

The APPALACHIAN VOICE



A publication of

APPALACHIAN VOICES

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Appalachian Voices brings people together to solve the environmental problems having the greatest impact on the central and southern Appalachian Mountains. 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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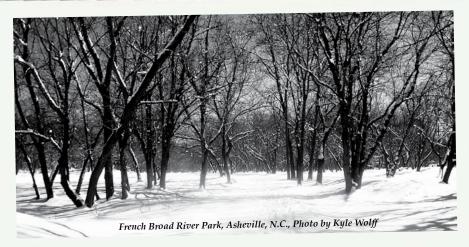
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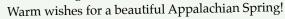
A Note From Our Executive Director

Whew! What a winter! I know we have all appreciated the warm sanctuaries of our homes each time we walk in from the howling winter. It has made me think a lot about how we generate our heat and the real cost of our electricity.

I recently heard Amory Lovins speak in Salisbury, N.C., at the Catawba College Center for the Environment. Amory is a visionary who visibly demonstrates that employing current technologies in renewable energy and energy efficiency will translate into more job growth, higher profitability, and increased national security as compared to our overreliance on coal.

However, it is easier to maintain the status quo than to strike down new paths of innovation. It is our responsibility, as individuals and as a society, to demand that

change. Right now, pollution from the life cycle of coal is disfiguring our treasured Appalachian landscape and is polluting our air and water. We believe it is possible to get what we need without destroying what we love. As a leader in protecting the environment, Appalachian Voices is committed to spurring the transition towards a cleaner energy future. Your help is critical towards realizing this vision.



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Cover photo:

Independent photojournalist Antrim Caskey, creator of the photojournalistic exposé on mountaintop removal, "Dragline," looks out over the destruction of Kayford Mountain, W.Va., from Hell's Gate, July 4, 2008. Photo courtesy of Appalachia Watch

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Coal Controversy Rises on the National Agenda

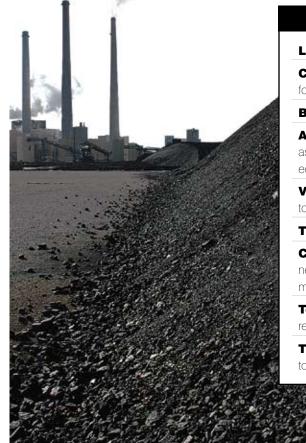
ontroversy over the environmental costs of coal – from mountaintop removal to ash spills, from black lung disease to the toll on Appalachian communities – has moved from the Appalachian region to the center of the national agenda.

The conflict is increasingly reflected in national media, in protests, and in the courts. Faced with staggering problems and outstanding opportunities, Appalachia has arrived at a crossroads.

The standoff over mountaintop removal mining is the most serious problem in the coalfields today. Environmentalists and coalfield residents fear they are losing entire forest ecosystems and watersheds, while miners in the coalfields fear they are los-

ing their livelihoods. Yet investments in renewable energy and coal cleanup have the potential to help the region beyond fears into the future.

The response from the coal industry has been an uninspiring and often comic advertising campaign. The public doesn't buy it. Opinion polls (such as an *ABC News | Washington Post* poll) show that coal continues to be Ameri-



ca's least favorite energy option.

Some electric utilities are breaking ranks, finding that coal is an unattractive option compared with investments in conservation and renewable energy that entail far less liability and financial risk. As of March of 2010, only 26 percent of the 231 coal-fired power plants originally proposed in the past decade have been built or are under construction. Some 57 percent have

INSIDE THIS ISSUE p. 4 Legislation Update—Coal issues in the political arena Carbon Capture and Storage—A controversial new technology hits the forefront of President Obama's energy policy. What do the scientists think? **Blair Mountain** - The battle to protect the historic site continues A Tale of Two Counties—A resource extraction county struggles as its supplies declines while another Appalachian county invests in ecotourism and begins to boom Voices from the Field—Citizen activist Cathie Bird strives p. 10 to build bridges in the coalfield communities p. 11 Two Miles to Hell—A miner's story **Civil Standoff**—An environmentalist and a coal baron meet on neutral territory to discuss climate change, economics and p. 12 mountaintop removal Tennessee's Valdez—Over a year after the TVA coal ash spill, p. 14 residents share their health, financial, and legal concerns The Toxic Truth—As cleanup efforts continue, the debate of where and how p. 17 to dispose of the ash begins to boil

> been canceled outright, and the rest are uncertain or are on hold, according to a tally kept by the Sierra Club.

Meanwhile, scientists are documenting "irreversible environmental impacts" from mountaintop removal mining, and many studies have shown risk of serious health problems from mining and burning coal and disposing of coal ash waste.

Water protection is a special problem, as Appalachia is the headwaters for much of the water supplies for the eastern half of the nation.

Few are suggesting a sudden end to coal production, but many are proposing a shift to a 21st century economy, with cleaner, safer ways of producing energy and generating employment.

For those who seek a practical approach to clean water, breathable air and ageless mountains for their grand-children, the stakes are enormous.

Can the Appalachian dilemma become the American example?

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Legislation Update: Coal in the Political Arena

By Maureen Halsema

Coal has been a keyword in many recent political discussions across the nation as bills addressing mountaintop removal and coal wastes have been submitted to state and national legislatures for review.

Clean Water Protection Act / Appalachia Restoration Act

The Clean Water Protection Act (H.R. 1310) in the U.S. House of Representatives and the Appalachia Restoration Act (S. 696) in the U.S. Senate would amend the Clean Water Act to protect waterways from valley fills associated with mountaintop removal. These two bills have been presented to Congress and continue to gain cosponsors.

As of February 26, 164 congressional cosponsors support the Clean Water Protection Act and 10 senators are cosponsoring the Appalachia Restoration Act.

From March 6 to 10, concerned citizens from the coalfields and across the nation will gather in Washington D.C., to speak to Congress about this legislation.

Kentucky Stream Saver Bill

The Stream Saver Bill (H.R. 104), is a proposal to amend previous legislation which relates to Kentucky's "Restoration of approximate original contour" regulation. The proposed bill would prohibit permits from allowing the disposal of toxic coal mining wastes into Kentucky waterways. In addition to managing the waste disposal, the bill would also require that surface mined areas be reclaimed to their approximate original contour taking into account both the configuration and the area's elevation prior to the introduction of mining practices.

According to the Kentuckians for the Commonwealth (KFTC), this bill was the first of its kind when it was originally introduced in 2005.

This year, Sen. Kathy Stein submitted the Stream Saver Bill (S. 139) to the state Senate and Rep. Tom Riner submitted the bill (H.R. 396) to the Kentucky House of Representatives.

"We are also working on drafting legislation that would go beyond this, that would be a ban on mountaintop removal," said KFTC.

Tennessee Scenic Vistas Protection Act

The Tennessee Scenic Vistas Protection Act (S. 1406/H.R. 899), also known as the Water Quality Control Act, would limit the Tennessee Department of Environment and Conservation (TDEC) from approving certain types of surface mining permits based on outlined conditions. The bill was introduced to the Tennessee House of Representatives by Reps. Bill Dunn and Michael Ray, while Sens. Bill Ketron and Doug Jackson introduced it to the Tennessee Senate.

According to the text of the bill, permits would not be issued or renewed if the surface mining operation or its waste, fill or in-stream treatment takes place within

100 feet of any Tennessee water system. A permit that would improve the quality of a body of water previously impacted by mining practices would, however, be eligible for issuance or renewal.

Another provision of the bill would prohibit permits that would certify surface mining at and above 2,000 feet elevation from sea level if it would disturb a ridgeline. The exception to this rule would be if the permit required some surface mining in order to conduct underground mining, if approved by TDEC.

VA Stream Saver Bill

The Virginia Stream Saver Bill, (S. 564) would end the burial of headwater streams in Virginia with wastes from mountaintop removal coal mining.

According the Stream Saver Bill, introduced by Senator Patricia Ticer, "No spoil, refuse, silt, slurry, tailings, or other waste materials from coal surface mining and reclamation operations will be disposed of in any intermittent, perennial, or ephemeral stream."

After the state held a public hearing on

Feb. 11, in front of the Senate Agriculture, Conservation and National Resources Committee in Richmond, Va., the committee voted on Feb. 15, to carry the bill over for consideration in 2011.

"While it will not be voted on this year, it provided a unique opportunity to raise the level of awareness about mountaintop removal in Virginia," said a spokesman for the environmental coalition Wise Energy for Virginia. "We look forward to continuing to educate legislators and citizens over the rest of the year so that we can have an even larger impact during next year's Virginia General Assembly."

West Virginia Sludge Safety Bill

The Sludge Safety Bill, (S. 568) would prohibit issuing any new permits or modifying previously issued permits for coal slurry sites in West Virginia.

A study was mandated by Senate Concurrent Resolution 15 in March 2007, and the results were submitted to the State Legislature for review.

In the West Virginia Department of Environmental Protection's (WVDEP) report, "An Evaluation of the Underground Injection of Coal Slurry in West Virginia," the agency concluded that "Effective immediately, the WVDEP will impose a moratorium on the approval of injection of coal slurry into mine voids in which coal slurry injection has not previously been approved under the modern era program."

Coal slurry sites are areas that coal companies are permitted to inject coal slurry into abandoned underground mines, such as in Mingo and Boone counties.

Currently, the Sludge Safety Project—a collaborative effort between several West Virginia organizations—is composing a unified Slurry Bill to be introduced in the State Senate and House during the 2010 session.

Federal Alphabet Soup: What the Agencies Are Up To

Since the change in administrations in January, 2009, federal agencies have taken a more active stance with coal industry issues. Following is a brief rundown of the past several months:

Environmental Protection Agency—Although last year the EPA put more than 70 mountaintop removal mining permits through a more stringent review process, this January the agency approved several permits, including an expansion at the Hobet complex in West Virginia, a mining operation that currently exceeds 16,000 acres.

The EPA is also in the process of reviewing coal ash as a hazardous waste following the TVA coal ash disaster in 2008, though recent comments from the agency have led some

pundits to believe that EPA officials may take a less regulatory approach to the substance.

U.S. Government Accountability Office—

This January, the GAO released a second report on mountaintop removal coal mining which highlights the extensive damage that mountaintop removal coal mining causes to the land and water – as well as the challenges presented in the reclamation process.

Office of Surface Mining Reclamation and Enforcement—Joe Pizarchik, the new OSMRE director, recently toured the Appalachian coalfield region and met with citizens, promising to increase enforcement and listening to concerns.





High Stakes Gamble With Carbon Capture Technologies

By Bill Kovarik

A high stakes effort to research carbon dioxide capture and storage (CCS) technology is advancing with almost \$2 billion in research and development grants, the Obama administration announced this February.

Four projects in West Virginia, Texas, Illinois and Alabama were slated in February for stimulus funding.

Dominion Energy's Wise County, Va., power project, long touted as an advanced "clean" coal project, did not make the list. And the Alabama project has been cancelled by an electric utility based in Georgia. The three remaining projects will involve utility and coal industry contributions along with federal funding.

A new federal task force will also propose a plan "to overcome the barriers to the widespread, cost-effective deployment of CCS within 10 years, with a goal of bringing 5 to 10 commercial demonstration projects online by 2016," the White House said.

At stake is the future use of coal to generate electricity while at the same time holding down carbon dioxide (CO2) emissions and staving off future climate change.

CCS technology involves pulling CO2 from the smokestacks of conventional coal power plants or from the incoming gas of more advanced coal plants. The advanced coal gas plants have strong advantages in terms of efficiently capturing CO2, but only a few of these new integrated gasification and combined cycle plants are under construction.

CCS research has skeptics and supporters

Both environmentalists and coal company executives have been skeptical of CCS.

"Geological carbon sequestration is a joke," said Robert F. Kennedy, Jr., of the Waterkeepers Alliance in a West Virginia debate over coal and the environment held Jan. 21, 2010.

"That's true," responded Don Blankenship of Massey Energy Co.

"The costs will be prohibitive," Blankenship said previously, in a November 2009 interview with *The Hill*, a Washington D.C., political magazine. "Basically, spending capital to triple the costs of your prod-



On August 21, 1986, Cameroon's Lake Nyos suddenly released a massive cloud of CO2 into the air. The emission suffocated 1,700 people and 3,500 livestock (right) in the surrounding area. Though this was a natural CO2 deposit, it raises concerns among some scientists about what could happen if CO2 artificially injected into the earth were to escape. Top photo by USGS, right photo by Jack Lockwood, USGS

uct is bad business even if it works--and 'enviros' will probably come after CCS if it begins to be very widespread."

Others support the research.

"It's one thing to argue that coal is not a viable technology because of mountaintop removal mining, because of air pollution, or because of coal ash disposal issues," said Steven Smith of the Southern Alliance for Clean Energy.

"But we need an honest assessment of carbon capture technologies," Smith said. "We support the Department of Energy's research in this area."

CCS technology isn't cheap

The technology to separate carbon dioxide from other gases has long been known, but only in the past decade has research focused on the most economical processes for separating enormous volumes of gas.

The cost of carbon capture depends on various assumptions, but estimates range from a 25 percent increase to a doubling of electricity costs to consumers, who already pay an average of 12 cents per kilowatt hour nationwide.

CCS is new and potentially risky

While the oil industry routinely uses CO2 to force oil up from aging fields, in a process called "enhanced oil recovery," large-scale storage has never been tried.

Three major approaches to geological storage are contemplated, according to the Department of Energy:

Oil and gas fields, where CO2 is

widely used;

• Deep saline structures, with hundreds of gigatons of storage capacity in formations 9,000 feet deep; and

• Coal bed methane deposits, more typical in Appalachia, around 4,000 feet deep.

One drawback to coal bed methane is that "production water" from gas fields needs to be either treated or reinjected in non-freshwater aquifers. This is a major issue in shale gas development in Penn-

Also, coal bed methane fields are closer to the surface and have a wider footprint, which means more landowners would have to be involved in negotiating liability issues. EPA's endangerment finding for CO2 has made this area even more complicated. The biggest worry is that an accidental release of CO2 could be deadly. In 1986, a natural volcanic cloud of about 1.6 million tons of CO2 poured out of Lake Nyos in Cameroon (Africa), killing 1,700 people.

Carbon capture and storage systems, however, are different. According to Nino

Ripepi of Virginia Tech's Center for Coal and Energy Research, the deep saline formations being used by the new CCS projects are over a mile and a half deep, and monitoring can be "stacked" to show leakage from a storage reservoir at many levels, long before it reaches the surface.

"You can bet a lot of engineers are taking this very seriously," Ripepi said. EPA, especially, is working

on licensing and safety standards.

Another problem with CCS is that the sheer volume of the infrastructure needed for a serious long range CO2 reduction program is daunting.

Energy analyst Vaclav Smil has pointed out that even a 10 percent CCS program for all global CO2 emissions would be the size of the entire global oil industry.

"Even if we were to embrace this second-rate option, the magnitude of the enterprise needed to make a real difference will defeat us," Smil said.







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The Battle Over Blair Mountain Rages On

By Bill Kovarik

The fight to preserve West Virginia's Blair Mountain Battlefield has taken a new turn.

Preservation advocates thought they had won in March 2009 when the site was formally listed on the federal National Register of Historic Places.

However, the site was "de-listed" in December 2009 at the request of state authorities who claimed that re-counted property owners' opinions supported them.

Preservationists said the recount was flawed and are making plans for a court appeal.

The 1921 Battle

Blair Mountain is the site of a five-day battle between over 10,000 union miners and the coal industry in August 1921. Thousands of shots were exchanged, and an estimated 30 men died.

The battle was "a spontaneous outpouring of rage and grief over conditions in the southern coalfields," according to Friends of Blair Mountain. The specific spark was the murder of Sheriff Sid Hatfield by coal company detectives on the steps of the McDowell County Courthouse. No one was ever charged in the murder.

The miners marched to Logan, W.Va., to express their outrage and rescue imprisoned miners in Mingo County. They were stopped by thousands of paid coal industry employees who had taken up fortified positions at Blair Mountain.

The battle ended peacefully when federal troops arrived. Union miners surrendered their weapons, and most were allowed to go home. About 200 leaders, including union organizer Bill Blizzard, were tried for murder and treason the next year. But a jury refused to convict, and Blair Mountain became a rallying cry for organized labor in the 1920s and 30s.

The 1989 - 2009 battle

Historians say the Battle of Blair Mountain was the largest insurrection in U.S. history since the Civil War. Hundreds of books and historical papers have been written about the battle.

When a coal company announced plans for a surface mine at Blair Mountain, a grandson of one of the fighting miners who lived near the mountain, Kenny King, began working on preservation efforts.



"I just hated to see it be destroyed," King said.

The complex process of protecting the historical site began in the 1990s. It became more complex with the state government's refusal to help King and others, such as, West Virginia University historian Barbara Rasmussen and Appalachian State University archaeologist Harvard Ayers.

For years, the review process bounced back and forth between the West Virginia office of historic preservation and the National Park Service. In 2006, Ayers and King performed archaeological surveys of the battle site. Many others added their support, including the Society for Historical Archeology and the Society of American Archeology.

Cecil Roberts, president of United Mine Workers of America (UMWA), said in 2005: "The UMWA has always believed the Blair Mountain battle site should be preserved...What (the miners) did is a source of pride and inspiration to our families, and helps give us the strength to carry on their fight for justice. We will never forget it, nor should America."

Finally, on March 30, 2009, the Park Service announced that the battlefield site had won a place on the register. Preservationists believed they had won.

The "de-listing" of Blair Mountain

Historic significance is not the most important criteria for historic preservation under current federal law. Property owners also have to agree to the listing.

Shortly after the formal listing of Blair Mountain on the national register, West Virginia State Historic Preservation Officer Randall Reid-Smith claimed to have discovered eight letters, which had been "unintentionally not counted." This, Smith claimed, changed the count of landowners to 30 who did not agree with historic preservation and 27 who did.

But in September 2009, Ayers and West Virginia attorney John Kennedy Bailey found serious errors in Reid-Smith's list. Two property owners who had supposedly objected to historic designation were actually deceased, and ten more property owners had been overlooked. Smith, who is not a trained historian, did not dispute the findings, but refused to reconsider the delisting.

"The West Virginia bureaucracy has ignored any information that contradicts their own cursory and flawed research," Ayers said.

On Dec. 30, 2009, the National Park

Service Interim Keeper of the National Register, Carol Shull, granted the request to delist. Shull and Smith

both refused to comment for this article

However, a park service web site notes that delisting usually occurs when "property is altered so that it has lost its ability to convey its national significance." Most examples of delisting include historic houses where there has been a fire or a long period of neglect.

"This action does not stand alone but is part of a deliberate effort to erase Appalachian history," said Wess Harris, editor of "When Miners March," a book document-

ing the union's side of the battle of Blair Mountain.

"We have been wondering why the State Historic Preservation Officer worked so hard to get the battlefield off the Register list," said Ayers.

Since it is still eligible for listing, West Virginia state officials said that this status "offers protection from federally funded or licensed adverse actions."

Not so, according to a February 2010 legal analysis. By law, the state, not the federal government, can decide what should be done with unprotected historical property. This can include issuing mine permits.

The delisting will be appealed in court, and a letter writing campaign to the National Park Service is under way, according to the Friends of Blair Mountain. For more information visit FriendsOfBlair-mountain.org.



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A TALE OF TWO COUNTIES: ECONOMIC PRODUCTION VS. ENVIRONMENTAL PROTECTION

McDowell County, W.Va.: Struggling as Coal Mining Declines

By Julie Johnson

The steep slopes and hollows of McDowell County, W. Va., were once a wellspring of natural resources that attracted business barons of the Industrial Revolution with the promise of wealth.

Today, after decades of resource extraction, those same mountainous slopes hold little hope for financial gain.

As early as 1750 the land that would later become McDowell County was surveyed for possible resource extraction. Toward the end of the century Robert Morris, signer of the Declaration of Independence and founder of the Bank of America, acquired millions of acres of heavily timbered and coal-rich land in the Appalachian Mountains.

Just after the Civil War, cartographer Jedidiah Hotchkiss began a survey of Central Appalachia. Realizing the potential for profit in the new state of West Virginia, Hotchkiss began using local newspapers to inform potential investors of the financial possibilities available in coal and timber. In 1881, Norfolk and Western railroad sank their first tracks in the area, and the land race was on.

Business tycoons from the industrial North bought parcels of land and mineral rights. They also recruited immigrant labor to build infrastructure for the mines and surrounding towns. Alpine Italians skilled in mountain-region masonry, as



Families in coal camp homes built during McDowell's boom years still face the tracks that have shipped billions of tons of coal out of the county. Photo courtesy of coalcampusa.com

well as many other European immigrants with backgrounds in heavy labor, were steered south from Ellis Island to construct the new structures that would be needed to mine and timber in Appalachia.

The massive migration to McDowell caused a marked boom in population, as well as created a new cultural identity for the county that nicknamed itself the "Free State of McDowell."

A 2006 study by The Federal Reserve, called "The Enduring Challenge of Concentrated Poverty in America," studied McDowell as one of 16 counties with the

highest concentration of poverty in the United States.

The study noted that the county at this time was an "ethnically diverse and equitable community composed of three primary ethnic groups: local frontiersmen and their descendents, black freedmen and their descendents, and Eastern and Southern European immigrants and their descendents."

As the century turned and extraction soared, the growing population entered into a period of short-lived prosperity. Families in coal towns were at least clothed, housed and fed, though very hard-worked and exposed to the dangers of early mining operations. A 1912 mine explosion in the town of Jed killed 80 miners, and a 1940 explosion at Pond Creek Mine took 91. Between 1902 and 1964, McDowell lost over 500 men to mine disasters.

The 1940s and 50s saw the peak of both McDowell's coal production and population. The two followed a sharp downward trend in the next forty years, plateauing briefly during the energy crisis of the 1970s and then nose diving during the last part of the century. In 50 years, McDowell's population declined from over 100,000 to its current level of just under 20,000.

"When a generation leaves the county, they may have longing for that place, but

they don't have connection to that place...you don't own the land under your own feet," said Bill Archer, author of the "McDowell County" volume of the "Images of America" book series.

The Federal Reserve Study noted that as of 2006, corporations—most of them based out-of-state—owned 75 percent of the county's land. "The leases can be as short as 15 years," the study states, "which often means that a tenant company invests only within the life of its lease, rather than for the long term in the community."

Employment opportunities are

limited at best; currently the largest private sector employer is Wal-Mart. The coal industry accounts for less than 20 percent of employment. In 2000, almost 40 percent of the working age population claimed a disability of

ing age population claimed a disability of some kind, and currently one in every three county residents between ages 18 and 64 does not have health insurance.

In 2000 and 2001, two devastating 100-year floods swept through the county; damage was estimated at \$64 million.

The floods highlighted the county's poorly funded water and flood-control infrastructure. Almost 65 percent of homes in the county are not connected to any kind of wastewater treatment system. Raw sewage from these residences directly enters groundwater and streams.

A series of all terrain vehicle (ATV) trails around the outskirts of the county, known as the Hatfield-McCoy Trail system, are an attempt at boosting the local economy. These trails attract ATV riders from all over the country, and are supported by a number of nearby gear and fuel shops and campgrounds.

The Hatfield-McCoy Trail system is known as one of the premier rides in the state, and its Indian Gap trailhead boasts a shop and cafe in the recently renovated Ashland Company Store, a relic of the county's coal years.

"In McDowell, building [entrepreneurial] capacity and developing new avenues for investment will be critical for facilitating the expansion of economic opportunity and improving residents' quality of life," the Federal Reserve study concludes.

Study Finds Appalachian Coal in Decline

By Julie Johnson

Downstream Strategies, a Morgantown, W. Va., environmental consulting group, released a report in January called "The Decline of Central Appalachian Coal and the Need for Economic Diversification."

The reports' authors, Rory McIlmoil and Evan Hansen, found that coal production in the region is in a sharp, and most likely irreversible, decline.

"Should substantial declines occur as projected, coal-producing counties will face significant losses in employment and tax revenue, and state government will collect fewer taxes from the coal industry," McIlmoil and Hansen said.

The decrease in production has been affected by a number of factors from geologic depletion to increasingly mechanized mining techniques.

"Mountaintop removal mining, a declining national demand for energy, rising mining costs and erratic spot market prices all add up to fewer jobs in the coal fields," the report concludes.

The authors' suggestions for economic diversification include offering incentives for energy efficiency, wind and biomass-derived energy development.

The full report can be found at DownstreamStrategies.com.

A TALE OF TWO COUNTIES: ECONOMIC PRODUCTION VS. ENVIRONMENTAL PROTECTION

Floyd County, Va.: Growing An Eco-Friendly Economy

By Julie Johnson

Southwest Virginia's Floyd County long relied on agriculture and textile production. Now, the county is home to a steadily growing economy and population that supports locally owned businesses and artisans.

Floyd is host to a popular annual world music festival, FloydFest, and draws crowds of summer tourists from the 33 miles of Blue Ridge Parkway that pass through it. Renewable energy initiatives have seen a sharp growth recently, and nearby universities supply a steady flow of skilled workers.

When Floyd was established in the early 19th century, county residents survived largely on agriculture. Tobacco and wool were commonly traded goods.

Mineral deposits were minor in Floyd and after a brief period of copper mining, the practice was largely abandoned in the area. Major freight lines were never laid in the county.

During the early 20th century a small textile industry supported the growing population. The construction of the Blue Ridge Parkway and jobs offered through the Civilian Conservation Corps helped to soften the blow of the Great Depression on the county.

After the Second World War, the population declined—a trend that continued throughout the 50s and 60s. But during the 1970s, many people disenchanted with urban life sought out Floyd as place to get back to their rural roots.



As the county continues to promote locally grown foods, Floyd's farmers are able to move from contracting with large-scale, agriculture giants to becoming viable, independent producers for their neighbors. Photo courtesy of Fred First.

This migration ignited a strong artistic and counterculture movement in the area. The Jacksonville Center for Arts was founded and to this day continues to promote creativity and rural arts.

During the 1990s, a cooperative invested in and built a high-speed fiber optics system. It has provided a swift telecommunications system that continues to be a draw for entrepreneurs.

Despite these enhancements, as of 2000, Floyd still found half of its population seeking employment outside the county. Its residents make some of the

lowest wages in the state, yet their poverty level is far lower than that of nearby coalfield counties.

"Having been discovered by visitors who want a piece of paradise, land prices have been driven up dramatically in the past 10 to 15 years. People earning local wages can rarely afford to buy land here," said Lydeana Martin, Floyd's Community and Economic Development Advisor.

To stimulate growth in the county, and supply long-term jobs to its residents, Floyd's developers are taking a unique approach. Their support of small businesses in the form of microlending created a 37 percent increase in business establishments between 1998 and 2008. Relaxed business regulations have maintained these start-ups.

After promoting small businesses, developers support cultural enhancements that make Floyd a unique and exciting destination and stimulate interest in town life.

"We hope to continue to further develop the entrepreneurial spirit here by being a vital community with local foods, strong telecommunications, live music downtown five days per week, arts classes and great recreational assets," says Martin.

Beyond supporting downtown retail and food service establishments, Martin also hopes to help Floyd's farmers by lessening their dependence on the large-scale agricultural industry.

This begins with helping small farmers find new markets for their products. Community developers like Martin are matchmaking these farmers with restaurants, bakeries and stores whose interest in local, sustainably grown food is already piqued. Floyd's farmers market continues to grow and become a hub for biodynamic growers in the county.

"We can capitalize on our people's knowledge of renewable energy, green building, hand skills and technology so that we can really come to the table of the American economy without having to lose our soul to do so," Martin said.

Severance Tax Leaves Kentucky in the Red

By Julie Johnson

The money that coal, timber, oil and natural gas companies pay in severance taxes is less than the subsidies provided by the state to the same companies, according to a recent study by the Mountain Association for Community Economic Development (MACED).

MACED examined Kentucky's 2006 revenue from the coal industry—including severance taxes—and found that the state made \$528 million but spent \$643 million supporting coal mining activities, leaving Kentucky with a \$114 million deficit.

Severance taxes are funds paid to the state by extraction industries based on the amount of resources they remove. The amounts can vary widely based on production. If production drops, so does the amount of money a county receives from the producer.

The tax revenues are disbursed from the state to the county governments with varying degrees of efficacy. Each state may decide independently how they will allocate the money, and each county can decide how to spend the funds; many support social services such as public schools, health departments and road repair.



Voices from the Field: Citizen Activist Cathie Bird is Building Bridges

By Julie Johnson

Community and Environmental Advocate Cathie Bird works for Statewide Organizing for Community Empowerment (SOCM), a group dedicated to solving social and environmental issues in Tennessee. Bird is the chair of the Strip Mine Issues Committee and a member of SOCM's Anti-racism Transformation Team.

Q: What are your first memories of environmental consciousness?

Cathie: I was raised on a Kansas farm and I look back on that as a foundation of being in touch with the earth and its processes, although I didn't understand a lot of them.

As I got older, I spent a lot of time with family in Colorado and really got into hiking and just loving to be out in nature. I majored in Conservation at Ohio State, and went from there to Michigan State's College of Agriculture and majored in Parks and Recreation Administration with a focus in Environmental Interpretation.

Q: How did you begin working in conservation?

Cathie: I worked at Wind Cave National Park in South Dakota. I was a ranger-naturalist and got involved in cave exploring and all kinds of cool stuff. That prairie environment was familiar from my Kansas farm childhood. They had a huge buffalo herd. I worked with



Youth Conservation Corps one summer as an environmental education specialist. Then there was this huge forest fire in Colorado and that summer I worked on a resources crew, repairing trail damaged caused by the fire.

I kept writing, kept studying, and then came to a spiritual awakening. I started putting together a deeper connection with the earth and how people relate to it and kind of where things went wrong with our relationship to the planet and where we could be going if we just figured things out.

Q: How did you begin working with SOCM?

Cathie: I moved here to Tennessee in 2000, to a home just southeast from Huntsville, near Big South Fork. My neighbor is Royal Blue Wilderness Area, owned by the state of Tennessee. There had been mining here before and there was potential for it to be mined

again. So I got here, and it was not too long after that the Zeb Mountain issue popped up. I went to a SOCM meeting about it, and have been working with them ever since.

Q: Tell us a little more about your experience organizing against mountaintop removal at Zeb Mountain.

Cathie: Well, Zeb Mountain is about six miles north of my home, so it's not a direct impact, but I knew that there was also a permit that was going to happen just a half mile from me. Nothing was happening, so I thought, well if I help them now maybe I can stop it.

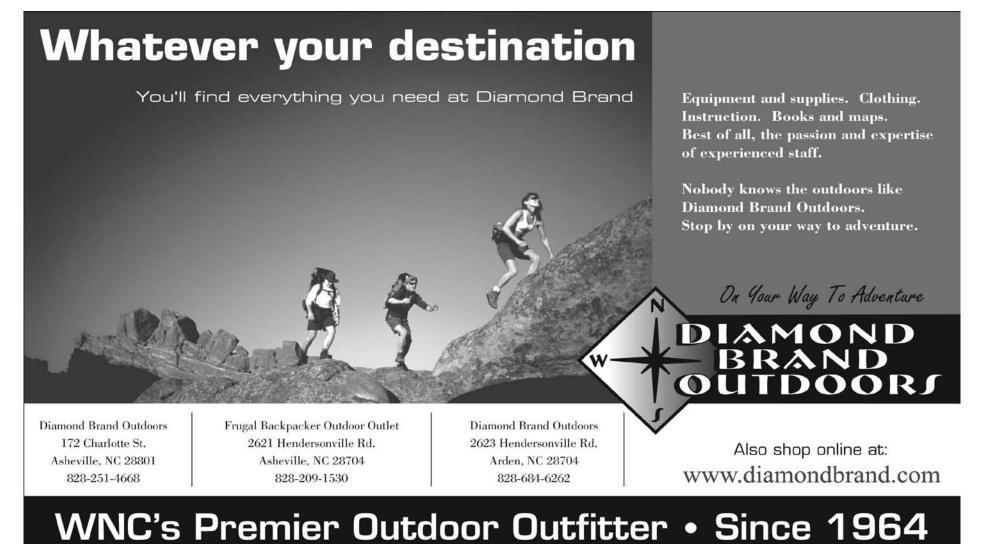
Zeb Mountain had been mined a long time ago and the company that applied to open a new 2,100 acre mine said their project would improve land and waterways damaged in the old days. We got a fish biologist from University of Tennessee to go in and do an assessment of Dan Branch. He found that the stream was really in pretty good shape. The larger creek it emptied into even had Blackside Dace, a federally listed fish. So then we said, "Why are you writing your permits on the basis that this stream is nonsupporting?" Not long after the permit was granted, they got a temporary shutdown order because a huge section of haul road gave way and trashed that same stream. There was all this legal back and forth happening. It has been a big mess and Tennessee Sierra, SOCM and Tennessee Clean Water Network are suing National Coal over the selenium pollution they caused in a another Zeb watershed.

Q: How did you get involved with SOCM's anti-racism campaign?

Cathie: Well, I had focused on fighting mining, but SOCM is really about empowering all people in Tennessee to improve life in their communities. SOCM decided to take a hard look at itself as an organization and ask if it was structured in a way that keeps people of color out of our community empowerment process.

I've been reading a lot of Van Jones' writing and studying how he merges the best of what the environmental movement has accomplished and what we need to do to address today's challenges for jobs, poverty and our environment that affect everyone. One of SOCM's newer projects is trying to figure out how to make a green collar economy work in Tennessee.

I still feel a split between people that are involved in environmental issues and those involved in social issues. I would like to help bridge the gap. Social and environmental issues have a common root in exploitation and oppression of people and nature.



TWO MILES TO HELL: A Miner's Story

By Daniel Alexander Hawkins Special to The Voice

It is 10:06 p.m. on a Sunday night and I begin getting dressed in my high-visibility work uniforms, the trademark navy shirt and pants with orange stripes identifying the Appalachian coal miners in our area.

The children have already gone to bed with hugs and kisses from their daddy, and now it's time to bid a loving farewell to my wife. My body is still attempting to sort out day and night after an attempt to enjoy a short-lived weekend from the third shift.

I arrive at the mines and enter the bathhouse to put on my boots, belt, hard hat, and light. There are many workers already milling around drinking coffee and discussing the evening's football games or the highlights from the Nascar series. More often these days there is talk of current politics surrounding coal mining; miners derogatively referring to environmentalists as "treehuggers who need to go without electricity for a while."

Greetings to one another almost always include the informal exchange of, "How ya doin?" met with either a halfhearted insult or a sarcastic remark about feeling great. Everyone is trying to smoke their last cigarette while trying not to think of what lies ahead in the next shift.

Coal mining is rigorous work even with the mechanization of coal production.



Photo by R.L. Mullins

during the "pick and shovel days." He experienced the early times of the arduous labor, when he had to purchase his own tools and dynamite to extract coal he was

paid for by the ton, not by the hour.

My great-grandfather was a coal miner

While there is no comparison to the labor intensity of mining practices conducted over a half century ago, it still requires a great deal of physical effort to work in today's mines. Long shifts combined with mandatory overtime contribute

to ongoing fatigue and sickness.

The life of a coal miner is not for everyone.

Many times I have wondered why people endure these conditions--for most it is purely financial. Coal mining jobs in our region are the most widely available and highest paying. Sadly, you do not need to have experience, a clear criminal background, or even a high school diploma,

just common sense, a strong work ethic, and a clean drug test.

"Work hard, play hard" is the motto as miners spend extravagantly to enjoy what little time they have off. Most of the men are deeply in debt after buying new homes, vehicles, boats, RVs, and ATVs. Some even plan what payments they can afford based on how much overtime they plan on working. It is a vicious cycle that keeps coal miners scared for their job for fear of losing everything they have, working to the advantage of the coal company's production.

Eleven o'clock rolls around and it is time to climb onto the diesel-powered mantrip, starting the journey into the darkness. The mine roof is gray and featureless but in a surreal way I know that hundreds of feet above me there are trees, streams, hills and hollows, some few remaining bits of Appalachian beauty.

The mantrip passes by a reminder of the Sago disaster, an underground shelter designed to provide ninety-six hours of breathable air and supplies. I know that, in truth, we are more likely to be killed instantaneously in a disaster than to live and make an attempt at survival within these safe havens. I put this and other thoughts

Continued on page 22

Portrait Story Project Highlights Ties To Appalachia

By Jillian Varkas

The Portrait Story project came to the southern highlands in March 2008 to continue a legacy of capturing images and stories to identify with the region through the eyes of its people.

The artist, Francesco Di Santis, had recently completed a portrait project of Hurricane Katrina victims. Days after the hurricane devastated the Louisiana and Mississippi Gulf Coast, di Santis came to the area and stayed for 15 months drawing portraits of victims, only asking for their stories.

Many in the environmental movement for Appalachia felt the project could show the public the impacts "King Coal" has had on the lives of people who feel a connection to the region.

The project began as a five-month quest into the coalfields where sympathizers had organized to fight the consequences of mountaintop removal coal mining.

As the project developed into a much

One of the hundreds of portraits that make up the Voices for Appalachia Portrait Story Project, on display in Chattanooga, Tenn., during March and Asheville, N.C., during April.

larger undertaking, Di Santis quickly realized that if the voices from throughout Appalachia were to be heard, he would have to cover thousands of square miles. After two years, he had taken portraits of thousands of people throughout seven states.

The artists' spirits were bolstered by an incredible desire to participate. Dozens of families invited the artists into their households and spread the word to family and friends.

Di Santis, drew simple but strong portraits with the request that people would write their own personal narrative.

"The media infrastructure of The Portrait-Story Project is the participants' handwriting on the same physical page as an original portrait of themselves," said I live in the oblive mountain in the world. The Blan hilly renge was been act 400 million years ago, and is continued to vite ence the noct 200 million years such to, and the rist of hypelachia, was higher them to the Himsleyas, But these summens are old, and wast hair drays fell and jith to make this streams that have out deep hellows in the range and would away the type. All this water and rick and sime has let libens live and its and trans live in the attenth and alte and trans live in the attenth and alte and trans live them quitted and flaming with trees and soil they exclude are the appropriate magnitude. The renders or the holds of the himsleyas. In removed and seen sales that the property of himself is the attention of himself is a property of the soil have to be as a figural himself is the attention of the himself is the attention of the himself is the soil of the soil of

Di Santis.

Subjects wrote about folk culture, family, stories of the old United Mine Workers,

and how surface mining has impacted their lives and the land. Many of the stories related the longing for peace to return again in the mountains.

One man he portrayed wrote, "I don't want to be an old man in a plastic house next to a golf course under a black sky. I want to sit by a clear stream in the Blue Ridge, talking to salamanders as big as my arm, watching the world become wiser."

After much anticipation, the public will be able to view *Voices for Appalachia, A Portrait-Story Project, Written and Narrated by Hundreds*. The art series will be displayed March 2 to 27 at the Unitarian Universalist Church in Chattanooga, Tenn., and then April 2 to 27 at Rosetta's Kitchen in Asheville, N.C.

To request the art series in your community visit *UnitedMountainDefense.org*.

To view the entire art series, click to *VoicesForAppalachia.org*.

Civil Standoff Kennedy and Blankenship Debate Future of Coal

By Bill Kovarik

A polite but pointed debate showed a wide gulf between environmental and coal industry positions on Appalachia's environmental woes.

The debate was sponsored by the University of Charleston in Charleston, W.Va., Jan. 21, 2010.

Robert F. Kennedy Jr., president of the Waterkeeper Alliance, challenged coal baron Don Blankenship to be honest about the coal industry's environmental record, especially mountaintop removal mining.

"This is the worst environmental crime that has ever happened in our history," Kennedy said, advocating an end to mountaintop removal and a gradual shift to renewable energy sources. "We all have a moral obligation to stop this from happening."

Blankenship, chairman of Massey Energy Company, said the issue was one of industry competitiveness in the face of "environmental extremism."

Although the debate developed little common ground, its civil tone contrasted with the rancor of hearings and other pub-

lic events in recent years.

"It's sadly rare in our society to have a serious conversation between people with opposing opinions on a sensitive issue," said debate moderator Edwin Welch, president of the University of Charleston.

Kennedy and Blankenship sharply disputed topics such as:

Economic impacts and benefits of coal mining for Appalachia:

Kennedy: "You look at the way people are living in this state. The Hendryx study shows that the closer you live to a coal mine, the sicker you are."

Blankenship: "This industry is what made this country great. If we forget that we're going to have to learn to speak Chinese."

Enforcement of environmental laws:

Kennedy: "In a true free market system, the price of a product would reflect all of its costs. A producer like Mr. Blankenship would have to pay all of the costs of his product before he gets it to market, instead of forcing you and I and my children to pay through bad health by externalizing those costs."



Photo by Jamie Goodman

Blankenship: "Unfortunately the laws are so difficult and the lawsuits so common and the cost of doing business is so high...To force the coal business out of West Virginia or surface mining would be a huge mistake for household budgets, for industry and for homeland security."

Massey Energy Company's environmental record:

Kennedy: "Just this last year, Massey had 12,900 (water quality) violations—A greater concentration than even before the \$20 million fine (of 2008)."

Blankenship: "There is no country that mines coal more safely or more environmentally consciously than this country, and no company that does better at that than Massey."

The cost and benefits of renewable energy:

Kennedy: "The mining industry makes a few people rich by making everyone else poor, whereas the wind industry distributes wealth and the benefits of that industry more evenly."

Blankenship: "Solar energy, it works well in the daytime, but it gets cold at night. Solar...and windmill parts will be made overseas..."

Kennedy also described the biodiver-

sity being lost through Mountaintop Removal Mining:

Kennedy: "They are the most biologically abundant temperate forests on the planet. A typical forest, all over the world, has three dominant species of trees. Appalachia has 80."

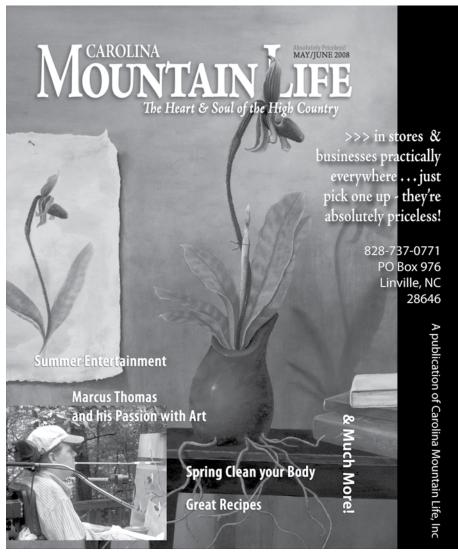
In his summary statement, Kennedy said:

Kennedy: "Don says we have to choose between environmental protection on the one hand and economic prosperity on the other. I say that's a false choice...Good envi-

ronmental policy is identical to good economic policy. We want to measure our economy... based upon on how it produces jobs, and the dignity of our jobs, over the generations, over the long term, and how it preserves the value of the assets of our community. If on the other hand we want to do what Don himself and his company have been urging us to do, which is to treat the planet as if it were a business in liquidation, convert all of our natural resources to cash as quickly as possible, have a few years of pollution based prosperity, we can generate an instantaneous cash flow and the illusion of a prosperous economy, but our children are going to pay for our joy ride, and they are going to pay for it with denuded landscapes and poor health and huge cleanup costs that are going to amplify over time.

Environmental injury, particularly of the kind that is happening today in West Virginia, is deficit spending. It's a way of loading the costs of our generation's prosperity onto the backs of our children....An investment in our environment is (not) a diminishment of our nation's wealth. It's an investment in infrastructure, like telecommunications or highways.

What I would say to the coal industry is go underground, employ lots of people, and do this safely as West Virginia makes a transition to a new energy future."







During the Week in Washington, citizens learn about the issue of mountaintop removal coal mining and also how to lobby members of Congress. The group then spends three days on Capitol Hill in active lobbying for the Clean Water Protection Act and the Appalachia Restoration Act. Photo by Mary Kroeck

Appalachian Advocates Prepare for Fifth Annual Week in Washington

By Megan Naylor

With the start of the New Year comes a new opportunity for citizens to assemble in the nation's capital to meet with Congressional leaders about legislation barring mountaintop removal.

The Fifth Annual Week in Washington, hosted by The Alliance for Appalachia, runs from March 6 to 10 in Washington D.C., and brings together citizens from the Appalachian coalfields and across the nation to lobby members of congress about the Clean Water Protection Act and the Appalachia Restoration Act.

Participants engage in an action-packed week full of new friends, training and lobby visits. Training day covers updates on policies affecting mountaintop removal, tips for effective lobbying, and presentations by affected citizens and non-profit organizations involved in the push for legislation against mountaintop removal.

The following three days of the event are dedicated lobby days where participants are given the opportunity to exercise their civic rights and speak with members of Congress and their staff about ending mountaintop removal.

"Attending Week in Washington can

change your life in many wonderful ways," said Stephanie Pistello, National Field Coordinator for Appalachian Voices. "In addition to learning more about the legislative process firsthand, you make special friendships with like-minded people from across the country, including the very people who live in the mountains we are saving."

This year offers the opportunity to lobby for the passage of the Clean Water Protection Act (H.R. 1310) in the House as well as the Appalachian Restoration Act (S.696) in the Senate. If passed, these bills would play a critical role in stopping the effects of mountaintop removal coal mining.

In 2009, over 150 people from 23 different states attended Week in Washington and engaged in and hundreds of meetings with Congressional offices.

Due to congressional meetings held during Week in Washington 2009, the Clean Water Protection Act now has 164 cosponsors in the U.S. House of Representatives and the Appalachian Restoration Act has 10 cosponsors in the U.S. Senate.

To follow this year's Week in Washington or to find out how you can become involved in the mountaintop removal campaign, visit *iLoveMountains.org*.



West Virginia lobbyists gather in front of the Capitol during the End Mountaintop Removal Week in Washington. Photo by Dana Kuhline





Tennessee's VALDEZ

Over a year after the Dec. 22, 2008 failure of TVA's impoundment dam released 5.4 million cubic yards of coal sludge, ash still covers the land and clouds the river. In spite of TVA officials' assurance that the cleanup would last three months and the waste was safe, studies and reports of health concerns suggest otherwise and a final clean up date is years away...

Families Struggle in the Aftermath

By Maureen Halsema

Gary and Pam Topmiller are the last remaining homeowners living in a ghost town on the Emory River.

As they drive to what they once considered their dream home, they pass rows of houses bearing white notices on the doors of recent acquisitions by the Tennessee Valley Authority.

"Just about everybody around here that left has told us the same thing," Pam Topmiller Fly Ash Flu said. "They left because of the health scare."



The Topmiller's home is just across the river from the TVA's Kingston Fossil Plant, site of the coal ash disaster of Dec. 22, 2008. Early that morning, a tsunami of 5.4 million cubic yards of coal ash hit the Emory River and the once-thriving neighborhood.

In terms of toxins released, it was the largest single environmental disaster in recorded history.

Over the last year, the Topmillers said they have experienced mounting health problems including nosebleeds, chronic headaches, and respiratory complications.

"We got what we call the fly ash flu," Gary Topmiller said. "We had to go to Nashville to a doctor down there and he said for us to get out of here, but we don't have any place to go."

Not far away on Quarry Road, Rev. Peggy Blanchard is raising her great-granddaughter, Julianna, who is five years old. She worries about the potential health impacts related to fly ash.

"We are concerned in terms of exposure to ourselves but we're mostly concerned about Julianna because not only is this a cumulative thing over a lifetime,"

Blanchard said, "but also at her age she's very much still in the process of neurological development and you don't want

According to the Tennessee Department of Health, "If dust suppression measures should fail and particulate matter is present in concentrations greater than National Ambient Air Quality Standards due to the coal ash becoming airborne for periods longer than one day, the department concludes that particulate matter from airborne coal ash could harm people's health, especially for those persons with pre-existing respiratory or heart conditions."

"If there is a medical concern, they are welcome to go to the claims office and file a claim," said Barbara Martocci, a TVA spokesperson.

Oak Ridge Associated University (ORAU) is handling the medical claims that residents file with TVA.

According to Pam Bonnee, director of communications at ORAU, 314 people have signed up for toxicology screenings, testing anything that is going to have a negative for aluminum, arsenic, barium, beryllium, chromium, cobalt, copper, nickel, selenium, thallium, and vanadium.

Revisiting TVA's Coal Ash Disaster

A Pricey Proposition

Steve Scarborough, chairman of the Conservation Commission, a section of the Tennessee Department of Environment and Conservation, has property out on Swan Harbor. Real estate was Scarborough's investment plan for his family, and now he cannot withdraw the funds from his investments.

"When you sell your property to TVA, they give you a price on the property and they also have you sign a medical waiver," Scarborough said. "You are required to sign the waiver saying that you cannot sue them for any medical effects. It's an onerous piece of paper to have to sign. If it were me presenting this to folks, I couldn't do it in good conscience."

"They sign a waiver about not coming property," Martocci said.

The Topmillers also want to sell their house to TVA, but they don't like the strings attached to TVA's offer either.

"If you sign that paper, TVA is no longer liable for anything in the future, like if you come up with cancer, they are not liable," said Pam Topmiller. "That is what you sign off on and that is what we would not sign."

The Topmillers' neighbor, Glenn Daugherty, has a 1.25 acre lakefront lot. Since the spill, Daugherty said he has experienced nosebleeds, watery eyes, and chronic sinus issues.

Daugherty said that TVA told him they were going to make him another offer after he declined their \$140,000 offer for his lot. "I just wanted fair market value for it," Daugherty said. "I have vet to get that offer."

"TVA is trying to say the housing marback against TVA once they get paid for the ket was down already, you can't try to recoup your loss at our expense," Blanchard, who purchased her house prior to the spill and would like to take her family away from the disaster site, said. "Excuse me, there is a big difference between having a decline in value and having a crash in value, which is what has happened to us. Who would buy our property? I don't know, would you buy property, even after all these years, where Love Canal was?"

Not Affected

How does TVA determine if residents are affected by the coal ash spill?

"It is people who could be bothered by the noise, by the equipment, by the spill itself, the water surge, the ash, and the truck traffic," said Martocci. "If they

are affected, those pieces of equipment are touching them or around them or causing them so much disturbance that they cannot sleep or do their work. That is the sort of thing that they look at."

Blanchard and Scarborough both said TVA told them that their properties were outside the affected area of the spill and they would not be compensated.

"You don't tell somebody if they are affected, you ask them," said Blanchard. "And yes, we are definitely affected."

Blanchard lives by the quarry, where at the height of the cleanup she reports having up to 800 gravel truck trips passing by her to go. home each day.

Rogers Group Inc., increased the volume of extraction from the Roane County Quarry near Blanchard's home in order to obtain materials TVA needed to build the weirs and dike in the river to keep the sediments contained in the disaster site.

"So what do we get," Blanchard said.

Lawsuits Stalled Over TVA Immunity Claims

By Julie Johnson

Lawsuits against the Tennessee Valley Authority over the Kingston coal ash disaster remain stalled following TVA's claim that citizens cannot sue the agency.

Over 560 plaintiffs are represented in 57 lawsuits against TVA over the December 2008 failure of a coal ash impoundment dam. In April 2009, TVA asked a federal judge to dismiss all the cases, citing a Department of Justice ruling that protects federal agencies from civil suits by citizens. A decision has yet to be made on this request.

"Our primary concern is the health impact of this massive release of toxic materials into our community," said Levi Giltnane, a Kingston resident who owns both property near the plant and a small real estate busi-

"We have a two-year-old daughter, Skylar. For her and for the other children in this area, we want the TVA to give us honest answers about what is in this toxic ash and we want the TVA to fund medical testing for our family and other families who have been exposed to the massive amounts of

Mountains of coal ash still tower over Swan Pond Road near

the Kingston Fossil Plant, the site of the 2008 coal ash disaster.

Photo by Steve Scarborough. Gary Topmiller, pictured at the

bottom left, walks to the dock of his former dream home where

the waters have been contaminated by toxic pollutants from the

coal ash spill. Photo by Maureen Halsema.

toxic materials the TVA has dumped in our

In December, nearly one year after the spill, the Environmental Integrity Project (EIP) sent a letter to the White House, asking that President Obama and the Department of Justice to take measures to hold TVA ac-

"TVA raises issues of federal 'sovereign immunity' to avoid penalties in environmental enforcement cases filed by citizens in federal court, yet TVA does not receive federal funds or tax dollars drawn from the U.S. Treasury," said EIP in their report.

The letter, as well as an in-depth report completed by EIP, states EIP also calls for much more rigorous environmental oversight of the utility, and the elimination of federal protections that allow TVA to keep the grid in a non-competitive lock down.

According to EIP's letter, "removing these special protections would make TVA more competitive, result in a more energy-efficient grid, and create incentives for TVA to stay ahead of changing environmental and energy

> "All of this dust and blasting from the quarry, which we did not have before, not to mention, all of the traffic. We've got fly ash coming from the spill site and dust coming from the quarry. Don't tell me I'm not affected."

Scarborough echoed Blanchard's frustration

"My property was on the market when this disaster occurred," Scarborough said. "Since then we have had one offer of pennies on the dollar of the appraised value. It is unsellable because of TVA, but they tell me I'm not affected."

"They tell me that I'm outside the affected area," Scarborough continued. "How can you be outside the affected area when the river is closed and they are dredging in front of it? We've also been told that mortgage lenders won't take mortgages from this area on the secondary market as well. This is an impossible situation for us."

The cleanup effort still has a long way

Federal officials have presented three cleanup plans to the public for review in a document called "Engineering Evaluation/ Cost Analysis."

"We don't know a final date," Martocci said. "We're looking at around 2013, but it may be longer."

MARCH / APRIL / MAY 2010

TVA's Environmental Science Reporting Still Sparks Controversy

By Bill Kovarik

When the Tennessee Valley Authority released its "Toxics Release Inventory" (TRI) report in December 2009, environmental organizations such as the Environmental Integrity Project expressed concern at the amount of toxins released into the river.

According to TVA spokesman John Moulton, "toxic metals, in general, remain bound to the ash and do not become soluble in moving water such as river currents."

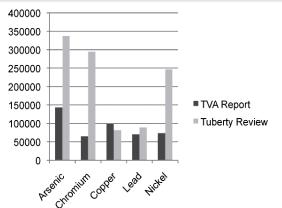
However, a toxicologist's recalculation of the "mass balance" of heavy metals shows serious flaws in TVA's methods and puzzling omissions of the most soluble toxins.

At the request of *The Appalachian Voice*, associate professor Shea Tuberty of Appalachian State University recalculated the total amount of toxic materials in eight billion pounds of fly ash spilled into the river. Tuberty calculated only the ash spilled into the river, using TVA's own values for the parts per million of heavy metals in the ash. He also accounted for the difference between normal background levels of heavy metals in comparable amounts of soil.

Tuberty deduced that over 5.4 million pounds of heavy metals of various kinds have been released directly into the water, as opposed to the 1.3 million pounds reported as water releases by TVA in its TRI report.

For instance, Tuberty calculated that the ash spill released over 337,000 pounds of arsenic into the river. TVA reported only 143,000 pounds.

This is not the first time that TVA's reported data has



Pounds of toxics released in the Dec. 2008 ash spill at Kingston, TN. The chart shows shows the difference between the TVA toxic release inventory report of Dec. 2009 and the results calculated by Dr. Shea Tuberty using TVA's own values. (Graphic by Appalachian Voice)

been called into question.

A week after the spill, TVA was reporting that water samples showed heavy metals well below legal limits. However, samples taken from the Emory River by the Waterkeeper Alliance and analyzed by Appalachian State University showed a very different picture.

For example, arsenic was 300 times the allowable amounts in drinking water, and all of the water samples were found to contain elevated levels of arsenic, barium, cadmium, chromium, lead, mercury, nickel and thallium.

In May 2009, independent scientists found elevated levels of selenium in fish downstream.

| Arsenic | Known carcinogen of the bladder, lungs, skin, kidneys |
|----------|---|
| Barium | High blood pressure, gastrointestinal disturbance |
| Cadmium | Suspected carcinogen; also high blood pressure, liver, lung disease |
| Chromium | Known carcinogen, kidney and liver disease |
| Copper | Toxin that can cause cirrhosis of liver |
| Lead | Neurotoxin. May cause abdominal pain and spasms, nausea, vomiting, headache. Acute poisoning can lead to muscle weakness, insomnia, dizziness, shock, coma and death in extreme cases. |
| Mercury | Chronic exposure may cause permanent central nervous system damage, fatigue, weight loss, tremors, personality changes. |
| Nickel | Carcinogen with prolonged exposure. Dust may cause flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. |
| Selenium | Extremely poisonous, may cause stomach pain, vomiting, diarrhea, coughing and chest pains, difficulty in breathing |
| Thallium | Poisonous, may cause burns to skin, eyes, respiratory tract, GI tract; deep tissue burns and ulceration; blindness. |

"Overall, these test results indicate much more severe impacts to water, sediment and fish than has been previously reported by TVA, which tells us they haven't been sampling in the right places," said Upper Watauga Riverkeeper Donna Lisenby.

The zero value for selenium in the recent TRI report is, under these circumstances, highly questionable, Tuberty said.

Tuberty also noted that the TRI report showed that zero pounds of cadmium were released in the toxic ash spill. Yet scientists are using cadmium as a "tracer" to show the extent of the toxic plume from the Kingston spill.

Citizens Group Critical of TVA Information and Sampling Procedures

By Maureen Halsema

Almost a year after the coal ash disaster at the TVA plant in Kingston, a citizens advisory group says they are unhappy with TVA's information and water sampling procedures.

"This is a horrible economic and environmental situation that we are in," said Steve Scarborough, Roane County Community Advisory Group (RCAG) spokesman and a veteran of conservation advisory groups.

"We are concerned about how they will clean it up, where the ash goes and how it goes through Roane County," he said.

Among other issues, the RCAG thinks that even basic information from TVA is a problem.

"We are seriously concerned, and have called into question, the practice of allowing TVA to review Tennessee Department of Environment and Conservation (TDEC), EPA, and Tennessee Department of Health documents prior to their release to the public for comment," Scarborough said.

In addition, RCAG has critically examined TVA's methodology for sampling data.

"Samples have not been taken at high flows on the Emory River when the greatest contaminant loads would be present," Scarborough said. "Water quality data is incomplete and does not give an accurate picture of heavy metal contaminant discharges, and we think understates them."

RCAG serves several purposes for both Roane County community members and for

the agencies involved to help deal with the cleanup of the "hazardous substances" that are found in coal ash.

Community advisory groups are part of EPA "Superfund" (CERCLA) process, and need to be involved in the decision-making process for waste-cleanup areas.

RCAG's group is comprised of indi-



Steve Scarborough, a member of RCAG, has concerns about insufficient water sampling methods by TVA. Photo by Maureen Halsema.

viduals that volunteer to represent the interests of Roane County and serve as a medium through which the community's concerns and needs can be communicated to and addressed by the EPA, TDEC, and TVA. RCAG is also a channel through which these agencies can effectively communicate information to the community.

"We expressed our concerns with the

lack of effective communication from TVA on a number of subjects," Scarborough said. "As a result, TVA has made a renewed effort to get information to the public. Even though this is a work in progress and far from perfect, progress has certainly been made. "

RCAG has presented and addressed multiple problems that have impacted the community since the spill, such as traffic flow, relations with law enforcement in the Swan Pond community, plans for rerouting

the train to ease traffic delays, and exposing inconsistencies in sampling methodology.

"The RCAG is also concerned about TVA as lead agency," Scarborough said, "and would prefer that TVA be removed as lead agency due to failures such as water sampling irregularities and questions on air quality measurements as well."

Backlash: Counties in Alabama, Tennessee Fight Ash Relocation

By Julie Johnson

Disposing of the coal ash spilled by TVA in December 2008 may turn out to be as much of an environmental problem as the original disaster.

According to the Waterkeeper Alliance, toxic surface water with levels of arsenic eight times higher than drinking water standards has been found at the coal ash disposal site just outside of Uniontown, Ala.

TVA began exporting coal ash from the Harriman, Tenn., disaster site to Uniontown in July 2009, dumping it into the Arrowhead Landfill operated by Phill-Con Services of Perry County, Ala. The company won a \$95 million contract to dispose of the coal ash at their six-monthold landfill equipped with polyethylene liners and pump systems, which met EPA's standards for contract bids.

When the first train cars full of TVA's coal ash arrived at Arrowhead landfill, the wet ash was dumped in lined pits. Liquid that seeped out of the pile—known as leachate—was collected and trucked to the nearby Marion Waste Water Treatment Plant for sewage treatment. The processed liquid was then discharged into Rice Creek.

Perry County, in which almost 35 percent of the population lives below the poverty line, receives a \$1.05 "tipping fee" per every ton of coal ash shipped. The county is expected to receive over \$3 million from the coal ash shipments.

"Most of the jobs around here are lowend, low-paying labor jobs," said County Commissioner Albert Turner, defending the ash disposal. "Taking the coal ash creates 90 higher-end jobs in construction and disposal."

Dr. Gregory Button, director of the University of Tennessee's Center for Disasters, Displacement and Human Rights, called the ash relocation a clear case of environmental injustice and quoted an executive order by President Clinton: "Fair treatment means that no group of people should bear a disproportionate risk share of negative environmental consequences resulting from industrial, governmental, or commercial operations or policies."

"Even if you accept the county commissioners' rationale, it clearly underscores the asymmetrical economic power relations of this nation and demonstrates just how desperate a poor, southern minority



Train cars loaded with coal ash, above, wait to be hauled to Perry County, Ala. for disposal. In Cumberland County, Tenn., at right, signs posted on telephone poles reflect the sentiments of many residents concerned about the ash being deposited in their community.

county is in today's America," said Button in an article for Counterpunch magazine. Button also said that the 90 temporary jobs that would be created would hardly make a difference in a county of over 10,000.

County Residents Take Legal Action

In January, the Marion water treatment facility stopped taking Arrowhead's leachate after attorney David Ludder filed notice of intent to sue on behalf of county residents. Ludder's team found levels of arsenic exceeding drinking water standards in a sample taken downstream from the Rice Creek dump site.

In February, 155 residents near Arrowhead Landfill filed a notice of intent to sue for violations of the Clean Air Act.

According to Ludder, people living in homes near the landfill began to experience headaches, nausea and vomiting, noting that the odors from the dump were preventing them from leaving their homes.

John Wathen, Waterkeeper for the area, has filed a formal complaint with the EPA, stating: "People throughout the community report nightly pumping of stinking gray/tannish waste from the landfill...I have personally seen it and documented the pumps, the gray sludge leaving the site..."

Commissioner Turner called the lawsuits "frivolous and harassing," and is considering countersuing for "interfering with a legitimate business operation."

Also in February, Arrowhead Landfill's actual owners, Perry County Associates, filed for bankruptcy in a Mobile, Ala., court, claiming that the landfill operator, Phill-Con and their partner Phillips & Jordan were withholding removal contract funds paid to them by TVA.

Complicating the morass of legal issues is the uncertain status of federal coal ash waste disposal regulations.

Under current EPA standards, coal ash is designated a non-hazardous solid waste. An EPA review of coal ash regulations is under way and is not expected out until late spring.

While coal ash is known to contain carcinogens and heavy metals, including arsenic, chromium, lead and mercury, coal ash itself is currently regulated as a non-hazardous material and can be disposed of in landfills permitted to handle non-hazardous solid waste.

Turner said he and other county commissioners considered the health effects of residents near the landfill and read studies



by the EPA and independent sources on coal ash. The only county commissioner who did not sign off on the project was Clarence Black, representative for District 5 where the landfill is located.

For now, boxcars will continue to carry their loads of coal ash from Kingston to Uniontown while the environmental impacts of the original disaster continue to spill over into legal, social and political concerns.

Cumberland County, Tenn., Opposes Coal Ash Dump on Old Strip Mine Site

Signs posted on telephone poles on Cumberland County's Smith Mountain Road read "Go Away TVA!"

Smith Mountain Road leads to Turner Coal Mine, a surface mining site that is no longer actively operating. In June 2009, Cumberland County Commissioners voted 11 to 5 to allow the mine to be used as a landfill for the coal ash from the Kingston spill site.

Continued on page 22

Across Appalachia Environmental News From Around The Region

April 22: Earth Day's 40th Anniversary

By Jillian Varkas

This year marks the 40th anniversary of Earth Day. The first Earth Day was celebrated on April 22, 1970, but the concept started years before.

After years of concern over the lack of political interest in environmental issues in the United States, Sen. Gaylord Nelson of Wisconsin knew something had to be done. Nelson proposed a "conservation tour" to President Kennedy to promote conservation awareness and attempt to bring attention to the environment, making it an issue of the national political agenda.

In September 1963, Kennedy went on a five-day, eleven-state conservation tour. The tour failed to make the impact Sen. Nelson was hoping for, but he continued to speak across the country.

The public was concerned, but the politicians did not make the environment a priority.

In 1969, Nelson found the inspiration he needed—Anti-Vietnam War demonstrations were being held at colleges throughout the United States.

In September 1969, Nelson invited everyone to participate in a nationwide grassroots demonstration on behalf of the environment.

"The response was electric," said Nelson, "It took off like gangbusters. Telegrams, letters, and telephone inquiries poured in from all across the country. The American people finally had a forum to express its concern about what was happening to the land, rivers, lakes, and air—and they did so with spectacular exuberance."

The national coordinator, Denis Hayes, worked with college students to organize rallies throughout the U.S. The amount of interest in organizing the grassroots events throughout the country eventually became more than Sen. Nelson's senate office could handle.

"Earth Day worked because of the spontaneous response at the grassroots level," Nelson said. That was the remarkable thing about Earth Day. It organized itself."

20 million people from thousands of schools and communities participated.

Finally, all the separate groups were able to come together to support one cause, the earth, and the politicians responded.

The political awareness Earth Day created led to the establishment of the United States Environmental Protection Agency as well as the Clean Air Act Extension in 1970, the Clean Water Act in 1972 and the Endangered Species Act in 1973.

In 1995, Nelson was awarded the Presidential Medal of Freedom by President Bill Clinton.

"As the father of Earth Day," Clinton

said, "[Senator Nelson] inspired us to remember that the stewardship of our

said, "[Senator Nelson] inspired us to remember that the stewardship of our natural resources is the stewardship of the American Dream."

Earth Day continues to be a huge success, and is now celebrated worldwide. This year, volunteer events, projects, and celebrations will be held throughout the United States at parks, schools, and homes.

For more information about Earth Day events near you, visit www.earthday.net.



Story by W.R. Johnson

One of the first signs of spring in the Appalachian Mountains is the wee green sprout of the ramp. This wild, edible, leek-like vegetable, *Allium tricoccum*, starts unfurling its leaves from early April to May.

Many mountain communities celebrate this odorous plant and the coming season in festival fashion. Historically, the wild ramp was a prized harvest. It provided the first nutritious and fresh greens after a long winter of eating from the root cellar, and many traditions arose around the annual spring gathering.

Traditionally ramps are fried, pickled or sautéed, and eaten with other foraged spring goodies such as morel mushrooms and fiddlehead ferns.

The following

list is just a small sam-

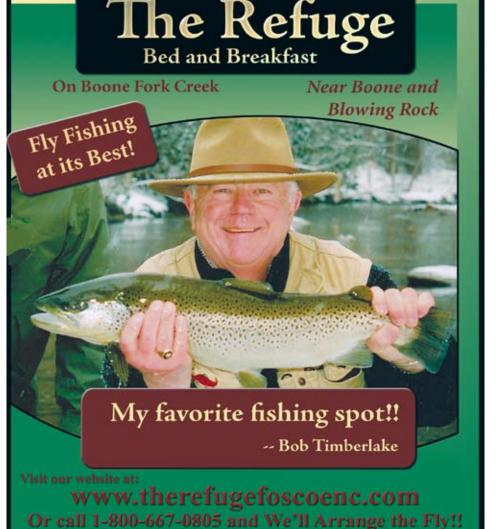
pling of the dozens of ramp festivals that will be held this spring. To find out more about the ramp and where you can celebrate its spring green goodness, visit appvoices.org/ramp.

Flag Pond 25th Annual Ramp Festival Unicoi County, Tenn.- May 8

72nd Annual Ramp Feed Richwood, W. Va.- April 17

Whitetop Mountain Ramp Festival Whitetop, Va.- May 16

The Ramp Festival Concert Stecoah, N.C.- April 24



EPA asks for Citizen Reports on Gas Extraction Problems

The EPA announced the launching of a citizen-run watchdog program, Eyes on Drilling, calling for citizens to keep a critical eye on impacts related to natural gas extraction from Appalachia's Marcellus Shale, one of the most expansive reserves of natural gas.

The EPA-run program asks residents to report any activities that may be a threat to water quality or are perceived as improper waste disposal from natural gas production activities.

To make a report, call toll-free (877) 919-4372, and include information such as location, time, date, materials involved, equipment and vehicles observed, and any perceived environmental impacts.

To find out more visit epa.gov/region03/marcellus_shale/tipline.html.

Across Appalachia Environmental News From Around The Region

Pigeon River's Pollution Permit Rejected

By Maureen Halsema

The U.S. Environmental Protection Agency rejected the recent draft permit for Blue Ridge Paper Products, Inc., in Canton, N.C., to continue to discharge pollutants into the Pigeon River, often referred to as "The Dirty Bird" by paddlers.

"We were in disagreement with almost every part of this permit," said Hope Taylor, executive director of Clean Water for North Carolina, "from monitoring limits and frequencies for Biological oxygen demand to metals, temperature and color of the discharge."

The National Pollution Discharge

Elimination System (NPDES) permit, NC0000272, is a requirement of the Clean Water Act and addresses color, temperature, wastes that consume oxygen, and dioxins, as well as metals and other pollutants.

This draft was rejected on several parameters including color requirements, temperature allowances, and dioxins, among others.

The EPA has given the North Carolina Division of Water Quality 90 days to resubmit the permit with improvements.

"These improvements do not go nearly far enough to clean up the river, but are a good step in the right direction," said Hartwell Carson, the French Broad Riverkeeper. The Pigeon River flows from the Pisgah National Forest in North Carolina across the border to Tennessee where it is a watershed for the French Broad River.

There are two particular areas of concern regarding the permit's rejected draft. First, it called for dropping the "color variance" of Blue Ridge Paper Products' original permit, meaning that the North Carolina Division of Water Quality would not require Blue Ridge Paper Products to continue cleaning up the Pigeon River's color that is impacted by the plant's discharges.

"Another major concern with this permit is the temperature variance," said Carson.

The rejected draft did not place any daily limit on the temperature of the discharges, which poses a threat to aquatic life. In 2007, a significant fish kill claimed 8,500 fish, because of high-temperature discharges from Blue Ridge Paper Product's Canton Mill.

According to the Western North Carolina Alliance, a grassroots environmental organization, "The federal Clean Water Act only allows dischargers to release wastewater up to 5 degrees Fahrenheit warmer than the upstream temperature. However, the current temperature 'variance' in Blue Ridge Paper's permit allows the Mill a monthly average difference of up to 25 degrees Fahrenheit between upstream and downstream temperature, one of the highest temperature differences allowed in North Carolina."

"We strongly contend that the Mill is not meeting acceptable color, odor, foam or fish palatability narrative standards," said Taylor, "and even EPA's required modifications just won't restore the river to health."

Duke Energy Rate Increase Approved

Following a statewide controversy over a proposed 12.6 percent rate increase for Duke Energy customers in North Carolina, the NC state Utilities finally approved a two-step, 8% increase for the utility.

The compromise, which includes a 3.8 percent increase in 2010 followed by a 3.2 percent increase in 2011 and a 1 percent increase in 2012, will generate \$315 million revenue for Duke Energy.

According to the Utility Commission ruling, the initial 2010 rate increase

could not be used to recoup costs incurred from the ongoing updating of the aging



Cliffside Steam Station in Rutherford County, N.C.

The original announcement of the rate increase drove hundreds of citizens to statewide public hearings last October to express concerns that the rate increase would cause a crippling financial burden for their homes, small businesses and schools.

EPA Supports Environmental Education in West Virginia

The EPA recently awarded West Virginia counties two grants funding environmental educational.

The Clean Creeks Program, a water quality monitoring project, received \$21,900 to fund their tracking program and to support education about acid mine

> drainage and water pollutants in Dellslow, W.Va.

> In Wheeling, W.Va., the EPA awarded \$11,250 to Ohio County School in order to

fund the Project Green and Growing Well Program, an environmental education program promoting healthier, more sustainable communities.





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patagonia

A collaborative piece by Maureen Halsema, Kristina Tarsan of Southern Appalachia Highlands Conservancy, and Joseph Gatins of Georgia Forest Watch

Neither Cold nor Snow nor Sleet (nor Ice and Driving Winds!) Can Keep These Hikers Down

The crunch beneath your boots, a calming sense of solitude, a familiar landscape transformed. The world of winter hiking is unlike any other trail season—new vistas open up, new challenges present, even new trails too difficult to traverse in other seasons are suddenly open for exploration.

Roan Mountain in the Cherokee National Forest

Renowned for its exceptional biological diversity and outstanding beauty, Roan Mountain is one of the most magnificent places to explore.

Located on the North Carolina and Tennessee state line, Roan Mountain is a wonderful place to visit and hike any time of the year. Cross country skiing and snow-shoeing are a unique way to explore the trails during the winter as Roan gets more snow than almost any other location in the area. It is one of the highest ranges in the Southern Appalachians, with peaks topping out at over 6,200 feet.

Seventeen miles of the Appalachian Trail cross Roan Mountain, which traverse endangered, high-elevation ecosystems including spruce-fir forests and open grassy balds (the longest stretch in the world). The treeless mountaintops of the balds offer spectacular views and an alpine-like hiking experience.

In addition to the A.T., the Overmountain National Historic Victory Trail, which traces the famous route of mountain patriots during the

A hiker makes fresh tracks in the snow along the Appalachian Trail near Russell Field Shelter.

Revolutionary War, crosses Roan Mountain.

Protected through the partnering efforts of the Southern Appalachian Highlands Conservancy (SAHC), the Appalachian Trail Conservancy and the U.S. Forest Service, conserving Roan Mountain was the initial effort of SAHC and remains today the organization's flagship project.

Roan Mountain is located where NC 261 and TN 143 join on the NC/TN state line. Parking is located at Carvers Gap. To view more details about recreation on Roan Mountain visit the Cherokee National Forest website: http://www.fs.fed.us/r8/cherokee/recreation/roz_nroan.shtml

Holcomb Creek & Ammons Branch Falls in the Chattahoochee National Forest

This trek to an isolated section of national forest lands in the Cattahoochee National Forest, Rabon County, Ga., serves as introduction to the rich bio-diversity of Southern Appalachia.

A three-mile loop hike to two bold waterfalls, Holcomb Creek and Ammons Branch Falls—rated moderately strenuous for the novice, easy for the experienced hiker—has a total elevation gain of approximately 400 feet.

The trail bisects two crystal-clear trout streams and runs alongside stands of tall pines, hemlocks, rock faces and patches of native plants and ferns, including galax, pipsisewa, yellow root and saxifrage.

Dense stands of rhododendron, mountain laurel and doghobble are replacing the



hemlocks falling prey to the current Hemlock Woolly Adelgid infestation and the white pines devastated by the Southern Pine Beetle.

The bonus for doing this hike in the dead of winter—assuming the mercury is at the right frigid temperature—is that both waterfalls and the rock faces will turn to ice, making for a spectacular and unusual display of nature.

Start your hike at the trailhead, located at the intersection of Hale Ridge Road (FS 7) and Overflow Creek Road (FS 86). Approach from Warwoman Road to the South, from North Carolina Route 246 to the North. You will descend on marked Forest Service trail (FS No. 52) to Holcomb Creek Falls will lead to a footbridge across

Members of the Southern Appalachian Highlands Conservancy winter hike through Round Bald, part of the endangered grassy balds ecosystem of Roan Mountain. Photo by Southern Appalachian Highlands Conservancy, a nonprofit environmental organization.

a creek. Follow trail to Y intersection (right leads to Ammons Branch Falls overlook, left leads back a steady uphill to Hale Ridge Road.) Look for bonus cascade on left. Return to vehicles at trailhead (left along Hale Ridge Road.)

A few safety tips before embarking to this remote, but beautiful area: do not count on cell phone coverage, the last gas stations are in Clayton or Dillard, Ga., or Scaly, N.C., and hiking boots are recommended.

BACKPACKING SNOW-COVERED MOUNTAINS

By Stephen Otis

If you want a winter challenge, hike the Appalachian Trail through the Great Smokies, a 69-mile ridge walk along one of the most scenic sections on the entire A.T.

Hiking trails in the midst of winter offers a certain beauty and solitude, unique from every other season.

Ryan Baxter, manager of Blue Ridge Mountain Sports in Knoxville, Tenn, recently hiked the Great Smokey ridgeline.

"We only saw game tracks in the snow. We were breaking fresh trail the whole time," Baxter said. A rare treat, especially in Great Smoky Mountains National Park, the most visited park in the United States.

Preparation is key when taking on the added challenges of snow, ice, and subfreezing weather.

"We focused on extraction, with multiple exit strategies to deal with things like weather on the mountain, injuries, supply shortages, or road closures," Baxter said.

An essential element of preparation is having the right supplies, such as food, crampons, and fuel.

"A good plan...and DOWN, lots of down; booties, bags and jackets," Baxter added, "crucial to morale." And with this morale in place, "you are surrounded by limitless potential."

For information about strategies and planning, visit: nps. gov/grsm

Six New Favorites For Your Spring Reading List

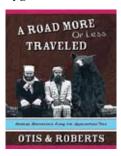
A collaborative piece written by Maureen Halsema, Julie Johnson, Sarah Vig, Jamie Goodman, JW Randolph and Jeff Deal

As snow piled up in the mountains this past winter, we realized one book review would simply not suffice. Here are a few Appalachian reads that kept us warm through the long winter months.

White Blazes

Stephen Otis and Colin Roberts' "A Road More or Less Traveled: Madcap Adventures Along the Appalachian Trail" (\$17.99, Sunnygold Books), is written to the rhythm of

the trail.



A new chapter begins each time our authors—who are referred to only by their trail names, Futureman and Applejack, cross a state line.

The true stories

and adventures detailed in their novel are written in a tone reminiscent of a trail journal that one would find in a shelter along the white-blazed wilderness route.

The reader feels as though they have taken each haphazard step along the over 2,100-mile path from Khatadin, Maine to Springer, Ga., with their two pals guiding them through each strange adventure and tangential conversation that crops up along the way.

It is an ode to nature, overcoming and appreciating challenges, spiritual quests, and friendship that inspires one to grab their pack and head for the woods. - MH

Recovering History

Jeff Biggers' book, "Reckoning at Eagle Creek," (\$26.95, Nation Books), covers the

centuries of personal history lost by the stripmining of Bigger's ancestral land in southern Illinois.

world and new media has slowly begun to flicker upon certain



elements of an Appalachian tragedy. At this unique point in the Appalachian clash, Biggers' potent relevance comes from his tangible production of the harsh, beautiful, dark instruments of history still resonating from this portrait of American dichotomy. Biggers' words are not wistful implication of folksy fantasy, rather, his scribes are strategic and statistic-filled insights to the tragic truths of the coal industry.

Biggers' frighteningly real book holds nothing back, delving deep into Shawnee culture, the complexities of mine permitting, and the alphabet soup of federal agencies who have an impact on regulating mountaintop removal. "Reckoning" is an inspiration, a how-to guide, and a cultural rallying cry, but, above all else, it is a history lesson of the heart of a man and the heart of a nation. - IWR

On the Front Lines

Antrim Caskey's photo-documentary journal, "Dragline" (suggested \$25 donation, Appalachia Watch) is an arresting visualization of life on the front lines in the battle to stop mountaintop removal coal mining in Appalachia.

Caskey's unerring compositions and

sophisticated use of captions sidestep mere storytelling and launch directly into a penetrating representation of an entire movement. No better collection of photographs will convey what it feels, looks, smells, and sounds like to be on the front lines of West Virginia right now, from the rushing clang of a coal train passing a mountain home at dawn to the shattering explosion of a mountain blown apart. The anguish, anger, triumph and indisputable passion in

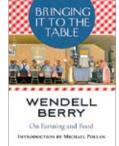
each photograph are palpable. "Isn't it true, Mr. Roselle, that you came to West Virginia to protest mountaintop removal?" asks Massey Energy attorney Sam Brock in one layout spread. "No! I came here to stop mountaintop removal," is the answer. - JG

Smart Farming

Kentucky writer Wendell Berry weaves together a picture of small-scale, ecologically sound agriculture in "Bringing it to the Table: On Farming and Food" (\$14.95, Counter-

point Press).

A proponent of what he calls "using nature as a measure," Berry's essays each emphasize recognizing the connection between ourselves and the land which



provides for our continued St. Martin's Press). presence within it.

Don't skip the introduction by "The Omnivore's Dilemma" author Michael Pollan, a history and context to Berry's essays and their influence on

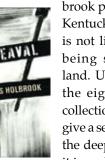
The essays are arranged in three parts. Part one examines the farm itself, a dynamic and living entity that, if tended with respect, will continuously provide. Part two discusses the farmer who, in Berry's vision, must be as dynamic as the land, and who is the media-

tor between the farm and the table. Part three exalts that product of farm and farmer whose origins are so often taken for granted: food. - JJ

Haunting Realism

Chris Holbrook's short story collection, "Upheaval" (\$17.95, University of Kentucky Press), spares the sentimentalism sometimes found in literary depictions of Appalachia.

With truth and gritty realism, Hol-



brook portrays an eastern Kentucky that's upheaval is not limited to the coal being stripped off the land. United by location, the eight stories in the collection simultaneously give a sense of place and of the deep crisis in identity it is undergoing.

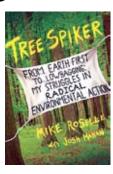
Holbrook's writing is engrossing and authentic and his use of the short story form is masterful. He gives strong characters and the impression of full narratives in only a few pages.

Though the prose is sparse, the collection is awash with emotion, though for many of the characters it lies just beneath the surface, masked by the need to carry on. Nostalgia, loneliness, resentment, and fear permeate the book's pages, revealed and exposed just as the landscape is, with violence and a sense of resignation. - SV

Safe "Arbor"

Had George Lucas set Star Wars in a Galaxy fairly close to this one, in a time not so far ago, it might have read as well as Mike Roselle's "Tree Spiker: From Earth First! to Lowbagging: My Struggles in Radical Environmental Action" (\$24.99,

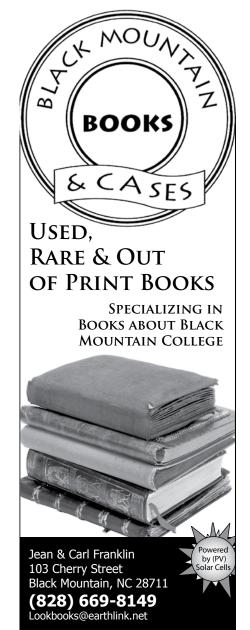
A group of gallant rebels struggling selflessly against 'The Empire's' reckless, single-minded pursuit of absolute domination—the destroying-of-planets option squarely on the table.



This is where you'll join Mike's story —a young teen yearning for an adventuresome higher purpose larger than the world in which he finds himself.

The cast of individuals and environmental non-profits joining Mike through this post-1960's modern day vision quest are equally as fascinating.

So as not to ruin this ripping vicarious yarn for those waiting to enjoy it, I'll stop here, but Malaprops.com has it in stock. -JD



TWO MILES TO HELL: A Miner's Story

Continued from page 11

of death and injury into the back of my mind, drumming up a conversation with the man sitting beside me.

I am a pinner man, a roof bolter operator. I am the one who, with a partner, goes into unknown territory after every cut of coal is pulled out by the continuous miner. It is my job to put in the roof supports that keeps the top from falling in on us. I strip down to my t-shirt because I know I will soon be hot and sweating from the physical labors of the job, slinging around six-foot long roof bolts, handling hot drill steel, and dragging around the electrical cable as we move the machine.

After what seems like an eternity, it is time to leave. It is a cold trip out. The lows are only in the teens and we have to exit by forcing our way through the intake air that enters the mine.

The dim morning sunlight greets me as we exit the portal and find there is now snow on the ground. I put up my things and choose not to shower in the bathhouse so I can make it home more quickly. I make my way home where my family is still sound asleep and I quietly enter the house feeling tired and defeated.

I take a warm shower, washing off the grime, blowing my nose several times to help clear out all of the blackened mucus from the coal dust I breathed in. As I lay down to sleep, I pray that today my children are a little quieter so I can rest.

Like many others of my generation I tried to heed the warnings of my family elders who worked in the mines. Up until the past two years, my life had been spent doing everything I could to stay out of the coal industry.

I studied hard in school, but due to a lack of funding and quality education, I failed to go to college. Instead, I chose to move away and try my talents in different places. All attempts met with failure, returning me to the mountains I love.

The best alternative to a coal mining job I could find was in a call center. I managed to work my way up as far as I could go, but as is common with many such technology jobs in the area, wages are just enough to live off of and have little hopes of retirement.

As time went on, it became evident that the income of such a job was insufficient to achieve any long-term financial goals for my family. I pushed my many negative mental paradigms of the coal industry aside as I became enchanted by their high wage offerings.

I took a job as an underground coal miner at the age of twenty-eight, and now,

two years later, I am deeply regretting my decision with a new-found resentment for the coal industry.

Growing up I had always known that the coal industry is not a friend of our community. Strip mining that occurred near our homes took away many of the beautiful forests and abundant wildlife that my brother and I enjoyed as children. I witnessed, firsthand, the greed and disrespect that the coal companies showed toward their employees during the 1989 United Mine Worker's Association strike against Pittston Coal Company.

All of these things I knew, but it hasn't been until now that I have realized, clear as crystal, just how ruthless and manipulative the coal industry is. Like the naive child that was told not to play with fire, I have been burned. Perhaps some day I may find a way leave the mines without putting my family at financial risk.

Backlash: Counties in Alabama, Tennessee Fight Ash Relocation

Continued from page 17

To use the mine as a landfill, the Office of Surface Mining (OSM) must grant the current owners, Crossville Coal, Inc., a revision to their permit, reclassifying the site as safe for industrial solid waste disposal.

At a Nov. 5, public hearing held by the Office of Surface Mining, 450 citizens came to submit comments on the decision. Only one person spoke in favor of turning the mine site into a landfill: Steve Wright, whose construction company is the front-runner for the disposal contract.

"I don't care about fly ash. I don't know if I can eat it, I don't know if I can put it on my garden, I don't know if half my stuff is built of it," said Dave Brundage, owner of the Black Cat Lodge, a substance and trauma recovery center located on the road to Turner Mine. "What I'm interested in is my property value and the safety of these roads."

Brundage added that if the landfill were opened, hundreds of haul trucks per day would rumble past his lodge.

Brundage is also concerned about his

property's wells and natural springs. "The water runs from the top of this mountain down into the water system and the creeks. Between that mountain and my lodge I guarantee you there's fly ash that is going to affect this place."

Turner Coal Mine lies in the Sewanee Coal Seam. The shale surrounding the seam is particularly acidic. As a result, OSM has designated much of the land in this seam "Lands Unsuitable for Mining."

No coal ash landfill has ever existed in the Sewanee Seam, and no studies have been done on the effects of acid mine drainage on a synthetic landfill liner like the one proposed to be used at Turner Mine.

According to the EPA's National Environmental Policy Act (NEPA) guidelines, the owners must complete a comprehensive Environmental Impact Study (EIS) before the permit change can be approved. As of this press date, no such study has been undertaken.

OSM has not made its final decision regarding the permit. Brundage and other Smith Mountain Road residents have filed a lawsuit asking a judge to review the decision of the Cumberland County Commissioners, and are awaiting a decision on their appeal.



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Environmental Injustice Seen in TVA Policies

Reported by Kyle Wolff

TVA's environmental policies are putting low income Americans at risk, according to the nation's most prominent advocate for environmental justice.

"We take your poison for a price," said Dr. Robert Bullard on TVA's decision to ship coal ash from spill in Kingston, Tenn., to waste disposal facilities near poverty-stricken neighborhoods in Uniontown, Ala.

Dr. Bullard, director of the Environmental Justice Resource Center at Clark Atlanta University, delivered his message to a packed Lipinsky Auditorium at the University of North Carolina-Asheville on Jan. 20, 2010.

In his presentation, Dr. Bullard challenged government and industrial policies

that place low-income minority populations at special risk. His example of this was Uniontown, an area receiving waste from an environmental disaster that happened 300 miles north of them, in a county with a population that is 88 percent African American.

Environmental justice, as defined by Dr. Bullard and other advocates, is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies.

Dr. Bullard explained that the TVA had to get rid of the coal ash mess, and they unjustly sent it south. He said Perry County was living with the effects of an "out of sight, out of mind" mentality by EPA and TVA.

Editorials

An Orwellian approach to Appalachian history

By removing federal protection from the Blair Mountain Battlefield site, state and federal officials have abrogated a sacred trust. Even worse, by removing the protection in an underhanded manner, and ignoring evidence of skullduggery, they have set a scandalous, shocking and inexcusable precedent.

No one questions the fact that the Blair Mountain Battlefield is a site of major national historic significance. No one has challenged the many leading historians and historical organizations that have presented mountains of evidence about the 1921 armed confrontation between thousands of union miners and coal industry mine guards.

Yet the process for protecting historic sites through the National Register of Historic Places requires the agreement of landowners, and that process is subject to the worst kind of political abuse.

Originally, a majority of 57 landowners agreed to the protection. After decades of very difficult work, the site was listed in the Register in April 2009. However, only a few days later, the state official responsible for counting letters of support from property owners suddenly "discovered" more letters. West Virginia then began the unprecedented process of delisting the site

Advocates for historic protection uncovered extraordinary flaws in the process. Two of those who supposedly objected happened to be deceased. In addition, preservation advocates found another 13 property owners who had not even been contacted.

Although faced with new evidence, state officials refused to reconsider. But they did offer a paltry consolation prize by assuring preservationists that the site's "eligibility" for listing would still offer protection in the future. A legal analysis has now found that these assurances were inaccurate, to say the least.

In the book 1984, George Orwell said: "He who controls the past controls the future." In that respect, the West Virginia state historic preservation office ought to be renamed the Ministry of Truth.

Unless the courts overturn the delisting, bulldozers will soon bury a precious piece of Appalachia's history.

Friends of Blair Mountain are encouraging people to write to Carol Shull, keeper of the National Register of Historic Places. For more information visit their website at FriendsOfBlairMountain.org.



Letters to the editor

Appalachian Voice welcomes letters to the editor and comments on our website. Letters are subject to editing due to space limitations (letters can be read in full on our website). The views expressed in these letters, and in personal editor responses, are the opinions of the authors and are not necessarily the views of the organization Appalachian Voices. Write to editor@appvoices.org.

Cap and Trade Could Have An Impact On Health Care Costs

To the Editor,

While many Republicans are predicting an increase in energy costs if we pass the cap and trade legislation, they are missing the big picture. In fact, the legislation will save exponentially more money than it will cost, as was seen with the 1990 Clean Air Act Amendments.

Predicted to cost \$5.7 billion, the 1990 Clean Air Act Amendments, which used a cap and trade market system, turned out to cost just \$1.6 billion to cut more than 4 million tons of sulfur dioxide. But savings in health care costs were found to be as much as \$70 billion dollars, according to a 2003 EPA study. That is a savings of 43 dollars for every dollar spent.

With many scientists warning that climate change threatens the lives

of billions of people this century, and could accelerate out of control unless we cap and reduce emissions very fast, the savings will likely be vastly greater with investments in reducing greenhouse gas emissions.

Many larger cities in the United States have unsafe air pollution that is increasing with the temperatures that are a precursor to smog. By switching from dirty coal to clean solar and wind energy, air pollution will be reduced significantly.

Burning coal kills an estimated 24,000 people each year in the United States from particulate air pollution according to the American Lung Association. This is equivalent to eight Sept. 11, 2001 terrorist attack deaths every year. But these people are separated throughout the country, dying in hospital wards along with an estimated 38,200 non-fatal heart attack victims and 554,000 asthma sufferers whose illness was caused by burning

coal, according to the American Lung Association.

People do not see the deaths in one dramatic event, and are not mobilized to action as happened with the September 11 attacks. But they are real, as is the threat of climate change to our national security that prompted the U.S. Pentagon to call global warming a greater risk than terrorism in a 2004 report.

And that is just burning coal. The cap and trade legislation will also reduce the burning of oil, and cut down on the 700 billion dollars that we spend every year to buy petroleum from other countries. Electric cars and trains charged with solar and wind generated energy will be pollution-free.

Having seen the impacts of climate change in the Arctic, and studied the horrific predictions if we continue on our current path, I implore citizens to get behind the cap and trade legislation. The science proving climate change is the most documented of any issue in history. We must take action, before it is too late.

Chad Kister

INSIDE APPALACHIAN VOICES

Musicians for the Mountains: Artists Team Up With Appalachian Voices

Three Kentucky musicians are teaming up to promote awareness of the impacts of mountaintop removal coal mining, with plans to donate their new album's proceeds to the cause.

Cellist Ben Sollee and guitarist Daniel Martin Moore collaborated with recording artist/producer Yim Yames on "Dear Companion," an eleven-song album released in February by Sub Pop Records. The artists' proceeds from "Dear Companion" will benefit Appalachian Voices'

national campaign to end mountaintop removal coal mining. The practice has to date destroyed more than 500 mountains and buried or polluted over 2,000 miles of streams.

Appalachian Voices is sharing the proceeds with the Alliance for Appalachia, for whom they produce iLoveMountains.org. The website

is an online "action and resource" center dedicated to ending mountaintop removal coal mining, and has garnered over 40,000 supporters across the country.

Ben Sollee and Daniel Martin Moore chose to collaborate with Appalachian Voices "to help with all the good work they are doing to raise awareness around the issue and to help amplify the voices of people living with mountaintop removal."

"Dear Companion" explores the musicians' ties to the places they love and

aims to draw even more attention to the problem of mountaintop removal mining and its impact on the people and heritage of central Appalachia.

"[Ben and Daniel's album] Dear Companion is so dense musically, lyrically, thematically...it's a powerful plea for ecological, economic and social healing," said music review website Buzz Grinder.



Sollee and Moore recently began a cross-country tour for the album, performing their unique synthesis of folk, soul, jazz and bluegrass. A representative from Appalachian Voices will be available at many of the shows to answer questions about mountaintop removal mining.

Sandra Diaz, Appalachian Voices' Director of Development and Communications, who has been touring along with the artists says that the album is having its intended effect. "Many people I talked to knew about the issue, but were not sure how to get in-

Artist's proceeds from the new album, "Dear Companion," by recording artists Ben Sollee and Daniel Martin Moore will support Appalachian Voices and the campaign to end mountaintop removal coal mining.

volved. Others had no idea until this album came out. Working with Ben and Daniel has been a great experience so far."

Learn more about the project, including tour dates and a chance to listen to a track, at iLoveMountains.org/dearcompanion.



By Mike McCoy

In February, the town of Dendron, Va., and Surry and Sussex Counties approved zoning changes for Old Dominion Electric Cooperative's (ODEC) proposed \$6 billion coal plant.

Thanks to the hard work of concerned citizens around the state, it took ODEC more than a year to get these votes, during which time the grassroots opposition to the proposed coal plant has grown stronger and broader.

As the controversy moves to the arenas of the state and federal governments, Appalachian Voices will continue to work with local citizens on the grassroots level.

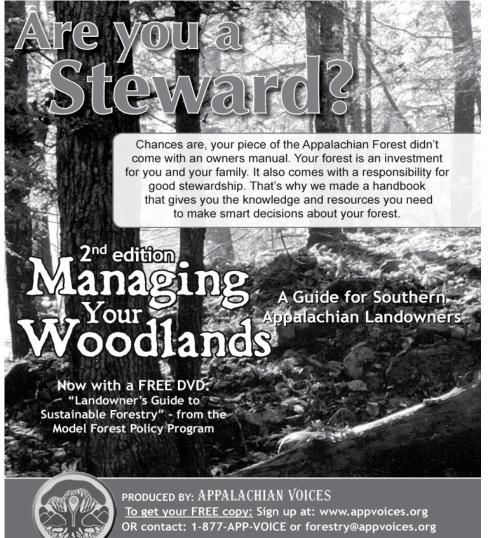
In addition, the Stream Saver Bill (S. 564), sponsored by Appalachian Voices, was given a special hearing before the Senate Agriculture and Natural Resources Committee. If passed, the bill will curtail moun-

taintop removal coal mining in Virginia.

Dozens of affected citizens drove six hours from southwest Virginia to present their case to the state senators. While the bill was not voted on this year, the hearing marked the first time that mountaintop removal was presented to the state legislature in a way that drew significant attention to the issue.

The Appalachian Voices' office in Virginia has also sponsored the Virginia Jobs and Efficiency Act (S. 71), a bill to create mandatory energy efficiency standards for utilities.

The Virginia Jobs and Efficiency Act follows a proposed bill that did not pass out of committee last year. This energy efficiency proposal would have created up to 10,000 green jobs, reduced pollution and decreased demand for mountaintop removal coal.



BEN SOLLEE

MOORE

INSIDE APPALACHIAN VOICES



The first Operation Medicine Cabinet in Watauga County, N.C. was a huge success, collecting thousands of pills. Photo by Jamie Goodman

OPERATION MEDICINE CABINET:

Program Aims to Keep Rivers and Kids Safe

By Megan Naylor

Appalachian Voices' Upper Watauga Riverkeeper, Donna Lisenby, in collaboration with an alliance of community partners and law enforcement officers, will host a second Operation Medicine Cabinet from 10 a.m. to 2 p.m. on May 22.

Operation Medicine Cabinet is an event focused on collecting pharmaceutical drugs to keep them out of regional waters and out of children's hands.

The debut event, hosted on Oct. 3, 2009, was a huge success. The Watauga Riverkeeper and community partners collected over 40,000 pills.

The May Operation Medicine Cabinet will expand to incorporate not only Watauga County, but also Avery County, N.C.

Law enforcement officials, scientists, and community partners have come together in order to offer people a place to safely dispose their medications.

There are several issues that raise concern regarding the improper disposal of medications. Law enforcement officials have observed a drastic increase of teenage prescription drug abuse.

"We see even in some of the elementary schools evidence where kids are bringing legally prescribed medication from their mom, dad, brothers or sisters to sell or take themselves," said Sheriff Len Hagaman. "It is becoming rampant and although I don't want to go

overboard, it is serious to the point that it is becoming more and more of an issue for us, so the more we can get off the streets the better."

According to Lisenby, medication making its way into rivers is especially frightening because many towns get their drinking water from local rivers, which are already showing signs of elevated hormone levels.

"It has gotten so problematic that male fish are becoming feminized," Lisenby said. "If the tainted water is causing intersex in fish, what is it doing to humans?"

"Operation Medicine Cabinet goes a long way in bringing medications back where they can be disposed of properly and taken out of the stream for people with abuse problems," said Hagaman.

Additional drop-off locations will be available this spring. To find out more, visit DrugTakebackDay.com or call the Watauga Riverkeeper at 828-262-1500.

Protecting Our Rivers From Toxic Pollutants

By Maureen Halsema

Due to the investigative work of Appalachian Voices' Upper Watagua Riverkeeper team, the North Carolina Division of Water Quality has ordered Duke Energy to take greater measures to test groundwater near coal ash ponds.

This mandate comes in the wake of an October report published by Appalachian Voices that found 13 ash ponds owned by Duke and Progress Energy to be leaking toxic waste into ground water. Results showed 681 instances in which heavy metals had accumulated around the ponds in levels exceeding North Carolina groundwater standards.

These toxic pollutants, such as arsenic, boron, cadmium, chloride, chromium, iron, lead, manganese, pH, and sulfate are among those known to cause cancer and organ damage.

The power plants, which are typically located on rivers, routinely discharge water from the coal ash ponds directly into waterways.

In addition to this success, Upper Watagua Riverkeeper Donna Lisenby joined the Environmental Integrity Project and Earth Justice in a report that identified 31 coal-ash waste sites in 14 states—including North Carolina, Tennessee, and West Virginia—where groundwater, wetlands, creeks, or rivers had been impacted by toxic pollutants.

According to the report, "Out of Control: Mounting Damages from Coal Ash Waste Sites," "Many of the pollutants found in the waters underneath or adjacent to these sites are carcinogens, neurotoxins, or are deadly to fish and other aquatic life."

A 2007 EPA Risk Assessment concluded that residents with wells who live in close proximity to coal ash ponds have as much as a 1 in 50 chance of getting cancer from drinking water contaminated by toxins such as arsenic, one of the most common and dangerous pollutants in coal ash.

The sites identified by this report are in addition to the 70 that the Environmental Protection Agency noted in their justification for a pending ruling on coal ash contamination sites. The report urges the Office of Management and Budget (OMB) to stop stalling on the EPA ruling.

According to the report, "The evidence is overwhelming — these 31 sites sound a clear warning that the EPA must heed before more damage is done."

Of the 31 identified sites, 25 are still actively used as coal ash disposal sites.

"The pollution present in this waste is among the earth's most harmful to aquatic life and humans—arsenic, lead, selenium, cadmium and other heavy metals which cause cancer and crippling neurological damage," Lisenby said. "If these poisons can be kept out of the fish we eat, the water we drink, bathe in, and need to survive, simply through regulation, than we must take that long overdue step, not only for the sake of our public waters but for humanity's sake as well."

To read the entire report click to environmental integrity.org.

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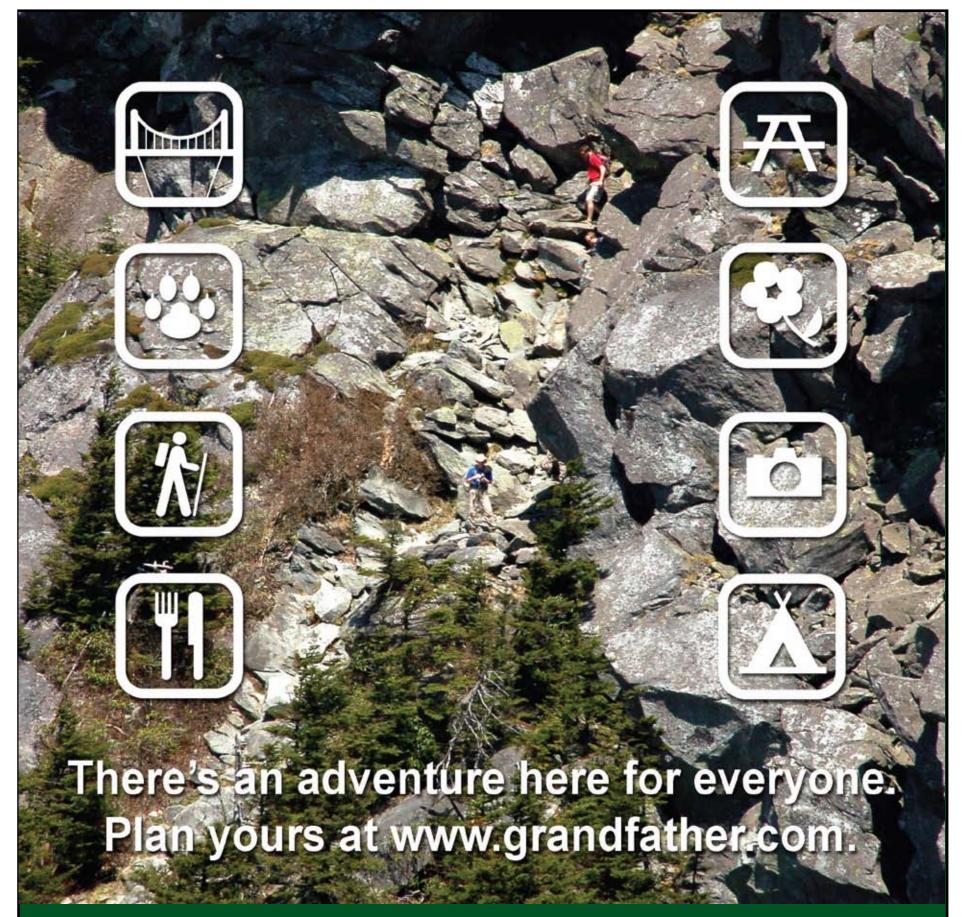
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Naturalist's Notebook

White Nose Syndrome & The Fate of Appalachia's Bats

Scientists say Mysterious Disease is Spreading Quickly

By Maureen Halsema

The world's only flying mammal may be extinct by the end of the decade.

White nose syndrome—believed to be caused by a fungus—has already killed about a million bats in the northeastern regions of the U.S. and Canada, and is spreading into Appalachia.

The fungus attacks bats as they hibernate in winter months. Once the fungus starts in a bat cave, 90 to 100 percent of the bats die, and bat carcasses are scattered across the cave floors.

"The biggest concern is that whitenose syndrome [WNS] is moving about 200 kilometers a year," said Dr. Thomas Kunz, biology professor and director of the Center for Ecology and Conservation Biology at Boston University. "It's moving at a rate that is typical of an infectious disease."

Earlier this year, the epidemic hit Virginia and West Virginia, and the Tennessee Wildlife Resources Agency recently confirmed it in that state as well.

Since white-nose syndrome's discovery in 2006 in a cave near Albany, N.Y., about a million bats have died. A spelunker exploring the cave discovered the disease when he found and photographed several bats with the fungus growing on their faces.

The following winter, January 2007, the New York Department of Environmental Conservation observed and documented the beginning of the white-nose syndrome epidemic.

Thus far, six hibernating bat spe-

cies in the northeastern U.S. have been affected by WNS, including the big brown bat, tri-colored bat, little brown myotis, eastern-small footed myotis, northern long-eared bat, and the Indiana bat (an endangered species).

Should the disease spread further into Appalachia, there are two other species—both of which are endangered—that may be affected: the Virginia big-eared bat and the grey myotis.

What is the cause of this massive epidemic? The answer is still unknown, but there are several hypotheses.

Many scientists believe that a fungus called *Geomyces destructans* that thrives in cold and humid conditions is the cause.

The illness is dubbed white-nose syndrome because *Geomyces destructans* is a fungus that attacks their skin glands and hair follicles and in the later stages grows in white tufts on the muzzle, wings, ears, and tails of many of the infected bats.

Bats affected by the disease display abnormal behaviors, such as moving to the colder sections of the cave and flying during the day and during months of hibernation when their food source is nonexistent and fat stores are vital. These daytime excursions may be desperate attempts to find food, depleting the bats' remaining energy and fat reserves and effectively starving them to death.

Although this fungus has been ob-



Hibernating little brown bats showing signs of white nose syndrome. Photo by Nancy Heaslip, New York Department of Environmental Conservation, provided by the U.S Fish and Wildlife Service.

served in Europe's caves for quite some time, it is new to the scientific world and scientists are not certain if the fungus itself is the cause of death or if it is a secondary symptom.

One hypothesis, the itch-and-scratch hypothesis, suggests that irritation caused by the fungus causes bats to prematurely arouse from hibernation—a side effect of the fungus.

"If they are scratching those itchy places, this is likely to cause higher bouts of arousal and thus they expend energy," said Dr. Kunz.

To test this hypothesis, studies conducted by Dr. DeeAnn Reeder of the Department of Biology at Bucknell University and Sarah Brownlee, a masters student at Bucknell University, are using infrared motion-sensitive video cameras set up in hibernacula to monitor what bats are doing after they arouse from hibernation.

Another hypothesis proposes that bats are not ingesting sufficient amounts of polyunsaturated fatty acids for their fat reserves to last the duration of hibernation.

To try to combat white nose syndrome, scientists are testing bat immune systems and fungicides to see if they can find a way to combat white nose syndrome before it wipes out North American bat species.

"Another concern is how we could implement a cure if one could be found," said Rick Reynolds, wildlife diversity biologist for the Virginia Department of Game and Inland Fisheries. "For example, if you found a way to treat white nose syndrome on bats, how do you implement the treatment across the landscape? This would be especially difficult if it is not a one-time-treatment."

In 2008, the U.S. Forest Service closed down approximately 2,000 caves and mines across the eastern states in an attempt to try to stop the spread of the fungus.

It is possible that unsuspecting spelunkers, who accumulate the fungus on their equipment and reuse that equipment in uninfected caves, are transmitting the disease from cave to cave.

Even if scientists do find a cure, bat populations have already been dealt a severe blow—the majority of bat species are only capable of birthing one pup each year. It would seem unlikely that many populations could recover for many generations. This could have serious implications for the ecosystem, in which bats play a significant role.

"The loss of bat populations at the scale we are looking at right now has economic, ecological and public health implications," said Dr. Kunz. "Ecologically, bats play an important role in pest control in agriculture and forestry."

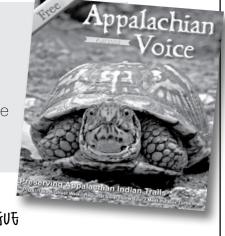
During the warm months of the year, when they are not hibernating, bats can consume up to their body weight each night in insects. With the loss of one of nature's best pest controls, the use of pesticides to combat insects that attack agriculture and horticulture would likely increase. This would impact public health as well as agricultural economics.

"It's a pretty dire situation because there is not adequate funding to support the research that needs to be done," said Dr. Kunz. "We don't have adequate resources to even go out and monitor some of these colonies. It's pretty basic biology that we need to understand before we can get to the root causes."

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A bumble bee makes his morning rounds in this image by Eric Heistand, a finalist of the 2010 Appalachian Mountains Photography Competition (AMPC). The photography exhibition, which opened on March 5, 2010, will remain on display through June 5 at Appalachian State University's Turchin Center for the Visual Arts in Boone, N.C. Best in Show and Category winners will be announced on March 27 during the 34th Annual Banff Film Festival. View the finalists and vote for the People's Choice award through March 25 at www.

APPALACHIAN VOICE

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G=TINVOLVED >>>>> 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 and KY, please email voice@appvoices.org. Deadline for the next issue will be Thursday, May 20, 2010 at 5 p.m. for events taking place between June 1 and August 30.

Ben Sollee & Daniel Martin Moore's "Dear Companion" Tour

Spring/Summer: A tour that shares music and raises awareness of mountaintop removal. For tour dates click to BenSollee.com/tour.

Great American Clean Up: Keep America Beautiful

March 1-May 31: The nation's largest annual community improvement program involves an estimated 3 million volunteers and attendees. kab.org

Week in Washington

appmtnphotocomp.org.

March 6-10: The Alliance for Appalachia's End Mountaintop Removal congressional lobby week. Follow Week in Washington updates at iLoveMountains.org.

Ground Water Awareness

 $March\ 7$ -13: Sponsored by the National Ground Water Association to emphasize the importance of annual well water testing. ngwa.org

Mtn. Justice Spring Break

March 12-20: Learn about mountaintop removal through workshops, speakers, and service opportunities in Wise County, Va. Donation \$50 to \$100, includes all food and lodging. mjsb.org

George Washington's Bathtub

March 12-14: A celebration of the most famous feature in Berkley Springs State Park in West Virginia, George Washington's Bathtub. BerkleySprings. com/festivals.htm

Muse

March 19: The 2nd Annual Muse: A Celebration of Women in the Arts, hosted at the Lyric Theatre, in Blacksburg, Va., 7 p.m. in Support of Women's Month and the Community Arts Office and Information Center. Tickets \$10 for adults, \$5 for children. MuseBlacksburg.com

World Water Day

March 22: International World Water Day held annually to emphasize the importance of healthy water and advocate for the sustainable management of community water systems. unwater.org

Forest Trails Walk

March 23: Hosted by the North Carolina Arboretum in Asheville, N.C., embark on a one to three hour guided trail walk, starting at 1 p.m. Explore Asheville's ecological and culturally rich terrain. \$6 parking fee. Call (828)665-2492 for more information.

Fairview Ruritan Old Fiddler's Convention

March 27: Enjoy authentic Old Time and Bluegrass music! Registration at 5 p.m., contest at 6 p.m. BlueGrassInGalax.com

Whitetop Mtn. Maple Festival

March 27-28: Enjoy a pancake meal, storytelling, local musicians and a wildflower slideshow. Take a tour of Whitetop Mountain and learn different methods of tapping and tubbing pure maple syrup. Proceeds go to the Mt. Rogers Vol. Fire Dept. 8 a.m. to 6 p.m. GraysonVirginia.com

Painters Greenhouse Herb Fest

April 10-11: Crafter, vendors and musicians entertain and educate at this weekend festival in Old Fort, N.C., dedicated to fresh, locally grown herbs. 9 a.m. to 4 p.m. PaintersGreenHouse.com

Environmental Education Week

April 11- 17: This year's theme is "Be Water and Energy Wise." Register online: eeweek.org

West Virginia Sustainable Fair

April 16-17: Hosted at Davis & Elkins College in West Virginia featuring speakers and workshops focused on energy, agriculture, community gardening and organic foods. Contact Denise Poole at deniseap@earthlink.net to find out more.

Earth Fest 2010

April 17: Hosted at Pellissippi State's campus in Knoxville, Tenn., from 10 a.m. to 5 p.m. Free admission to food and eco-friendly entertainment. Knox-Earthfest.org

40th Anniversary of Earth Day

April 22: Find local celebrations at EarthDay.net.

N.C. Spring Herb Festival

April 30-May 2: The Western N.C. Farmers Market boasts over 50 herb vendors selling spring herbs. Fri., Sat. 9 -5, Sun. 9-3. wncherbfestival.com

Operation Medicine Cabinet

May 22: Hosted in Watauga and Avery Counties, N.C., 10 a.m. to 2 p.m. Drop off pharmaceuticals for proper disposal. DrugTakebackDay.com.