden the taxpayers, who would ultimately be responsible for funding any improvements made to government-run treatment facilities.

Large electric utilities in the Southeast, who have long relied on coal as their primary energy source, are also starting to look toward natural gas. Progress and Duke Energies plan to retire or convert 24 of their 47 coal-fired generators in North Carolina, with plans to replace a portion of this capacity with natural gas.

As Appalachia moves toward the future, the region must consider the vast energy potential of sources other than coal. Is natural gas the answer? All that is certain is as of now is that the true net economic benefit of natural gas remains a question.

### Europe's New Energy: Natural Gas vs. Wind

In 2009, new wind installations in Europe outpaced new gas installations for the first time ever, with 10 gigawatts of new wind capacity and only 7 gigawatts of new gas capacity.

This reverses a trend reported in 2006, when 20 gigawatts of new gas capacity and 9 gigawatts of new wind capacity were added.

In terms of overall capacity, latest figures still have gas in the lead, with 119 gigawatts of gas energy produced annually, compared to 85 gigawatts of wind energy produced annually.

# A Glance at the Political Landscape of Appalachia

By Derek Speranza

What is in store for the future of Appalachia? With midterm elections approaching in November, it might be more appropriate to ask: who is in store for the future of Appalachia?

Inextricably tied to its deep-seated history of coal, yet looking toward the future of sustainable energy, the Appalachian region is in a time of transition. *The Appalachian Voice* examines who will be leading the region come November, and what energy options and viewpoints the potential candidates will bring with them.

*EDITOR'S NOTE: Candidates for each race are listed in alphabetical order. The Appalachian Voice does not endorse any of the following political candidates or their affiliate political parties.*



## Kentucky: Jack Conway (D) vs. Rand Paul (R)

The retirement of Kentucky senator Jim Bunning has left open an important U.S. senate seat, and two up-and-coming politicians are squaring off to take the reins.

Jack Conway is a Democrat who has served as Kentucky's Attorney General since 2008 and previously ran for congress in 2002. In the past, Conway has opposed "cap and trade" legislation that would limit greenhouse gas emissions, citing the potential detriment to the coal industry that he sees as crucial to the Appalachian economy. He does, however, support more environmentally safe mining practices and has shown concern over the practice of mountaintop removal coal mining and valley fills. He does not approve of waivers to regulations that could allow businesses to evade environmental responsibility.

Rand Paul is a Republican who is the son of congressman Ron Paul of Texas, and he is both an ophthalmologist and a politician. Paul has traditionally supported small government and significantly limited regulation of business. In this vein he supports a free market approach to energy that would allow wind, solar, and geothermal energy industries to freely compete, with potential tax cuts for renewable energy production. However, Paul opposes government subsidies of

renewable energy on the grounds that the injection of funding into industry distorts the market and could impede the most efficient development of many energy sources. He is generally supportive of the practice of mountaintop removal coal mining.



## Virginia: Robert Hurt (R) vs. Tom Perriello (D)

Republican Robert Hurt is challenging Democratic incumbent Tom Perriello for Virginia's 5th congressional district, a race that could have an important impact on Appalachia's energy future. District 5 covers a large area of central Virginia.

Hurt, a lawyer and a politician, has previously served on the Chatham, Va., town council and the Virginia House of Delegates, and he currently serves in the Virginia state senate. During his time as state senator, he took the lead in creating the executive cabinet position of Secretary of Agriculture and Forestry. He is very passionate about stimulating the economy of Virginia through free market practices and limited government involvement. Hurt opposes the cap and trade legislation supported by the Obama administration.

Tom Perriello, a first-term congressional representative, supports leading Virginia in reducing carbon emissions while simultaneously increasing economic productivity. Perriello also supports increased production of domestic oil in the short term, but ultimately favors the discontinuation of fossil fuels altogether. He has co-sponsored the American Clean Energy and Security Act / ACES (H.R. 2454) and other renewable energy initiatives, opposes mountaintop removal coal mining, co-sponsored the Clean Water Protection Act (H.R. 1310) and served as lead proponent of the Rural Star Act (H.R. 4785), which provides incentives for energy efficiency investment in rural areas.

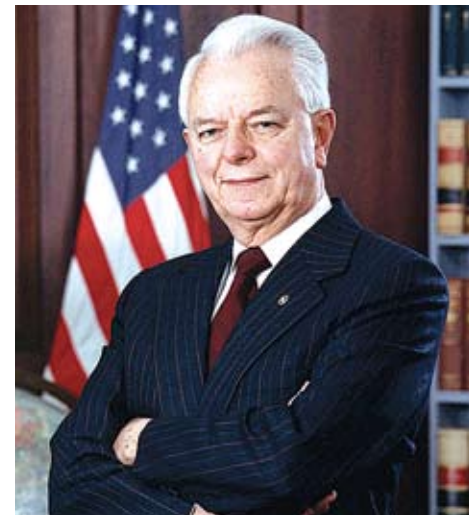
## West Virginia: The Special Election

The death of the longest-serving congressman in history, Robert Byrd, D-W.Va., led to the appointment of Carte Goodwin

as the interim senator in West Virginia. On November 2, a special election will be held to determine a permanent successor for the final two years of Byrd's term, and Goodwin has said he will not run in this race.

Several candidates are lining up for both primaries. One prominent candidate in the Democratic primary is Joe Manchin, the current governor of West Virginia, who is running as a self-proclaimed "pro-coal" candidate for Byrd's seat. In addition to coal, Manchin has supported new approaches to biofuels, such as the development of cellulosic fuel as described in the Farm Bill of 2007. He has also supported renewable sources of energy such as hydroelectric dams and solar energy in West Virginia. Ken Hechler, former West Virginia congressman and Secretary of State from 1984 to 2000 is also running in the Democratic primary, and has been a long-time advocate of ending mountaintop removal coal mining. Rounding out the field is former state legislator Sheirl Fletcher.

The Republican candidate for the seat is John R. Raese, a West Virginia businessman who ran as the Republican candidate in the



*Senator Robert passed away on June 28. He was the longest serving member of Congress, and was known as a champion of West Virginia and Appalachian issues.*

1984 and 2006 senate races. Raese supports the development of existing energy industries such as oil and coal and also supports drilling in the Arctic National Wildlife Refuge, but he has also voiced encouragement for the development of energy alternatives, citing pollution concerns.

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# Editorial

## Acknowledging A Time For Transition

A friend of mine has a son who is serving in Afghanistan. His home is in the mountains of Boone, North Carolina, where tourism and a sizable state-run university dictate a relatively stable economy and jobs to be had once he—God willing—returns.

But there are many such sons and daughters with homes in coalfield regions of West Virginia, Virginia and Kentucky who will not be as fortunate in their post-tour-of-duty lives. Available jobs are at an all-time low in these regions, known to be among the poorest in the country. The coal industry blames federal regulations on mountaintop removal coal mining for the decline in jobs.

According to the bureau of labor statistics, however, the 1950s saw 120,000 direct coal miners in the state of West Virginia alone while in 2008 there were around 20,000. Most of these job losses stemmed from the switch from underground to surface and mountaintop removal mining, which requires fewer workers and maximizes company profits.

Coal companies have also increasingly rejected unionization, resulting in fewer worker benefits, lower pay, and increasingly unsafe working conditions. Again, all in the name of profit.

The poverty rate in Appalachia hovers near a staggering 24%, drug usage is at an all time high and an economic future dependent on coal seams beyond peak production looks grim.

If elected officials in West Virginia, Kentucky and Virginia do not cease backdoor deals and intimate relations with the fossil fuels industry and begin to conceive of more realistic—and 21st Century—alternatives, a regional depression of epic proportions seems imminent.

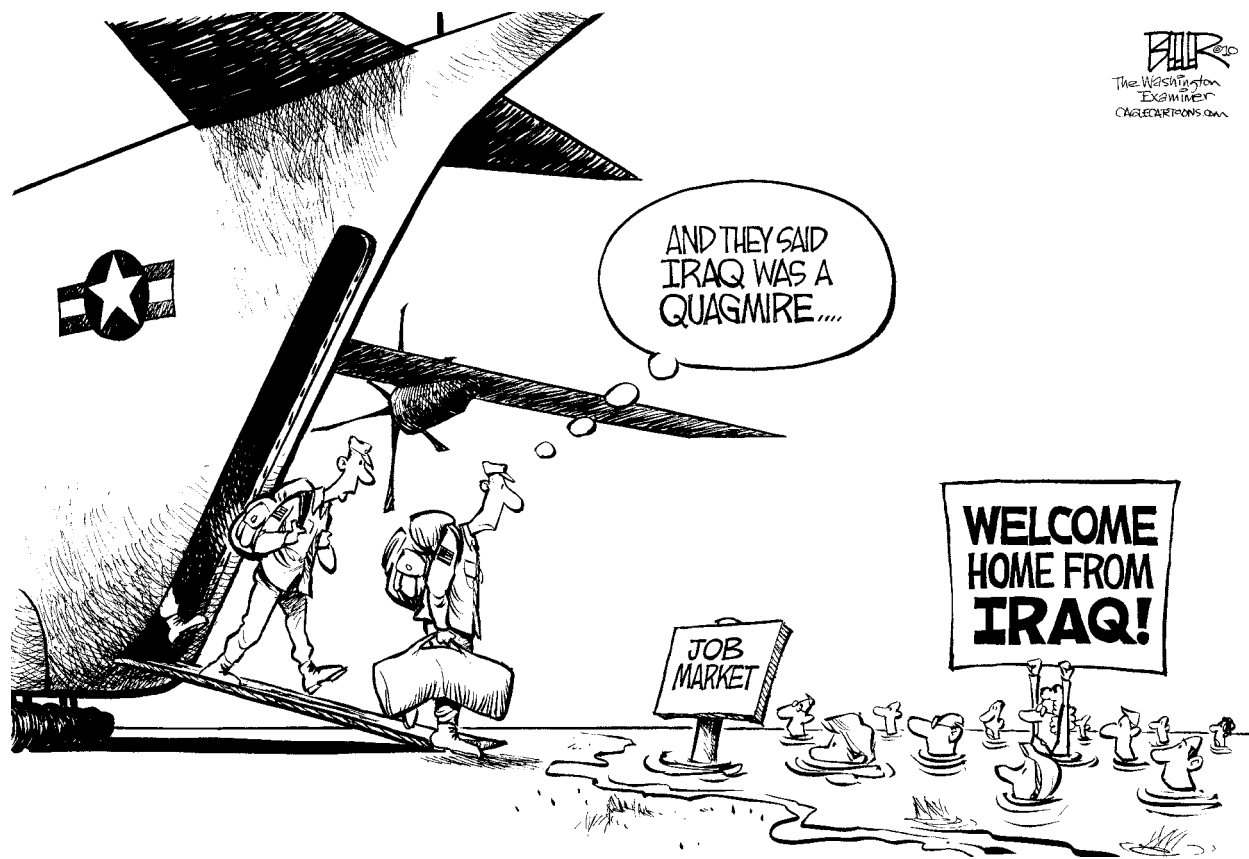
Those who can afford to will migrate to other states, though lack of education or training in industries other than coal mining may relegate many to low-paying jobs with little opportunity for advancement.

Those without the means to move will be left to scramble for odd jobs and remnants of coal-related jobs, while the poorest slip deeper into poverty, some living in houses resembling little more than shacks and suffering from poor health and malnourishment.

Is this what the fossil fuels industry calls the American dream?

Environmental groups have talked for years about 'now' being the time to create the foundation of a new economic plan for Appalachia. In truth, Yesterday was the time for laying the foundation. By today we should be implementing said plan, so that we might in days to come reap the rewards with a renewed, vibrant regional pride. Instead, residents of the coalfields are economic prisoners of a system constructed with 19th century ideals and fueled by the pursuit of profit.

We are out of time.



## Viewpoint

*The opinions expressed in Viewpoints are those of the author's and are not necessarily reflected by The Appalachian Voice*

### VISIONS FOR THE FUTURE: Build It Up, W.Va.

By Joe Gorman

Appalachia's population is aging and its youth are leaving. This is a critical moment: for a sustainable future we need to give youth a reason to stay here.

Currently, the Appalachian economy is choked by extractive industries and doesn't offer much for people who don't want to mine coal or offer 'fries with that.' This is the big-picture reason we created the Build-It-Up West Virginia summer program—to instill hope and values of sustainability in young people and hook youth into creative and proactive forms of resistance that are building diverse and regional economies.

I see food and energy as key

components of sustainability in Appalachia's future. All energy production is extractive, but the more we produce our own energy, the bigger the incentive is to boot out practices that destroy our natural systems that supply us with water and food.

West Virginia can easily provide all its own energy from less harmful, decentralized, renewable sources if we can break our exploitation by extractive corporations and invest in energy conservation. There is a multifaceted fight against the energy status quo, but we are working to get youth involved in grassroots renewable energy projects as well.

Though our first major exports were pelts, cattle and moonshine, West Virginia now sits at the bottom of the list for agriculture, and most farmers are on the verge of

retirement.

But the Green Revolution's focus on large-scale monocultures caused it to skip over Appalachia, and sustainable food traditions never fully disappeared. Farmers are physically closer than agricultural people in other parts of the country, which facilitates traditional knowledge sharing and building self-sufficient communities.

So in my work, I will continue to foster those connections and inspire youth with the concrete change we make in local and sustainable energy and food.

*Joe Gorman is the group coordinator for Build-It-Up West Virginia, a project of the Student Environmental Action Coalition (SEAC) sponsored by Americorps VISTA, Step-by-Step West Virginia, the Ohio Valley Environmental Coalition, and Coal River Mountain Watch. The 2010 program started June 6th and continues through August 1st.*

# We Had Some Crazy Times Together...

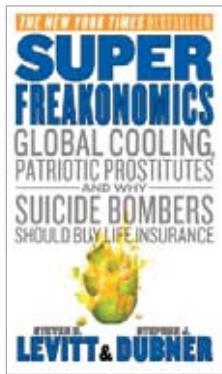
Review by Jed Grubbs

*Superfreakonomics* is like that outrageous friend of yours from college. Initially, all the scandalous things he says and does are highly entertaining and engrossing. Time goes on, though, and you begin to wonder what this guy won't do for attention. You start to feel it'd be nice to wake up without a hangover and a black-eye (at least on weekdays).

As you begin spending less time with him and taking what he has to say with a grain or two of salt, don't feel too guilty. You're simply concerned about your future - his too. It's only natural.

Steven Levitt and Stephen Dubner's best-selling *Superfreakonomics* (William Morrow, \$29.99) is much the same. Initially, it's pretty enthralling. The authors examine a variety of "freaky" topics from an economist's perspective. Topics include the declining price of oral sex, altruism, drunk walking and monkeys with cash. Good times.

Throughout, the authors maintain: "The economic approach isn't meant to describe the world as any one of us might want it to be, or fear that it is, or pray that it becomes- but rather to explain what it really is." The two proclaim, "Most of us want to fix or change the world in some fashion. But to change the world, first you have to understand it."



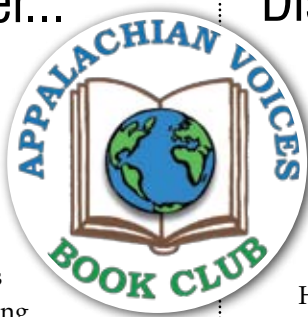
On board? Me too. Chooo! Chooo! Suddenly, though, you find Levitt and Dubner pushing a cheap, simple, altogether reckless fix for global warming and the alarm bells begin to sound; think of it as that time in college when you suddenly find yourself naked running from the police with that insane friend. Maybe, it occurs to you, I shouldn't be drinking everything this guy has to offer.

Essentially, Levitt and Dubner confidently suggest that global warming and increased carbon dioxide in the atmosphere can easily be fixed by sending millions of gallons of sulfur dioxide into the stratosphere every year.

Suddenly, I'm having less fun and want my clothes back.

The authors' cheap and easy global warming fix has been widely debunked by the scientific community. Economists and climate science experts alike have highlighted misleading statements and discredited arguments within. Elizabeth Kolbert of *The New Yorker*, who has covered climate change extensively, noted that "just about everything [Levitt and Dubner] have to say on the topic is, factually speaking, wrong."

I'm concerned about my future, *Superfreakonomics*. I'm concerned about yours too. Let's not pump that SO2 into the atmosphere.

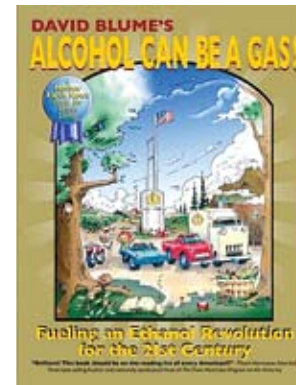


# Distilling Your Way to a Better Energy Future

Review by Jeff Deal

Ever wonder how we came to pay the super-affluent Petrochemical industry to burn their toxic waste product as a transportation fuel? Or why Henry Ford's Model T was originally a flex-fuel vehicle? Maybe you've scratched your head as to why we unhealthily feed beef cattle the kernel of the corn instead of the cellulosic corn silage their multi-stomach gastrointestinal systems so aptly crave - and in the process lose fatter cows, a high protein animal feed, an "eco-friendlier" transportation and cooking fuel and a host of tasty spirituous liqueurs to boot.

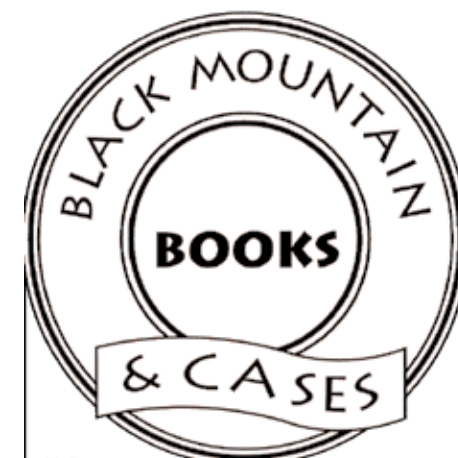
Thanks to farmer-permaculturalist David Blume's tome *Alcohol Can be a Gas*, you needn't ponder these questions further! From David's 30+ years of experience with biofuels, permaculture and farming has emerged the 10 part PBS Series, *Alcohol as Fuel*, and now his greatly anticipated 600 page magnum opus - three volumes bound in a single book detailing the history of alcohol, the making of alcohol, and the many uses and benefits of alcohol. The forward of the book is even written by



pioneering engineer and ecological thinker Buckminster Fuller, who was awarded the Presidential Medal of Freedom in 1981 by then President Ronald Reagan.

So if you're still wondering how we can safely capture the nutrients from waste water treatment plants and agricultural fertilizer now causing the algae bloom in the Gulf of Mexico, while gaining a fuel fit for Indy race cars and astronaut piloted high performance jet aircraft, surf to Permaculture.com and get your copy straight from the author - including the riveting two hour DVD

special of the same name, *Alcohol Can Be a Gas*. Enjoy your biofueled, knowledge-filled odyssey!



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# The "Magic" Behind the Light Switch

By Derek Speranza

There is often a mental disconnect between flicking on the light switch and actually thinking about the source of that electric power. Tom Hansell's *The Electricity Fairy* reminds us that there is no magical fairy leaving electricity under our pillow.

The film begins with a cinematic overview of the history of Appalachian Coal mining and electricity and is very accessible, even for people who know nothing of the subject. It examines the lives of real Appalachians who were raised on coal mining and demonstrates the enormous impact of the industry on the region.

From every day citizens to government officials, from environmental activists to Dominion Power executives, the



film examines every aspect of the debate surrounding the cleanliness of coal. Eventually, the controversy is embodied in the battle over the approval of Dominion's new coal-fired power plant in Wise County, Va.

In the spirit of true documentary filmmaking, *The Electricity Fairy* shows rather than tells. Hansell does not skew the focus of the story with a predisposition or provincial agenda, which is too often the case with modern documentaries intent only on incensing the viewership (à la Michael Moore), but instead gives equal time to both sides of the argument. The Dominion Power executives - who are not portrayed as evil corporate villains - share their honest beliefs about the economic ben-



efits of the power plant, while the renewable energy camp points out the negatives, such as dangerous mercury levels in the water, air pollution and the devastation caused by mountaintop removal mining.

It is this lack of sensationalism and commitment to honesty that allows *The Electricity Fairy* to believably deliver the facts, and in doing so it is guaranteed to leave the viewer thinking a little more about what actually happens with the flick of a light switch. In the sweeping landscapes of the film (courtesy of some impressive cinematography), the audience can see firsthand the stark destruction caused by strip mining, and is also reminded of a region uncertain of where to go from here.





# INSIDE APPALACHIAN VOICES

## You Say Goodbye, I Say Hello!

This last year has been an excellent one, with a team full of talented writers. As this issue goes to press, there are tearful eyes in the newsroom. But as we say goodbye to our Managing Editor, Maureen Halsema, our *Voice* summer interns Megan Naylor and Derek Speranza (who both have stories in this issue!), and our Riverkeeper interns Kara Dodson and Kimberly Hamilton, we are also saying hello to our newest members of the team.

### Parting is Such Sweet Sorrow...

"This year has been one of the most challenging, exciting and educational year of my life," said Maureen Halsema, who volunteered through the Americorps Communications Outreach Associate for Appalachian Voices this past year and served as Managing



Editor of *The Voice*.

"Working with the Appalachian Voices' team has been an absolute pleasure, and I hope to continue writing for *The Appalachian Voice* in the future. Thank you to each of you for your passion and dedication to saving the world, one mountain at a time."

Maureen is heading to Durham, N.C. to write for *Alert Diver* magazine; we will miss her vivaciousness and wish her the best of luck; we also look forward to possible collaborations with her new publication!

### Welcoming New Friends

In July, Appalachian Voices was pleased to welcome to the team Kate Rooth, our new National Field Coordinator working in our Washington, D.C. office. Kate will be



working on our end mountaintop removal coal mining campaign, helping to organize community members and citizens to effect legislation that would stop mountaintop removal.

Kate comes to Appalachian Voices from Rainforest Action Network, where she worked on their mountaintop removal campaign, targeting both regulators and financiers of coal mining. She previously worked for Greenpeace, where she contributed to a variety of climate and clean energy campaigns.

"I am thrilled to be working at App Voices," said Kate. "Not only have I already met so many incredible supporters of our campaign, but I am humbled by each persons dedication to ending mountaintop removal. This fall I look forward to working on two Appalachian Treasures tours as



well as our National Lobby Day. Be sure to swing by if you are ever in D.C.!"

Kate originally hails from Cashiers, N.C. and graduated from Lehigh University in 2005 with a degree in Political and Environmental Science. Kate is also involved with Rising Tide North America.

We would also like to welcome to the team Jillian Randel, who grew up in New Hampshire and graduated last year from the University of Tampa with a degree in Political Science. Jillian will spend a year as our Americorps Communications Associate volunteer and will serve as *The Appalachian Voice* Associate Editor.

"I am excited to have the opportunity to work with Appalachian Voices," said Jillian. "I really enjoy writing and I hope I learn a lot from this organization and community!"

Jillian spent the last six months obtaining her yoga teacher certification. She also loves hiking, biking, reading and playing with her dog, Easton. Welcome Jillian!

### Appalachian Treasures Launches 3-City Tour

Appalachian Voices is traveling northward this September to showcase our multi-media slideshow, Appalachian Treasures! We will be on the road in Boston, Maine, Philadelphia and D.C. as part of our campaign to end the practice of mountaintop removal coal mining.

Appalachian Treasures is an educational campaign to gain support for the Clean Water Protection Act (H.R. 1310) and the Appalachia Restoration Act (S. 696). The

presentation depicts the dire situation in the coal regions of Appalachia and encourages Americans to help protect some of our nation's oldest mountains and communities.

Visit [AppalachianVoices.org](http://AppalachianVoices.org) for details!

### AV To Launch New Water Testing Initiative

Appalachia Water Watch will work to address water quality issues related to coal, one of the biggest polluters in the region. Citizen scientists in select areas will be trained to test their local waterways in order to access potential patterns of viola-

tions. Stay tuned for more details.

### Musical Tour Gives Us A Louder Appalachian Voice

Musicians Ben Sollee and Daniel Martin Moore, and My Morning Jacket's Yim Yames recently wrapped up the Appalachian Voices Tour to raise awareness about mountaintop removal mining. A representative from Appalachian Voices was able to join them to pass out information. Thanks to Ben, Daniel and Yim for the opportunity! Learn more at [iLoveMountains.org/dear-companion](http://iLoveMountains.org/dear-companion).

potential litigation proceedings on violations that are found.

### Shoe Shopping That Also Protects Mountains

Mast General Store and Patagonia have teamed up during the month of September to support Appalachian Voices by graciously donating \$10 for every pair of Patagonia shoes sold. There is a little time left—and even if you don't live near a Mast Store, you can order online at [MastGeneralStore.com](http://MastGeneralStore.com).



### Partnership Will Protect Kentucky's Water

Appalachian Voices' Upper Watauga Riverkeeper program has entered into a partnership to conduct thorough reviews of water quality permits in the Kentucky Coalfields.

The partnership, which includes the Kentucky Riverkeeper and Kentuckians for the Commonwealth, unite the Waterkeeper Alliance and the Alliance for Appalachia in a joint action to investigate water pollution in the coalfields and bring enforcement action.

Pace University Environmental Litigation Clinic, a fourth partner, will lead

### Celebration and Inspiration in Charlottesville, VA

On Aug. 12, Appalachian Voices' staff and board met with members new and old in Charlottesville, Va for a movie date night. After a screening of the documentary, *Coal Country*, people had the chance to meet with the director, the producer and activists from the film, and also enjoy live music by a local band featured on the soundtrack.

The event in Charlottesville was a great way to join our members and supporters to celebrate how far we've come, and to gain inspiration for the work ahead. Thanks to everyone who attended the show; we enjoyed meeting you!

2<sup>nd</sup> edition


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# INSIDE APPALACHIAN VOICES



Kids explore the wonders of the Watauga River during Watauga Riverkeeper Fest!

## Riverkeeper Festival A Success!

By Parker Stevens

On July 24, Appalachian Voices kicked off our first ever Watauga Riverkeeper Festival in Valle Crucis, N.C., where hundreds of visitors joined us to celebrate outdoor recreation, environmental stewardship and of course, the Watauga River.

The Alberta Boys and Melissa Reaves played great music all day while kids and families enjoyed games in the park, dips in the river and lunch featuring local foods from the Boone Meat Center, Earth Fare and our own Executive Director, Willa Mays.

Donna Lisenby, the Upper Watauga Riverkeeper, led adventures in the river where people learned all about the exciting critters hiding under rocks and played in the



Cerilia Shelton dressed up as a water drop during the river parade.

water. In light of two separate fish kills that occurred in Boone the previous week, people were particularly excited to learn what they can do to help protect our local waterways.

The afternoon included a river parade complete with costumes on loan from the Elkland Art Center; children dressed as water droplets marched around the park beneath a billowing cloth river. Meanwhile, children and adults along with members of the Appalachian Voices staff and board buried their faces in watermelon for no-hands watermelon eating contest (which is much harder than it looks!).

Thanks to everyone who helped make our inaugural festival a smashing success. See you again next year!

## AppalachianVoices.org Has A New Look!

On August 26, Appalachian Voices launched a new, more user-friendly website packed with details about our program work, new information regarding environmental issues in Appalachia, new “meet our staff and board” pages, and an expanded section on how volunteers all over the country can get involved. Visit our new site and be sure to sign up to receive our email updates and the monthly e-newsletter, *The Advocate!*



## Fish Kill Exposes Asphalt Sealant Pollution Problem

By Jed Grubbs

On July 17, polluted runoff killed all aquatic life in a 1.5-mile long stretch of Hodge's Creek in Boone, N.C. Donna Lisenby, Appalachian Voices' Upper Watauga Riverkeeper, was on the scene a few hours after the event. Lisenby, along with the Town of Boone Fire Department, investigated the fish kill, tracing the pollution source to a BB&T parking lot on Hwy. 105.

After days of talking with local contractors, the Boone police department, and a spokesperson from BB&T, the Watauga Riverkeeper team was able to determine the cause of the fish kill to be a coal-tar based asphalt sealant applied to the BB&T parking lot by Sunshine Striping Asphalt and Seal Coat of Pine Hall N.C.

Coal tar—which would be listed as a “hazardous waste” were it not for a special federal exemption—contains benzo[a]pyrene. Benzo[a]pyrene is a chemical that made EPA's list of 12 priority “persistent bioaccumulative toxins.”

Eyewitnesses report seeing the sealant—which is water soluble—being immediately applied before a heavy storm rain, which washed it from the parking lot into the creek. Of the many fish that were killed, the majority were trout. Lisenby expects it to be more than a year before the trout population recovers.

Neither BB&T nor Sunshine Asphalt Striping and Seal Coat reported the coal tar asphalt

sealant spill and subsequent fish kill, nor did either attempt to clean up the spill.

Coal tar is applied to asphalt across the country, and concerns are growing that toxins from the product are being tracked into homes, schools, hospitals and other buildings. Coal tar-based asphalt sealants are a triple threat: it can be inhaled, ingested and absorbed through skin. It even comes off onto basketballs in school gymnasiums.

The city of Austin, Texas, banned the product almost five years ago when it was discovered to be damaging the local ecosystem. More recently other cities, including Washington, D.C., have followed suit. Minnesota has banned the purchase of coal-tar sealcoat products by state agencies as of July 1. Overwhelmingly, however, the product remains unregulated.

On July 21, Lisenby and her team investigated a second fish kill that also occurred in the town of Boone. The kill occurred after kerosene from Mountain Oil Company spilled onto the ground and soaked into the soil, eventually reaching the water table and seeping into nearby Hardin Creek.

In contrast to the previous incident, Mountain Oil immediately reported their spill and began efforts to minimize the impact to Hardin Creek. Significantly less aquatic life was killed in the Mountain Oil spill.

## APPALACHIAN VOICES

### BUSINESS LEAGUE MEMBERS

New & renewing for June / July / August 2010

Liam Photography....Boone, N.C.

Old Treasures....Johnson City, Tenn

The Jefferson Florist....Lexington, Va

### Special Thanks to our Business League RIVERFEST Participants!

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Art Mart....Boone, N.C.

Consignment Cottage... Banner Elk, N.C..

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Foscoe Fishing Company....Foscoe, N.C.

Hob Knob Farm Cafe....Boone, N.C.

River & Earth Adventures....Boone, N.C.

We encourage you to patronize members of the Business League.

To become a business member visit [www.AppalachianVoices.org](http://www.AppalachianVoices.org) or call us toll free at 877-APP-VOICE

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# Naturalist's Notebook

## Saving a Species

### NORTH CAROLINA'S RED WOLF RECOVERY PROGRAM

By Josephine Butler

The Alligator River National Wildlife Refuge rests on 154,000 acres of marshy swampland just south of the Albemarle Sound in coastal North Carolina. Among the high and low pocosins, fresh and brackish water marshes and swamps, the refuge is home to an array of native species like the American woodcock, the Atlantic white cedar and the elusive red wolf—considered one of the most endangered animals on the planet.

Once an abundant predator of eastern and south-central U.S., red wolf populations were decimated by the 1960s due to aggressive predator control programs and habitat loss.

The refuge, established March 14, 1984, has been home to the red wolf, or *Canis rufus*, since 1987. A wild population of roughly 100 wolves roams this 28-mile breadth of land. Approximately 200 wolves live in a captive-breeding program known as the Red Wolf Recovery and Species Survival Plan, jointly managed by the Association of Zoos and Aquariums and the U.S. Fish and Wildlife Service (USFWS).

The red wolf is smaller in stature than their more familiar counterparts, *Canis lupus*, or gray wolf. Weighing in at only 45 to 80 pounds, the average adult red wolf stands 26 inches at the shoulder and measures around 4 feet from the tip of the nose to the tail. While red wolves are mostly brown and beige colored, they are known namely for their reddish tufts of fur found around the ears and neck.

*Canis Rufus* live in packs of up to eight wolves, usually including a breeding pair and offspring of various ages. They primarily feed on small mammals such as raccoons, rabbits and rodents, as well as the larger white-tailed deer

The once vast range of red wolves, which stretched from Texas all the way east to Florida with some reports of the species as far north as Canada, was diminished to a remnant population discovered by a few concerned scientists along the Gulf coast in the 1970s.

### Raising Wolves

Warren Parker is well into his 70s, with eyes that wrinkle in the most earnest kind of way when he smiles. Parker was with the USFWS from 1961 to 1991. This towering but slender and unassuming man vigorously shakes his head in humility should he ever be referred to as “the Father of the red wolf.”

In 1982, fifteen years after the red wolf was catapulted to the top of the endangered list with the passage of the Endangered Species Preservation Act, Parker received a phone call asking him to serve as the director of a new national program that would be the first of its kind—the Red Wolf Recovery Project.

According to Parker, the late Curt Carley, a biologist and former predator control officer for the USFWS, is “the real guy that saved the red wolves.” Carley recognized the near extinction of the red wolf and worked to develop a system of external measurements that would allow scientists to properly distinguish them from coyotes and gray wolves.

Only 17 of the 400 animals Carley and his colleagues initially trapped in southeastern Texas and southwestern Louisiana were found to be “pure” red wolves. Fourteen were shipped to a mink ranch outside of Tacoma, Wash., where they could live without the danger of canine parasites—such as intestinal parasites like heartworms and hookworms—to become the first captive breeders.



A father tends to his pups, in the photo above by Greg Koch. The Western North Carolina Nature Center is one of 40 red wolf breeding sites. Photo, on left by Josephine Butler.

As the population began its slow recovery, Parker understood the need for a suitable stretch of land where the USFWS could eventually reintroduce red wolves into the wild. After relinquishing what initially looked like a promising piece of land between the Kentucky and Tennessee

border, he was losing hope.

“It’s the ‘Little Red Riding Hood’ folklore that led to the decimations of wolf populations in the first place,” Parker said. “It seemed like everyone wanted to help the wolves, but not in their own backyards.”

In the spring of 1984, a relieved Parker received notification from the USFWS that Prudential Life Insurance Company had donated a large piece of land spanning parts of Dare and Hyde counties in northeastern North Carolina for the project.

Today, 117 red wolves roam this swampy expanse now known as the Alligator River National Wildlife Refuge.

According to David Rabon, Red Wolf Recovery Program coordinator, “The wolf population has grown and so has the recovery area. Wolves now occur across 1.7 million acres that span five counties, not just the Dare County mainland.”

### A Mountain Home

Southern Appalachia has also played a role in the efforts to revitalize red wolf populations. In 1991, the USFWS released red wolves into Great Smoky Mountains National Park. The inability of the wolves to establish a home range within the park and low pup survival rates led to their removal in 1998.

Red wolves can still be found in the region at the Western North Carolina Nature Center in Asheville, one of only 40 breeding sites worldwide.

According to Director Chris Gentile, three red wolves currently reside at the Center – Angel and Rufus, the breeding pair, and their female pup, Mayo (see sidebar at left).

As far as what the future has in store for the red wolves in eastern North Carolina, Rabon and his colleagues are hopeful that the populations will continue to grow.

“It’s important to remember that the red wolves were once a top predator in their food chain,” said Gentile, “and anytime you lose a piece of that puzzle, it becomes a weaker system. When Mayo was born last spring, it was like restoring one of those missing pieces.”

**EDITOR'S NOTE:** Since the writing of this article, Warren Parker, the “Father of the Red Wolf,” passed away at the age of 76. To remember Warren and to continue his legacy of reviving the red wolf population, his family encourages memorial contributions to the International Wolf Center, 1396 Hwy 169, Ely, MN 55731-8129.

## Breeding Recovery at the WNC Nature Center

By Maureen Halsema

The Western North Carolina Nature Center, based out of Asheville, is one of 40 facilities participating in the Red Wolf Recovery and Species Survival Plan.

The living public education venue—full of North Carolina-native plants and animals—joined the red wolf recovery reintroduction program in the 1980s.

“Since then, we’ve had several successful breedings from our pairs,” said Chris Gentile, director of the Western North Carolina Nature Center. “We’ve even had two of our red wolves reintroduced into the wild.”

The most recent success was Mayo, the cub of Angel and Rufus named for her birthday, Cinco de Mayo, in 2009. Mayo could be selected for reintroduction or to breed with another red wolf in a few years.

The red wolves are handled differently at the nature center than the rest



of the animal residents.

“We are not as hands-on with them as we are with other animals,” Gentile said. “We don’t want them to be used to people, because they might be selected for reintroduction into the wild.”

This recovery program not only helps save a species, but also teaches people about it in a very real setting, emphasizing the importance of each link in the ecosystem.

“Since red wolves are an animal that has long existed in the state of North Carolina, it’s great to show the public and tell them a little bit about some of the problems they are facing,” Gentile said.

## APPALACHIAN VOICE

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A pelican beach sculpture by artist Dan Smith spreads its wings in Pensacola, Fla., just weeks after the oil spill in the Gulf of Mexico. Smith, a finalist in the 2009 Appalachian Mountain Photography Competition, is currently exhibiting a collection of historically inspired installation pieces entitled *MANInfested Destiny: From Boone to Boon*, at the Turchin Center for the Visual Arts in Boone, N.C. The show incorporates thematic photographs, paintings and natural and manmade objects based on Daniel Boone's life. The exhibit will be on display through Nov. 5. On Saturdays through Oct. 2, Smith will lead walks from the Turchin Center gallery to locations featured in his work documenting the historical Daniel Boone.

## Annual Photo Competition Celebrates Appalachia

By Jillian Randel

Three men pushing a Christmas tree bailer, a single set of footprints on a snowy highway, morning shadows over the Blue Ridge Mountains... how can one capture the essence of Appalachian life in a frame?

That's the challenge of the 8th annual Appalachian Mountain Photography Competition, which is accepting submissions now through December 17, 2010. The competition encourages amateur and professional photographers nationwide to highlight some of Appalachia's most distinguishing features through frame.

For its second year in a row, Appalachian Voices is sponsoring the category titled "Our Ecological Footprint." This subject encourages photographers to snapshot human behaviors and habits that negatively affect the earth. Capturing images of this kind is not always easy and offers a unique challenge for photographers.

"Photographs of the incredible beauty and mystery of Appalachia are always appreciated," said Willa Mays, Executive Direc-

tor of Appalachia Voices. "When juxtaposed against those that tell the very real story of the devastation of Appalachian communities and threats to our amazing forests, a real sense of urgency for change can emerge."

The other six categories for the competition include Adventure; Blue Ridge Parkway Vistas; Blue Ridge Parkway Share the Journey®; Culture; Flora and Fauna; and Landscape. The Blue Ridge Parkway Share the Journey changing category this year is The Parkway Tree Project. This category encourages photographers to snapshot noteworthy trees along the Parkway that create the diverse and unique character of the Appalachian region. Photographers are asked to identify the species of tree and record its exact location on the Parkway.

"As we celebrate the rich cultural and natural heritage of the Southern Appalachians, we feel a responsibility to also highlight threats to that heritage," said Andrew Miller, coordinator of Appalachian State University's Outdoor Programs and organizer of the Appalachian Mountain Photography Competition. "We hope to

highlight the imagery of photographers and activists capturing the cultural and environmental degradation happening in the Appalachians and support the advocacy efforts of Appalachian Voices."

Judges will narrow down the competition to 46 photographs which will hang in the Turchin Center for the Visual Arts in Boone, N.C. from Feb. 4 through June 4, 2011. Finalists will receive \$4,000 in cash and prizes and a portion of the proceeds will go to support Outdoor Programs Student Outdoor Learning Expeditions at Appalachian State.

The competition runs until 5:00 P.M. on December 17, 2010. Applicants must be age 13 and up. Please submit photos to [www.appmntnphotocomp.org](http://www.appmntnphotocomp.org).

*The Appalachian Mountain Photography Competition is a partnership between Outdoor Programs and the Turchin Center for the Visual Arts at Appalachian State University and the Blue Ridge Parkway Foundation. AMPC is made possible through the sponsorship of Virtual Blue Ridge, the premier online resource for the Blue Ridge Parkway. Support for the AMPC is provided by Appalachian Voices, Bistro Roca Inventive American Cuisine, Footsloggers Outdoor and Travel Outfitters, Mast General Store, Peabody's Merchants of Fine Beer and Wine, and Smoky Mountain Living Magazine.*



Category winners from the 2009 AMPC included: Blue Ridge Parkway Vista—Leave Only Footprints by Dale King; Flora & Fauna—Windswept Grasses in Craggy Gardens by Bill Gozansky; Our Ecological Footprint—Coal Fly Ash Sludge Disaster by Jerry D. Greer