# Land Air & Water

Kentucky Energy and Environment Cabinet

Volume 22 Number 2
Spring 2011

# Land Air&Water

*since 1988*

**Commonwealth of Kentucky**
Steven L. Beshear, *Governor*

**Energy and Environment Cabinet**
Dr. Leonard Peters, *Secretary*

**Department for Environmental Protection**
R. Bruce Scott, *Commissioner*

**Department for Natural Resources**
Carl Campbell, *Commissioner*

**Department for Energy Development and Independence**
Dr. Leonard Peters, *Acting Commissioner*

**Editor and Graphic Designer**
Cynthia Schafer

**Agency Coordinators**
Roberta Burnes
Allison Fleck
Mary Jo Harrod
Leslie Isaman
Linda Potter
Kimberly Richardson
Brooke Smith
Lynn True

Land, Air & Water is published quarterly by the Energy and Environment Cabinet. Subscription to this publication is free.

E-mail: Cynthia.Schafer@ky.gov or telephone 502-564-5525 to have your name added to the mailing list. Address changes and deletions should also be addressed in this manner.

Contact the editor for permission to reprint.


# *DEDI releases annual summary*

The Commonwealth is demonstrating steady progress in addressing the long-term energy needs outlined in Gov. Steve Beshear's energy plan released in 2008.

Gov. Beshear highlighted a number of programs that focus on energy efficiency in homes, public schools, government buildings and commercial business facilities. These achievements are described in the 2010 Annual Summary of energy accomplishments published by the Kentucky Department for Energy Development and Independence (DEDI), an agency of the Energy and Environment Cabinet.

Last year, programs were initiated that put into place in Warren and Kenton counties one of the first two net-zero school buildings in the nation. These facilities will soon use on-site renewable energy sources, combined with energy efficiency measures, that will reduce the overall energy used to a net-zero amount. The savings, according to the districts, will be substantial. Under the Kentucky Energy Efficiency Program for Schools, the state is investing more than $14 million to provide energy managers and programs statewide. School superintendents, principals, teachers and students are engaged and now making energy-wise decisions.

Homeowners are also reaping benefits from the DEDI-administered programs. Nearly $4 million in rebates was distributed to those who purchased energy-efficient home appliances in 2010. The savings for homeowners will be seen over time as their more energy-efficient clothes washers, water heaters and heating and cooling systems consume less energy. The purchases also meant dollars flowing back into Kentucky's economy.

The Kentucky Home Performance (KHP) program is also helping many Kentucky homeowners become energy efficient while providing more "green" jobs. KHP provides Kentucky homeowners with incentives to improve the energy efficiency of their homes in a manner that is cost effective and ensures their investment is properly installed.

The Green Bank of Kentucky continues to make low-interest loans to government entities as they compete for dollars that will go toward energy efficiency projects. The energy savings from these projects will be used to repay the loans while making public buildings more energy efficient and creating green collar jobs and protecting the environment.

The progress made in 2010 has been impressive, but much more needs to be done to ensure Kentucky keeps its energy costs low while working to develop a diverse economy sustained by diverse energy resources.

The 2010 summary of energy accomplishments can be viewed and downloaded by visiting the DEDI website at http://energy.ky.gov

**Visit Land, Air & Water online at http://eec.ky.gov/Pages/LandAirWater.aspx**


The Energy and Environment Cabinet does not discriminate on the basis of race, color, religion, sex, national origin, sexual orientation or gender identity, ancestry, age, disability or veteran's status and provides, on request, reasonable accommodations including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in services, programs and activities. To request materials in an alternative format, contact Cynthia.Schafer@ky.gov or call 502-564-5525. Hearing- and speech-impaired persons may contact the agency by using the Kentucky Relay Service, a toll-free telecommunication device for the deaf (TDD). For voice to TDD, call 800-648-6057. For TDD to voice, call 800-648-6056.



*Printed on recycled paper with state and federal funds.*

# Land Air&Water

**Volume 22 Number 2**
**Spring 2011**






*Printed by Post Printing*
*Lexington, Kentucky*


## Features



## Contents



## Our Cover

Mountain Laurel
*(Kalmia latifolia)*
photographed at
Natural Bridge
State Resort Park by
Vaughn Kaufmann
of Slaughters, Ky.

# Tribute to fallen firefighter

**By Lynn True**
**Division of Forestry**

*Don Ray Lam Jr., 12-year forest ranger technician with the Kentucky Division of Forestry, was devoted to protecting the state's citizens and forest resources.*

**TOP:** ***Don Lam (second from left) with a fire crew in 2007.***

**BOTTOM LEFT:** ***Lam sawing downed trees in 2010.***

**RIGHT:** ***Lam assisting with a backfire in 2007.*** DOF photos

A longtime Kentucky Division of Forestry (KDF) ranger and wildland firefighter, Donald Ray Lam Jr., passed away on Feb. 17 after a courageous battle to overcome injuries sustained while fighting a forest fire in western Kentucky in September 2010. Lam, 58, served as the forest ranger technician for Caldwell, Crittenden and Lyon counties and had assisted with fire suppression efforts on the local, state and national level for nearly 12 years.

"This tragedy is a tremendous loss to our organization," said Leah MacSwords, director of KDF. "When you think about what forest wardens do every day and the frequency in which they put themselves in harm's way for the protection of citizens and forest resources, it makes you realize the commitment and loyalty that make up their character."

Lam, who had been in critical condition since the accident on Sept. 7, received injuries while working the Scotts Chapel Road fire—a 12-acre wildfire in Livingston County. Lam was clearing a fire break for containment at the base of a bluff when a burning snag broke loose on top and rolled off striking him from behind. The impact left him unconscious and with serious injuries, including second-degree burns. The Scotts Chapel Road fire initially spread from a burning brush pile during a countywide burn ban, and charges are currently pending for the person responsible for starting the fire.

"Our firefighters face serious risks during the line of duty, and it is particularly unfortunate that this accident occurred while fighting a wildfire that was completely preventable," said KDF Fire Management Chief Bernie Andersen.

Lam's legacy is recognized by his family, friends and colleagues, and he holds special honor in the firefighting community. Remembrances and condolences were received from fire departments, state forestry agencies, the U.S Forest Service and firefighter organizations from across the county.

Tributes to honor Lam and his family were also received across the state. Gov. Steve Beshear directed flags at all state office buildings to be lowered to half-staff on Feb. 21.

"Jane and I send our deepest condolences to the family of Donald Lam. His courage and dedication to protecting our public safety is an example to us all. Let his life's work and tragic death remind us of the extreme dangers of uncontrolled burning anywhere in the Commonwealth," said Gov. Beshear. "Don served the Caldwell County community, the state and volunteered for wildfire assignments across the nation. His sacrifice for the protection of life and property is to be commended and honored."

The Kentucky House of Representatives also honored Lam by approving a citation by Rep. Mike Cherry, who called Lam a true hero in a moving tribute. Following approval of the citation, the entire chamber gave Lam a standing ovation in acknowledgement of his service to the Commonwealth. A Senate resolution by Sen. J. Dorsey Ridley likewise honored Lam's dedication and service and recognized his heroic efforts.

Lam was a member of Cedar Bluff Baptist Church and a U.S. Navy veteran. He is survived by his wife, Jeannie Swatzell Lam; a brother, Ronald Lam of Goreville; a step-son, Dusty Cooper; and a step-daughter, Dakota Son.

**LEFT:** ***Newly installed lighting in the package and shipping area of Florida Tile.*** DEDI photo

# Program brings savings, jobs to Kentucky's industrial sector

## *Florida Tile sees energy-saving results, lessens carbon footprint*

**By Brooke Smith**
**Department for Energy Development and Independence**

When the Kentucky Department for Energy Development and Independence (DEDI) received an infusion of American Recovery and Reinvestment Act funds in 2009, one of its top priorities was to work with partners to implement energy-efficiency initiatives in the industrial and commercial sectors.

Kentucky's energy use is projected to grow by more than 40 percent between now and 2025, which means greenhouse gas emissions could be more than 40 percent higher by the same year.

Gov. Steve Beshear's energy strategy calls for Kentucky to meet at least 18 percent of its energy demand through energy efficiency by 2025, and energy conservation is the cheapest, fastest and easiest way to cut energy costs and reduce carbon emissions.

Buildings account for one-third of the energy used in Kentucky, which makes the industrial and commercial facility sectors an obvious choice for implementing energy-efficiency programs that help to reduce energy consumption and greenhouse gas emissions.

The Kentucky Industrial Facility Retrofit Showcase Program, developed through a partnership between DEDI and the Cabinet for Economic Development, provides competitive grant funds for energy-efficiency upgrades in existing industrial plants. The award process gives preference to industries that produce 'green' products and create or preserve the most jobs.

"This program has given us the unique ability to partner with the Department for Energy Development and Independence and the private sector to create and retain jobs, improve energy efficiencies, as well as reduce emissions across the state," said Larry Hayes, secretary of the Cabinet for Economic Development. "The initial results have been positive, and we anticipate even more success as additional projects funded through this program are completed in the near future."

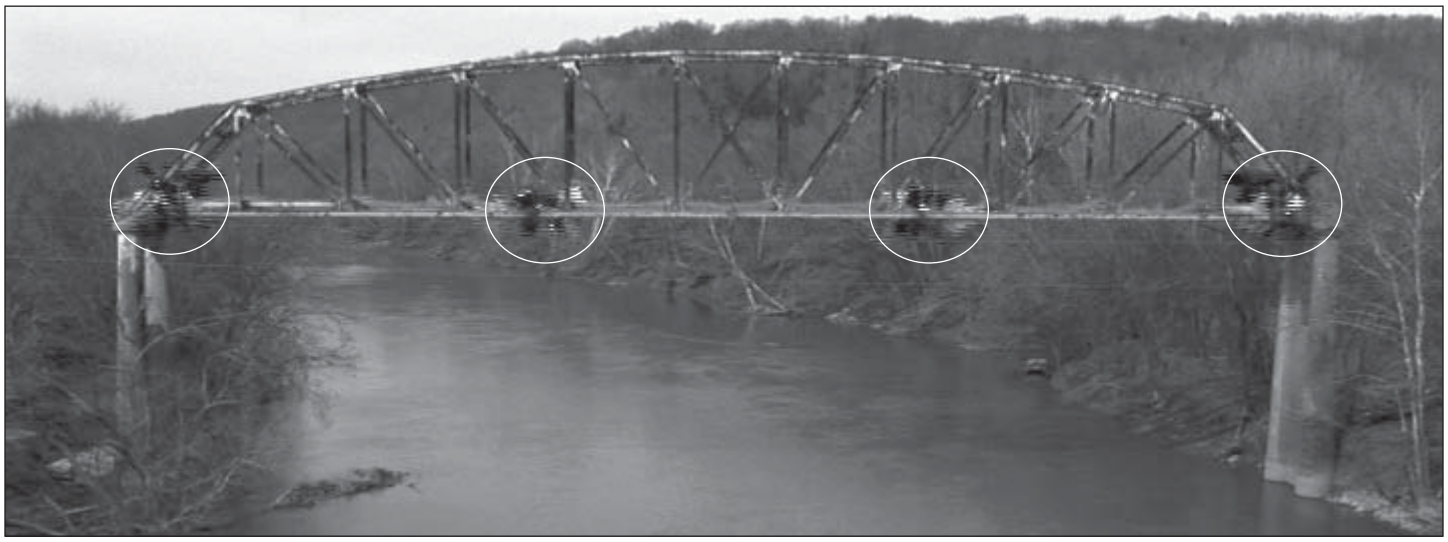
Florida Tile Inc. in Lawrenceburg was one of the first companies to receive funding through the Industrial Facility Retrofit Showcase Program. Last year, this world-class manufacturer and distributor of porcelain and ceramic wall tile, natural stone, decorative glass and metal tiles applied for the competitive funding and received $162,000 that was also matched by its parent company, Panariagroup. The company chose to retrofit its lighting at its Lawrenceburg facility.

The lighting project replaced 1,400 outdated HID lamps that remained on all day with 1,000 fluorescent fixtures controlled by motion sensors and timers. Kentucky tradespeople installed new wiring in both the factory and distribution center during Florida Tile's summer shutdown schedule and into the fall of last year. The energy-saving results have been amazing.

"We are currently saving 74 percent on our [lighting] energy bill as the result of the project," stated Rich Kincaid, director of Florida Tile's Distribution Center. "Every year we will save $1.60

***Continued on Page 8***

**ABOVE** ***(left and right): Old bulbs and fixtures, replaced by more energy-efficient fluorescent lighting, are segregated for recycling.*** DEDI photo



**TOP:** ***Video cameras record the demolition event as blasts are seen exploding portions of the bridge.***

**CENTER:** ***Shannon North (center) of Dem Tech explains to Explosives and Blasting Branch inspectors how shaped charges of explosives will be used on the Gratz Bridge.***

**BOTTOM:** ***The Gratz Bridge lies in the Kentucky River following the blasts. Portions of the bridge will be recycled.*** Photos by the Department for Mine Reclamation and Enforcement

# Blast to the past

**By J. Hamon**
**Department for Natural Resources**

The Kentucky Explosives and Blasting Branch of the Department for Mine Reclamation and Enforcement participated in the recent demolition of a bridge in Gratz, Ky., on Feb. 15. The heavy steel bridge, built in 1931, was replaced by one constructed of concrete.

Demolition of the old structure was performed by Dem Tech of Wyoming, one of only a few companies nationwide that use explosives to remove bridges. Dem Tech was also in charge of taking down the Clays Ferry Bridge at the Fayette County/Madison County line.

The Kentucky Explosives and Blasting Branch regulates the use of explosives statewide and issues permits to purchase and possess explosive products.

Employees of the branch were on location to monitor the blasting vibrations, air blasts and public safety. They also used the demolition as an opportunity for training and attended the pre-blast safety meeting with Superior Demolition of Lexington, the general contractor for removal of the bridge.

Many spectators from Gratz and other local communities watched the demolition at a safe distance as the bridge collapsed into the Kentucky River. Cables rigged to the truss were used to pull it from the water.

Throughout the day, many stories were shared about the history of the bridge. One man described how in his youth he had climbed to the top of the steel structure and walked across, while a woman proudly told that her uncle had worked on its construction.

A piece of the old steel bridge will remain in a kiosk at the end of Main Street to document its history in Gratz. The massive truss will be recycled.

# Drinking water violations down for third straight year

**By Allison Fleck**
**Division of Water**


***Water system operators study water samples while working on a project to optimize treatment.***
DOW photo

Public water systems in Kentucky have something to brag about. For the third straight year, the number of Notices of Violation (NOVs) issued by the Division of Water (DOW) to public drinking water systems has declined. This translates into improved health protection for the nearly 4 million customers of Kentucky's public drinking water supply.

The Kentucky DOW is responsible for enforcing the requirements of the federal Safe Drinking Water Act (SDWA), which sets standards of performance and quality to which public drinking water systems (PWSs) must adhere or face the possibility of violations.

For the calendar year 2010, the DOW issued 618 drinking water NOVs compared to 745 in 2009, 866 in 2008 and 1,054 in 2007.

What is particularly noteworthy is that very few of the 618 violations issued last year were related to health-based deficiencies, namely, the presence of total coliform and disinfection byproducts.

"The majority of the drinking water NOVs were for monitoring and reporting," said DOW Drinking Water Coordinator Julie Roney. "While monitoring consistency and accurate record keeping are important, these violations are not directly related to public health. They can, however, point to areas of concern with drinking water system operation and management that could lead to more serious violations."

This is where DOW's Capacity Development Program comes in. This program focuses on the technical, financial and managerial ability of a drinking water system to meet the requirements of the SDWA. Since all three components of "capacity" are tied together, improvements in one area can be tied to the others. DOW staff work with identified systems using compliance assistance, management training and water "budgets" to improve performance and, thus, compliance.

Another initiative contributing to the improved drinking water compliance is the drinking water laboratory certification program that DOW implemented in 2008. The lab accountability program now holds certified labs to higher reporting and quality assurance standards. DOW continues to offer conference presentations and technical assistance both on-site and by phone or e-mail. It is estimated that drinking water staff handle as many as 500 phone calls and as many e-mails each month.

Education and outreach have also contributed to improved water system performance. Water systems now receive a quarterly drinking water compliance newsletter. DOW also formed the Drinking Water Advisory Committee to improve coordination with other state agencies that impact drinking water, such as the Public Service Commission, the Division of Plumbing and the Department for Public Health.

In addition, revisions to DOW's drinking water engineering plans review regulation have clarified submittals, introduced new applications and incorporated current design standards. This provides for a more thorough review process for both conventional and nonconventional treatment processes and greater scrutiny of the distribution system infrastructure. Both water quality and water quantity are taken into account as plans are reviewed, furthering a system's ability to meet regulatory compliance.

As the U.S. Environmental Protection Agency moves forward with additional regulations and research on emerging contaminants, DOW staff and programs are already in place to help Kentucky's 465 public drinking water systems comply with the more stringent requirements. They will continue to monitor and provide professional advice on water treatment processes, distribution system operations and compliance activities to keep safe drinking water flowing to Kentucky citizens.

# Preserving Kentucky's natural treasures

## *KHLCF purchases bring total conserved acres to 38,640*

**TOP LEFT:** ***Sphagnum moss and netted chain fern are characteristic plants of the Coastal Plain Forested Acid Seep community at Blood River State Nature Preserve.*** Photo by Ellis Laudermilk

**TOP RIGHT:** ***1,293 acres were purchased to establish the Marion County WMA and state forest.***

**BOTTOM:** ***Marrowbone State Forest in Metcalfe and Cumberland counties received an additional 348 acres.*** Division of Forestry photos

**By Lisa Wellings**
**Kentucky Heritage Land Conservation Fund**

The past year was an exciting one for the Kentucky Heritage Land Conservation Fund (KHLCF). More than 2,720 acres of natural lands in 11 counties were conserved with dollars from the fund. Since the first property was purchased in 1996, more than 38,640 acres have been preserved for future generations. Lands for a new wildlife management area, a new nature preserve and a new nature park were all purchased in the last calendar year.

The new Marion County wildlife management area (WMA) was established in a joint project between the Department of Fish and Wildlife Resources, the Division of Forestry and the Marion County Fiscal Court. This 1,293-acre property will provide perpetual resource protection, additional wildlife food sources and expanded public outdoor recreational opportunities in a part of the state previously not served with a WMA.

The Kentucky State Nature Preserves Commission purchased land in Calloway County to create a new state preserve to be known as Blood River State Nature Preserve. This project containing 192.56 acres initiates protection efforts along the Blood River from Kentucky Lake to the state boundary with Tennessee. This site contains Coastal Plain Forested Acid Seep, which is one of the rarest communities in Kentucky and supports two state endangered shrubs and a state endangered sedge.

In addition, Kenton County will have a new nature park on land purchased by the Kenton County Conservation District with fund dollars. This property containing 204 acres has 16 acres along the Licking River and will provide citizens access to the river with opportunities for hiking, bird watching and nature studies.

Other highlights during the past year include:

- The Kentucky Division of

***Continued on Page 12***

# Working to improve the watershed

## *Nonpoint source grant helps bring change to Strodes Creek*

**By Allison Fleck**
**Division of Water**

Citizens working with a nonpoint source pollution control grant, local government and state agencies hope to make Strodes Creek a healthier stream in a healthier watershed.

Strodes Creek, a 25-mile-long headwater stream of the South Fork of the Licking River, flows through 53,000 acres of the inner Bluegrass landscape. The Strokes Creek watershed drains the northern side of Winchester in Clark County, and the lower third of the watershed is in a rural area of Bourbon County.

Water quality studies performed during 2004 and 2005 by the Kentucky Division of Water (DOW) revealed that the creek did not meet water quality standards due to impairments including pathogens, nutrients, siltation and organic enrichment/low dissolved oxygen. Further investigation indicated the impairments were caused by nonpoint source pollution from agriculture, construction, urban runoff/storm sewers and habitat modification as well as municipal point source pollution.

A group of concerned citizens answered an appeal from Dodd Dixon, then-mayor of Winchester, to take on the project of improving the watershed. They applied for and received a 319(h) nonpoint source (NPS) pollution control grant comprised of $680,034 provided by the federal Environmental Protection Agency and a match of $453,335 provided by the city of Winchester and in-kind contributions. Other participating partners included DOW, the Clark County Fiscal Court and Winchester Municipal Utilities.

The DOW administers the federal NPS grants, which are funded through Section 319(h) of the Clean Water Act. The DOW gives priority to projects involving watershed-based plan development and implementation in impaired waters, as well as protection of Special Use Waters (e.g., cold water aquatic habitat, exceptional waters, state wild rivers and federal wild and scenic rivers) with identified threats.

A primary goal of the Strodes Creek project was to improve water quality in the watershed through implementation of best management practices for onsite wastewater and agriculture. The project also sought to educate the public concerning water quality issues in the watershed, as well as build public interest in working solutions for these issues.

The DOW assessment classified Strodes Creek as impaired for primary contact recreation (swimming) due to high pathogen (fecal coliform) levels. Some of those contaminants entered the creek from Town Branch, which joins Strodes Creek, while others stemmed from failing septic tanks, farm drainage and straight pipes. Winchester Municipal Utilities, with its aging infrastructure, was also identified as a source of pathogens.

To tackle this problem the project focused on residential septic systems and agricultural best management practices. Septic

***Continued on Page 8***

***In 10 to 15 years, the trees planted along Strodes Creek near Barnes Drive in Winchester will provide valuable shade to cool the water, provide habitat for wildlife and deter erosion.*** Photo courtesy of Strodes Creek Conservancy

# Celebrating Earth Day

## *KY EXCEL members demonstrate their appreciation for the environment*

**By Mary Jo Harrod**
**Division of Compliance Assistance**

*Intended to inspire awareness and appreciation for the Earth's natural environment, the first Earth Day was founded by U.S. Sen. Gaylord Nelson as an environmental teach-in on April 22, 1970. Since that time, Earth Day has been celebrated around the world and continues to grow. In 2009, the United Nations designated April 22 as International Mother Earth Day. In Kentucky, KY EXCEL members are celebrating Earth Day in a variety of ways. Here are a few examples of what is happening around the state.*

***Players for the Planet for Earth Day coordinate a yearly electronic recycling event in Georgetown.*** Photo provided by Global Environmental Services LLC.

**Top of the Line Food Service**, of Louisville, stays involved every day by offering recycling of aluminum cans to their accounts and within the company, according to Joyce Payne and Tom Williams, representatives of Top of the Line. The company recycles all cardboard products generated through the company. Employee e-mails contain a tag line asking the recipient to please consider the environment before printing. The company uses recycled products when possible, including the vending equipment, which is refurbished and lessens the impact to landfills.

"As in past years, **Global Environmental Services LLC** is doing a massive collection event with *Players for the Planet for Earth Day*, which focuses particularly on electronics recycling," says Alexa Potocki, a marketing executive for the Georgetown business. *Players for the Planet* is an organization founded by the Cincinnati Reds to coordinate efforts of athletes to help the environment. It focuses on teaching residents about how a group of people can make a positive difference on our earth.

Employees of **Technology Conservation Group**, of Louisville, will clean the stormwater drains around the company's parking lot.

The **Greater Paducah Sustainability Project** will partner with the city of Paducah and McCracken County on April 16 to have an annual dump day, where people from the city and county can bring in trash, appliances, tires and household hazardous waste for free disposal. They will also accept all recyclables, including televisions, e-scrap, paper, plastic, glass and cardboard. Project members will also participate in the Four Rivers Juvenile Diabetes Research run in Noble Park where recycling services for all participants will be offered.

"Employees of **Masco Cabinetry** in Mount Sterling will continue their tradition of planting redbud trees on the company grounds," says Brian Adams, plant engineer. "For the past few years, three trees have been planted in honor of Earth Day."

**Go Green Campbell** will hold Earth Fair 2011 in Fort Thomas. There will be local environmental organizations exhibiting, as well as Kentucky e-Scrap with its trailer to take all electronic recycling (except for televisions and computer monitors). Recycling bins will be for sale, and there will be recycling drop boxes to cover those areas not covered by Kentucky e-Scrap. The event will also include children's activities, live music and local vendors from the farmer's market.

The safety committee of **Power Transmission Solutions** in Florence will participate in the city of Florence's Environmental Clean Up on April 23, as part of the Earth Day celebration.

**USP McCreary** is planning a staff recycling day. If there is good participation, the project will be placed in the environmental management system agenda for a cost and legal analysis to enhance the program.

***Continued on Page 20***

# Commonwealth Cleanup Week

***Chris Ewing (left) and Chris Craig, employees of the Department for Environmental Protection (DEP), pick up glass during the 2011 Commonwealth Cleanup Week. DEP employees worked in shifts to clean up an area behind their office building known as the Buffalo Trace Distillery Trails in Frankfort. Commonwealth Cleanup Week is an annual week-long event implemented by the Energy and Environment Cabinet and also kicks off the Great American Cleanup, spanning March through May. Its purpose is to provide Kentucky communities with an opportunity to 'spring clean,' recycle and promote personal responsibility across the state.*** Photo by Ricki Gardenhire

# Program brings savings, jobs to Kentucky's industrial sector

***Continued from Page 2***

for every one dollar we invested in the new fixtures."

Yearly, Florida Tile will save more than 4 million kilowatt hours of electricity, which saves money and reduces its environmental impact.

The energy savings go straight to the bottom line, which allows Florida Tile to better compete with foreign and domestic manufacturers. The company also created more than 50 new jobs in Kentucky because of increases in competitiveness, including the lighting project. Because of the success experienced with energy management in the Lawrenceburg facility, the company is expanding energy efficiency and conservation programs to all of its sales and service centers across the nation.

"We are working to place high-efficiency lighting in our sales showrooms throughout the country to further increase our companywide energy efficiency," said Dan Marvin, Florida Tile's director of Technical Services. "The lighting retrofit project has been a huge positive for us; our employees are happier with the better lighting and we are already saving a considerable amount on our energy bills."

For more information on Florida Tile, visit http://www.floridatile.com. More information on the Kentucky Industrial Facility Retrofit Showcase Program may be found at http://energy.ky.gov.

# Working to improve the watershed

***Continued from Page 6***

systems in need of repairs were evaluated for system functionality, existing system components, amount of discharge, location of discharge, watershed impact, available repair area and feasibility of wastewater collection line installation. The Strodes Creek Conservancy actively participated in this effort through demonstrations and workshops and onsite visits.

To reduce animal waste in the creek, the project purchased 60 acres of land along the creek and removed the livestock from the property. This land was placed in a permanent conservation easement, ultimately protecting more than 3,700 feet of stream. Future efforts will provide fencing and alternative water sources to exclude cattle from selected streams. Establishment of native vegetation and stream restoration efforts are also underway.

Streamside revegetation was another priority of the Strodes Creek project. Approximately 1,100 balled and burlapped trees were planted along Strodes Creek and its tributaries, which help stabilize the riparian zone for years to come. In addition, several hundred saplings were planted along stream banks throughout the watershed. The resulting growth will help reduce erosion and flooding while creating wildlife habitat and shade to cool the stream water and prevent algae growth.

The Strodes Creek Conservancy has received additional 319(h) funding to develop and implement a watershed plan for Hancock Creek within the Strodes Creek watershed.

"We are very excited about the work that has been done in the watershed up to this point and feel very fortunate to have received additional funding from the Division of Water," said Shanda Cecil, director of the Strodes Creek Conservancy. "This spring we will be engaging in microbial source tracking to determine the source of pollutants entering the Hancock Creek watershed. It's great to have that technology available so that we can focus our funding dollars on the source of the problem."

For more information about the project and volunteer opportunities, contact scecil@winchesterky.com or brooke.shireman@ky.gov.

On Dec. 31, 1970, the U.S. Congress enacted the Clean Air Act. This landmark piece of legislation continues to be one of our nation's most important environmental laws.

# The Clean Air Act turns 40

**By Roberta Burnes**
**Division for Air Quality**

2010 marked the 40th anniversary of both the U.S. Environmental Protection Agency and the Clean Air Act. Forty years later, the Clean Air Act continues to protect public health and the environment from dangerous air pollution.

## Protecting the Air We Breathe

President Richard Nixon signed the Clean Air Act into law on Dec. 31, 1970. The act directs the U.S. Environmental Protection Agency (EPA) to develop and enforce regulations controlling air pollution and address a wide range of air quality concerns.

Air pollution can come from many sources, both mobile (motor vehicles) and stationary (power plants, factories and certain industrial processes). The Clean Air Act established health-based limits on six of the most common air pollutants—lead, sulfur dioxide, nitrogen oxides, carbon monoxide, particulate matter and ground-level ozone. Since 1970, the Clean Air Act has reduced these key pollutants by more than 60 percent. Airborne lead has dropped 92 percent since 1980.

In 1990, Congress revised and amended the Clean Air Act to address a large number of additional air pollutants known or suspected of being hazardous to human health. The Clean Air Act amendments established limits for these hazardous air pollutants as well. Toxic emissions totaling 1.7 million tons have been prevented every year since the 1990 amendments were enacted.

"Our improved air quality is a significant achievement considering that economic and population growth results in additional pollution sources from expanded industry, more traffic and greater energy demand. This fact demonstrates the effectiveness of the Clean Air Act."

***John Lyons, director***
***Kentucky Division for***
***Air Quality***

## Celebrating Successes

It's impressive to look at the achievements this landmark piece of legislation made possible during the last four decades. Thanks to the Clean Air Act, we've phased out lead in gasoline—a powerful neurotoxin that's especially dangerous to children. We've virtually ended production of chemicals that damage the earth's ozone layer and increase the risk of skin cancer. Our streams and lakes are in better shape as Clean Air Act regulations have curbed acid rain. And we've dramatically reduced emissions of pollutants that create smog.

"Since the Clean Air Act was passed, Kentucky has seen continued economic development and population growth, making it all the more remarkable that our air quality has

***Continued on next page***

**OPPOSITE PAGE (top):** ***Smog hangs over the Louisville skyline in October 2007.***
Courtesy of the Louisville Air Pollution Control District and Michael Clevenger, Courier Journal.
**(left):** ***The Light-Duty Rule established the nation's first standard for GHGs that focuses on carbon dioxide emitted from tailpipe exhaust.***
**THIS PAGE:** ***In Kentucky, most of our electricity comes from burning fossil fuels. While the Clean Air Act has dramatically reduced the amount of pollution emitted from power plants, consumers can play a significant part too—by using energy-smart practices at home.***

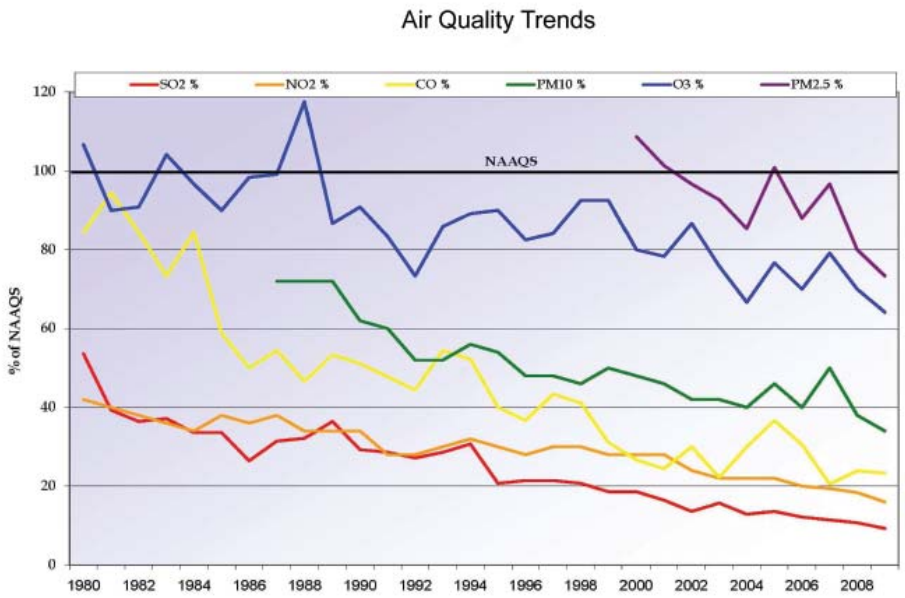
improved in the same timeframe," said John Lyons, director of the Kentucky Division for Air Quality. "Our improved air quality is a significant achievement considering that economic and population growth results in additional pollution sources from expanded industry, more traffic and greater energy demand. This fact demonstrates the effectiveness of the Clean Air Act."

In its first 20 years alone, EPA estimates the Clean Air Act prevented 200,000 premature deaths, while preventing 672,000 cases of chronic bronchitis and 21,000 cases of heart disease. At the same time, it prevented 843,000 asthma attacks and 18 million child respiratory illnesses.

As air quality has improved, the economy has more than tripled—proof that environmental protection and economic development are not mutually exclusive. And in monetary terms, the total benefits of the Clean Air Act far outweigh the costs of regulation.

"For every one dollar we have spent, we have received more than $40 of benefits in return, making the Clean Air Act

***Continued on Page 11***




***Air Quality Trends from 1980-2009. This chart shows trends in individual pollution levels over time. While individual pollutants may spike certain years, overall the trend shows a decline in pollution levels. The pollutants are shown in terms of percentage of the National Ambient Air Quality Standard (NAAQS) because the different pollutants are measured in different scales, which makes direct comparison difficult.*** Graph by the Division for Air Quality

## The ABCs of GHGs

Like the glass in a greenhouse, greenhouse gases (GHGs) are gases that have the ability to trap heat in the atmosphere. In the right amount, greenhouse gases are essential to life on earth; without them, the earth would be a spinning ball of ice. However, too many of these heat-trapping gases would create a very hot climate, more like the planet Venus.

Greenhouse gases are released during the burning of fossil fuels, as well as in a number of natural processes like decomposition and respiration. As the concentration of greenhouse gases in the earth's atmosphere has increased over the last 150 years, the earth's global average temperature has also increased. A mounting body of scientific evidence points to a link between GHG emissions and rising temperatures.

While a number of gases have heat-trapping potential, scientists have identified six key gases (including carbon dioxide) that appear to play an important role in climate change. Thus, greenhouse gases have been targeted for reductions by the U.S. Environmental Protection Agency (EPA) and other entities as one strategy to combat global climate change.

Greenhouse gases covered by the EPA rules are:

- Carbon dioxide ($CO_2$)
- Methane ($CH_4$)
- Nitrous oxide ($N_2O$)
- Hydroflourocarbons (HFC)
- Perflourochemicals (PFC)
- Sulfur hexafluoride ($SF_6$)

# The Clean Air Act turns 40

*Continued from Page 10*

one of the most cost-effective things the American people have done for themselves in the last half century," said EPA Administrator Lisa Jackson , during her remarks last September commemorating the 40th anniversary of the Clean Air Act.

Longer lives, healthier kids, greater workforce productivity and ecosystem protection are just some of the benefits the Clean Air Act has made possible.

### The Next Chapter: Greenhouse Gases

In 2007, the U.S. Supreme Court ruled that greenhouse gases are pollutants under the Clean Air Act. This decision paved the way for new EPA regulations targeting carbon dioxide and other gases that trap heat in the earth's atmosphere (see *ABC's of GHG's on Page 10*). It also created a flurry of litigation challenging these new regulations. Industry and business groups, environmental organizations and 37 states have joined the legal fray on both sides of the issue.

On Jan. 2, 2011, the Light-Duty Rule established the nation's first standard for greenhouse gas emissions from light-duty or passenger vehicles. Focusing on carbon dioxide, the primary greenhouse gas emitted in tailpipe exhaust, the rule sets a carbon dioxide limit of 250 grams of CO2 per vehicle mile traveled for model year 2016 vehicles. The rule also incrementally raises the fuel economy of new vehicles to 35.5 miles per gallon by 2016.

EPA's Tailoring Rule also went into effect on Jan. 2. This rule specifies greenhouse gas emission limits for major stationary sources like coal-fired power plants. Additional regulations will be phased in under the Tailoring Rule over the next two years.

### The Year Ahead

"Despite the fact that Kentucky's air quality is better than ever, the state will face new challenges in the years ahead to meet more stringent air quality rules," said Lyons.

The EPA reviews and revises the health-based air quality standards as necessary to reflect increased scientific understanding about the impacts of air quality on human health and the environment. Several of these standards have been strengthened in the past year, and more changes are on the horizon. With tighter limits on certain pollutants, more counties than ever will be faced with the possibility of not meeting those revised standards. As a result, many counties may need to look for innovative ways to reduce air pollution locally.

Adding to the uncertainty are the continuing legal and legislative battles over EPA's greenhouse gas regulation under the Clean Air Act. Will Congress amend the act again? The outcomes of dozens of lawsuits may help decide this question.

"Kentucky is ground zero with respect to climate change," said Tom FitzGerald, director of the nonprofit Kentucky Resources Council. "Ninety-eight percent dependent on fossil-fueled electricity, with our three major heavy industrial sectors heavily reliant on inexpensive power. The time is now to transition to more efficient and sustainable energy use, so that when EPA or the Congress acts to require accounting for and reduction of greenhouse gas emissions, we won't be caught flat-footed."

"Although EPA has issued guidance on its interpretation of the greenhouse gas rules, major questions remain about how to actually implement greenhouse gas permitting requirements for new facilities or modifications at existing facilities" said Carolyn Brown, an environmental lawyer with Greenebaum Doll & McDonald PLLC. "Those questions, coupled with questions about the outcome of all the litigation over different aspects of EPA's new greenhouse gas regulatory program, can put viability of projects in doubt. This type of uncertainty can be a significant impediment to business investment."

With so much at stake, the Clean Air Act is likely to be in the spotlight for a long time to come.

## Lighten Up, Frankfort! Encourages a 'Low Carbon Diet'

A recent Yale report finds that, while many Americans are concerned about climate change, a majority of them believe they could be doing more to make a difference. The Frankfort Climate Action Network is helping people do just that, through a program called *Lighten Up, Frankfort!*

Focused primarily in Franklin County, the educational outreach initiative empowers citizens to make positive changes at home to reduce their carbon footprint. Households pledge to make changes in the coming year to conserve energy and water and reduce waste, which also reduces their contribution to carbon dioxide and other greenhouse gas emissions. Household changes range from the high-tech (energy-efficiency upgrades) to the low-tech (recycling and line-drying laundry).

"Each of us can do something to make a difference, and those seemingly small changes can add up," says Tona Barkley, who helps coordinate the project.

To date, more than 250 households are participating. Of these, about 100 households have reduced their carbon footprint by nearly 500 tons.

To learn more about *Lighten Up, Frankfort*, e-mail LightenUpFrankfort@gmail.com or visit www.frankfortclimateaction.net. To read the Yale report, go to http://environment.yale.edu/uploads/SixAmericas2009.pdf

# Water collaborative seeks partners to safeguard water

**By Allison Fleck**
**Division of Water**

The Water Technology Innovation Cluster (WTIC) forming in Ohio, Kentucky and Indiana is seeking partners interested in developing and commercializing innovative water solutions that will result in economic and environmental and public health improvements by developing state-of-the-science safeguards for clean water. A regional technology cluster is a geographic concentration of interconnected firms that work together to promote economic growth and technological innovation. Firms include businesses, suppliers, service providers, supporting institutions, local government, business chambers, universities, investors and others.

The idea to form the tri-state cluster stems from an initiative of the U.S. Environmental Protection Agency (EPA) and the Small Business Administration (SBA). Although the WTIC is not a component of EPA, last month EPA Administrator Lisa P. Jackson and SBA Administrator Karen Mills met at EPA's research facility in Cincinnati to announce and formally launch the cluster.

In her announcement, Jackson emphasized that protecting America's waters is one of EPA's top priorities.

"By bringing together public utilities, research partners and innovative businesses, the WTIC will be instrumental in strengthening health protection for millions of Americans and promoting investments in cutting-edge technology," said Jackson. "This cluster will benefit from the region's abundance of cutting-edge companies. Investments made here will encourage continued growth while positioning our nation to lead the way in a new market of environmental technologies."

EPA has invested $5 million to conduct key studies of the environmental technology marketplace for drinking water, acquire the services of a cluster consultant, and conduct technology and knowledge mapping of the region to gauge its strengths. WTIC will develop, test and market innovative processes and technologies including those that:

- Are sustainable and water and energy efficient.
- Will be cost effective for the utilities and consumers.
- Address a broad array of contaminants.
- Improve public health protection.

Kentucky Division of Water Director Sandy Gruzesky, who attended the January meeting, said multistate, multi-agency water planning is both timely and necessary.

"Effective water stewardship requires that we work together to protect regional water sources and maintain an adequate supply of good quality water," said Gruzesky. "Environmental factors must be considered as we move ahead with sustainable economic growth."

To learn more about opportunities to get involved with the Water Technology Innovation Cluster, visit www.epa.gov/nrmrl/wtic.

# Preserving Kentucky's natural treasures

***Continued from Page 5***

***This 125-acre tract helps protect Gunpowder Creek, the largest watershed in Boone County. It has unique terrain and contains second-growth forest.*** Photo by KSNPC

Forestry added a total of 348 acres of forestland to the Marrowbone State Forest in Metcalfe and Cumberland counties; 42 acres to Tygart's State Forest in Carter County; and 74 acres to Kentenia State Forest in Harlan County.

• Local governments and universities conserved approximately 413 acres in Boone, Kenton, Clark, and Powell counties including forest land and hiking trails at Boone Cliffs.

Funds supported the addition of approximately 61 acres of wild rivers buffer land to the Upper Green River Biological Reserve in Hart County.

The Kentucky State Nature Preserves Commission added more than 297 acres to state nature preserves in Lewis and Barren counties.

In addition, 21 project applications were approved by the Kentucky Heritage Land Conservation Fund Board in 2010. Funding awards totaling more than $6.9 million were approved for the proposed acquisition and management of more than 4,191 acres located throughout the state.

Individuals can help protect Kentucky's treasures of nature by choosing a nature license plate when registering their car, light truck or SUV. The $10 fee above normal registration is tax deductible and goes directly to the Kentucky Heritage Land Conservation Fund.

# Plug abandoned wells properly to protect groundwater

**By Allison Fleck**
**Division of Water**

No one knows exactly how many unused water wells there are in Kentucky, but groundwater experts at the Kentucky Division of Water estimate there could be tens of thousands of them scattered around the state. It is important that these wells be "decommissioned" properly to protect Kentucky's groundwater and prevent harm to humans and wildlife.

An abandoned well is a water well or borehole that is no longer in use, does not produce useable water or cannot be used because of poor maintenance or significant wear and tear. If not properly decommissioned, these wells leave open holes in the ground that present dangers to humans, animals and Kentucky's groundwater. Simply filling up an unused well with sand, stones, or debris is not appropriate and can add contaminants to the groundwater and can negatively affect other wells in the area.

Many early water wells were hand dug and lined with stone, brick, wood or concrete. Drilling machines were in use by the early 1800s, and by the turn of the century, drilled wells of 1.5 to 4 inches in diameter with steel casings were common.

Historically, when household wells were taken out of service, they were usually abandoned without plugging. Sometimes the line was severed or the end of the pipe capped. Some wells were filled with fieldstones while others were merely capped by jamming something into the top. Still others were buried and forgotten, only to be rediscovered during later construction or demolition activities.

Here are three good reasons for decommissioning abandoned wells:

• Abandoned wells that have not been properly decommissioned provide a direct channel for contaminants stored or spilled above ground to enter aquifers used for drinking water. Normally, ground water flows through soil, clay and bedrock layers, which filter unhealthy organisms. When contaminants enter an open well, they circumvent this filtering action and can pollute groundwater.

• Abandoned wells are often hidden by overgrown vegetation and can represent physical hazards to people and animals. Sometimes they are covered in an insecure manner by old pieces of plywood or sheet metal. Others may have had covers that are now missing or in disrepair. There have been numerous reports over the years of people, especially small children, and animals falling into open abandoned wells.

• A landowner can potentially be held liable for accidents or groundwater contamination if such events are traced to an abandoned well on their property. In Kentucky, landowners are responsible for having abandoned wells decommissioned by a certified well driller within 30 days of deeming them unusable or unneeded.

To locate abandoned wells on your property, begin by searching old records, photographs, fire insurance plan drawings, health department or water utility records to find clues to the location of possible wells. Neighbors and former property owners are also good sources of information. Metal detectors can be useful in locating metal casings of wells.

For more information about proper water well abandonment procedures or a list of certified well drillers in Kentucky, contact the Division of Water at 502-564-3410 or visit http://water.ky.gov/groundwater/pages/welldrillersprogram.aspx.

### Physical evidence of old wells:

• Well casing above the ground, concrete slab or basement floor.
• Windmill or old pump house on the property.
• Pit in the yard or basement.
• Waterline or patched hole through the basement floor or wall.
• Water system components, such as a pressure tank or pump, or shadow lines on the basement floor or wall.
• Electrical components, such as wiring through the basement floor and wall or a control box.

### Assistance available from the Division of Water:

• List of certified drillers.
• Water well owner's manual.
• Onsite water well inspections.
• Down-hole camera to search for cracked or broken well casing, leaking seals, subsurface fractures, unstable formations or damaged well screens.

***LEFT: The broken casing on this water well allows contaminants to be introduced to the groundwater.*** DOW photo
***RIGHT: Old wells can be a physical hazard to people and animals if not properly decommissioned.*** Photo submitted

**LEFT:** ***A large portion of the surface mine where Patriot Coal Co. has completed 'prime farmland' reclamation.***

**BELOW:** ***Dragline on the edge of an open coal pit.*** Photos by DNR

# Patriot Coal Co. wins national reclamation award

**By Linda Potter and Paul Rothman**
**Department for Natural Resources**

The Interstate Mining Compact Commission (IMCC) recently announced that Patriot Coal's Patriot Surface Mine in Henderson County, Ky., won the 2011 Kenes C. Bowling National Mine Reclamation Award. This award is presented annually to mining operations in both coal and noncoal categories that have demonstrated excellence in reclamation based on five criteria—compliance, contemporaneous reclamation, drainage control, bond release (or reclamation success) and innovation. IMCC is a multistate governmental organization representing the natural resource and environmental protection interests of its 24-member states in Washington, D.C.

Located in eastern Henderson County, the permit covered 1,013 acres and was divided into eight separate bond increments. A single area covering 97.37 acres remains active—the remaining disturbed areas have been reclaimed and their reclamation bonds released. Postmining land uses for the permit included cropland, pastureland and fish and wildlife.

The elements that make this project deserving of the national award include:

• The property was embroiled in two bankruptcies prior to being obtained by Patriot Coal, either of which could have resulted in the Commonwealth initiating bond forfeiture proceedings. State reclamation would have required using hundreds of thousands of dollars from the AML Reclamation Fund. However, Patriot Coal assumed the reclamation liability and, without further surface mining disturbances, completed an outstanding job in finalizing the reclamation projects left behind by the bankrupt companies.

• A significant outcome of the reclamation is the amount of prime farmland that is being restored. Of the 841 prime farmland acres, all but 63 acres have been completely reclaimed and all bonds released.

• Reclamation of a 32-acre impoundment left behind by previous mining is an enhancement to the pasture/hay land use. It and two other impoundments have become major attractions to a variety of water fowl, including ducks, geese and blue heron. The site has become a favorite place for deer and turkey, too.

• A large portion of the area is slated to become a part of the Henderson County park system with unique features that will include an existing single-lane metal trestle bridge purchased by the county for use in a walking/biking trail to cross a stream on the property and a boat ramp and handicap-accessible fishing dock to be built for the 32-acre lake. Henderson County is also working with the Kentucky Division of Forestry to plant trees along the park's boundary lines in addition to reforestation of other portions of the park.

Department for Natural Resources Commissioner Carl Campbell, who recognized Patriot Coal with a "Commissioner's Excellence in Reclamation Award" in 2009, stated, "Patriot Coal is very deserving of this prestigious IMCC national award, and I appreciate their continued commitment to performing outstanding reclamation work. Their success and innovative approach to reclamation has transformed an eyesore into a place of beauty that the county can enjoy."

# Follow-up calls to local gas stations improve 'green' stewardship

**By Mary Jo Harrod**
**Division of Compliance Assistance**

The Division of Compliance Assistance (DCA) is analyzing data acquired during a recent study that focused on gas stations located in Franklin and Laurel counties. Funded by a grant from the U.S. Environmental Protection Agency, the purpose of the study was to determine if environmental assistance provided to gas stations would improve compliance rates and produce more sustainable behaviors as opposed to traditional inspections and oversight.

"We felt that increased contact with station owners and managers resulting in an increased involvement in sustainability actions would lead to compliance improvements," says Kenya Stump, Environmental Assistance branch manager.

In addition, the study also gathered information to determine the most effective means of reaching out to the gas station sector. For 10 months, the same assistance materials were sent to 35 gas stations in Franklin County and to 54 stations in Laurel County. These items included a calendar, scorecard and sustainability CD-ROM. DCA also partnered with the Underground Storage Tank Branch and Division of Enforcement on an environmental compliance webinar aimed at this sector.

In Franklin County, follow-up phone calls were made to each station within six weeks of each mailing. Additionally, if the station owner or manager was interested, Natalie Cooke, environmental program specialist from DCA, made a site visit. Laurel County facilities did not receive follow-up phone calls so that the agency could determine what impact personalized contact would have in the behaviors of the facilities.

An early review of the data shows that personalized contact did make a significant difference in facility choices. Sixty percent of Franklin County gas stations asked for an on-site stewardship assessment or help in developing a project for KY EXCEL, the state's voluntary environmental leadership program. There was, however, no response from Laurel County station owners or managers.

Regardless of what a full analysis of the data shows, personalized contact appears to have encouraged stewardship and a number of stations chose to implement recycling and energy-efficiency projects to reduce their environmental impacts.

With assistance from the Division of Waste Management, a four-week cardboard recycling pilot at one station revealed that 45 percent of the dumpster waste stream was cardboard and 25 percent was being wasted because the cardboard was not being compacted. The station set up a cardboard recycling program that diverts 15 to 25 pounds a month from its landfill-bound waste stream. This has allowed the station to reduce the amount in the trash dumpster by 30 to 35 percent, making it possible to rent a small dumpster and save money. Another station owner purchased Energy Star appliances and is checking into LED lighting for his facility.

"One station saved roughly 2,857 kilowatt-hours, subsequently $200 in one month, after taking DCA site-visit report suggestions," said Cooke. "The owner put no money into these savings. More impressive, gas sales were up, so more people were using his gas pumps. This is very encouraging for the owner."

To complete the study and assess compliance in the two counties, DCA will use a statistical review of historical and current compliance data using the department's tracking database. Results of the study will be available this summer.

**ABOVE:** ***Derek Brown with the Division of Waste Management, loads cardboard collected during a recycling pilot by a gas station in Franklin County.***

**RIGHT:** ***Natalie Cooke (left) met with Brian Bentley of the Division of Waste Management and the station manager to close out a 4-week cardboard and fiberboard recycling pilot aimed at educating and assisting stations in establishing efficient and cost-effective waste management systems.***
Photos by DCA

# Upcoming workshops

*The Division of Compliance Assistance (DCA) is offering a variety of workshops that range from half day to full day, with discounts being offered to KY EXCEL members. For more information about these or other workshops, call 800-926-8111 or e-mail envhelp@ky.gov. Check the DCA training schedule at http://dca.ky.gov/Pages/Training.aspx for future workshops.*

### *Hazardous Waste Generators*

This workshop will ensure that a facility achieves and maintains compliance with hazardous waste generator regulations. It is designed for environmental compliance personnel at industrial facilities, federal facilities and commercial businesses with hazardous waste regulatory responsibilities. Environmental staff responsible for hazardous waste management procedures and those responsible for supervising employees that work with hazardous waste will benefit from this course.

**Date:** April 26, 2011
**Time:** 8:30 a.m.–4 p.m. EDT
Registration begins at 8 a.m.
**Location:** Department for Environmental Protection Training Center, Room 301D, 300 Fair Oaks Lane, Frankfort, KY
Reserve your seat at http://dca.ticketleap.com/hazwastegen

### *Revitalization of Problem Properties*

This workshop helps attendees understand the process of taking a property that has environmental concerns and addressing issues that prevent it from being redeveloped into a productive property. Topics will include liability issues, property assessment basics, funding and working with the Kentucky Department for Environmental Protection through the process.

**Date:** May 12, 2011
**Time:** 8 a.m. - 4 p.m. EDT
(tentative)
**Location:** Department for Environmental Protection Training Center, Room 301D, 300 Fair Oaks Lane, Frankfort, KY

### *Environmental Management Planning*

Are you in charge of producing your organization's environmental management plan? This workshop will assist you in keeping your facility in compliance. Topics will include how to organize your environmental information, develop policy statements, set goals and objectives, implementation and corrective actions. To register, go to http://dca.ticketleap.com/emp

**Date:** May 25, 2011
**Time:** 8 a.m. - 4:30 p.m. EDT
Registration begins at 8 a.m.
**Location:** Department for Environmental Protection Training Center, Room 301D, 300 Fair Oaks Ln., Frankfort, KY

### *Greening Your Restaurant*

This workshop will help the restaurant industry utilize its many opportunities to go green and save money. It will help owners and managers assess their property and identify improvement opportunities and resources to get the job done.

**Date:** June 16, 2011
**Time:** 8 a.m. - 4 p.m. EDT
(tentative)
**Location:** Department for Environmental Protection Training Center, Room 301D, 300 Fair Oaks Lane, Frankfort, KY

## 2011-12 Dry cleaners calendar now available

**By Mary Jo Harrod**
**Division of Compliance Assistance**

The use of hazardous chemicals in the dry cleaning process, including perchloroethylene (also commonly called perc), can pose safety and environmental concerns if not managed appropriately. For this reason, there are state and federal regulations that apply to the use of these chemicals in an effort to protect the environment and individuals.

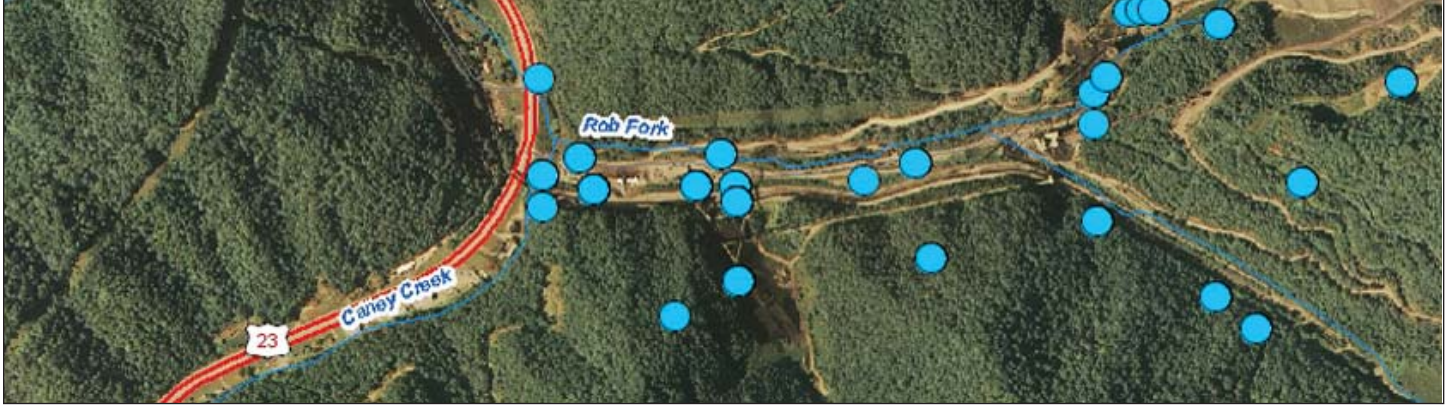
The 2011-12 Environmental Recordkeeping Calendar for Dry Cleaning Facilities is available at http://dca.ky.gov/Pages/ResourceDocuments.aspx. Click on the "program" tab under Compliance Assistance.

Prepared by the Division of Compliance Assistance (DCA), this free calendar can help facilities track key records that will document self-inspections and chemical usage. The calendar also helps dry cleaners implement and track their efforts to comply with environmental laws by:

- tracking perc purchases and annual usage.
- recording results of required leak checks and equipment monitoring.
- organizing and documenting compliance in the event of an EPA inspection.

While this calendar is not inclusive of all environmental requirements that may apply at a facility, it will serve as a good starting point for tracking important information related to environmental compliance.

The division recognizes that environmental standards can often seem confusing and difficult and that small businesses play an important role in Kentucky's communities and its economy. Free assistance is available to help facilities with their environmental questions and stewardship. Contact the division toll free at 1-800-926-8111.




# Focus on watershed protection

**By Linda Potter**
**Department for Natural Resources**

As Americans ponder the use of coal and its environmental impact, the Kentucky Department for Natural Resources (DNR) has aggressively sought and received more than $452,425 in federal funds for watershed protection in Kentucky's coal fields.

Dr. Richard Wahrer, environmental scientist for DNR, secured funding of $327,888 from the federal Office of Surface Mining (OSM) to streamline and improve the procedures regarding a Cumulative Hydrologic Impact Assessment (CHIA), which gauges the effects of mining on the hydrologic balance of watersheds. Additionally, DNR has been awarded two grants from EPA—$50,000 to purchase water sampling equipment for the watershed assessments and $74,537 for the advancement and implementation of a coal mining database that will supplement the national GeoMine program.

The database will be created using Geographical Information System (GIS) software, which allows the department's GIS team, housed within the Division of Mine Permits, to take an electronic map and process it so that points on the map can be "physically" located on the earth by geographically referencing (georeferencing) them.

For example, a GIS representation of Bernheim Forest can be used with other maps—topographic maps, underground mine maps, gas well maps, pending permit maps, permit locations—as overlays to glean a comprehensive snapshot of the area. The expertise of the GIS team drives development of the CHIA and GeoMines projects.

***The Division of Mine Permits GIS team (left to right) Amy Covert, Jeff Laird, Ambra Scott and Daryl Hines.*** DNR photo

Mining-related data held by OSM and its state partners are often difficult to access and use within and across administrative boundaries. Much of these data are still in the form of paper permit files containing maps and water quality reports. Even older GIS or other digital data may not be in a format easily used by agencies and the public.

The GeoMine program will:

- Provide a collaborative vehicle to share coal-mining data, including coal permit boundaries, critical watershed features, federally listed species and the status and success of land reclamation.
- Ensure transparency in regulatory decisions among its partners, which include the EPA and the Army Corps of Engineers, to better protect the public and environment during mining, restore lands and waters damaged by historic mining practices and facilitate improved land-use planning decisions.
- Allow the Division of Mine Permits to digitize more than 20,000 mylar permit maps that will capture the extent of mining in Kentucky from the early 1960s through the year 2000.

The GeoMines effort complements DNR's recently developed online service that gives public access to vital watershed data, which may include surface water quality, benthic information, groundwater quality, water quality violations, pollutant discharge elimination information, maps, mine history and information regarding pending mines.

The files are packaged and organized by the watershed's Hydrologic Unit Code, which is used to uniquely identify the watershed. Each of these data packages contain between 25 and 35 files and are equipped with a Water Quality Results Viewer designed to enable individuals to view, filter, sort, graph and export groundwater and surface water quality data.

"They have been great partners in promoting this cutting-edge technology. The funding from OSM and EPA was critical in allowing us to develop these valuable online tools to supplement our existing water resources and mapping programs," said DNR Commissioner Carl Campbell of his appreciation to both federal agencies. "Over the years, OSM's commitment to this department has given us the opportunity to provide the latest technical and geographical tools to ensure protection of coal field residents and their environment," Campbell said.

The data packages are available at http://minepermits.ky.gov/Pages/CHIA.aspx.

# Students learn about soil; participate in annual contests

**By Kimberly Richardson**
**Division of Conservation**

Since 1944, Kentucky students have demonstrated their creativity by drawing colorful posters and writing essays on conservation topics taught in their classrooms in conjunction with the Kentucky Association of Conservation Districts and other partners.

Last year, 39,047 art entries from 91 counties and 14,158 essay entries from 89 counties were entered in the annual Jim Claypool Art and Conservation Writing contests. The theme, *"Kentucky's Soil: All Hands In,"* was provided in an online study guide by the Kentucky Farm Bureau and Kentucky Division of Conservation. In addition, each of the 121 conservation districts received CDs containing the guide to help teachers learn more about the topic.

Students in first through 12th grades were judged at the county level by conservation district supervisors, Kentucky Farm Bureau members and local county officials resulting in one winner from each county per contest. County winners were then judged at the state level by panelists with environmental backgrounds for area and state titles. State, area and county winners received monetary awards sponsored by the Kentucky Farm Bureau. Additional awards were presented by local conservation districts.


**The Jim Claypool Art Contest state winners:**
First Place (above): Emily Welch, Bourbon County, Bourbon Central Elementary School
Second Place: Jacob McCurry, Harlan County, Harlan County Middle School
Third Place: Caroline Hamilton, Jefferson County, Sacred Heart Model School

**The Conservation Writing Contest state winners:**
First Place: Hannah Myers, Campbell County, Sonlight Ridge Academy High School
Second Place: Chelsea Pruett, Rowan County, Rowan County Middle School
Third Place: Gauge Hendon, Caldwell County, Caldwell County Middle School

## 'Capture the Earth' photo contest for students


Earth Day is April 22 and the Kentucky Energy and Environment Cabinet is encouraging middle school students (grades 6-8) to submit their original photographs for its first-ever environmental photo contest.

The winner will receive two nights lodging at any Kentucky State Resort Park with his or her family. Entries should reflect the 2011 Kentucky Earth Day theme: *Playground Earth: Get Outside, Kentucky!* that promotes connecting children with the great outdoors while instilling an appreciation for and desire to be stewards of the environment.

The deadline for photograph submissions is May 9. Complete contest rules are online at http://eec.ky.gov/Pages/earthday.aspx.

# Awards

## Kentuckians honored for leadership in conservation

Conservation leaders from across the nation met in Nashville, Tenn., on Jan. 30 through Feb. 2, 2011, for the 65th Annual National Association of Conservation Districts (NACD) meeting. The theme of the conference was *"From the Roots Up"* in reference to locally led conservation movements across the United States.

Conference attendees, including a delegation from Kentucky, learned about other states' districts and networked with partners from other agencies such as the U.S. Department of Agriculture and environmental protection agencies.

This year, the **Kentucky Division of Conservation** received the NACD Quality in District Training Award for its efforts in providing exemplary training to its district supervisors. Since 1994, the Division of Conservation has diligently worked to establish training that meets the needs of its officials as they deal with everyday administrative, fiscal and functional matters. From lessons on leadership to understanding how conservation programs work at the state and federal levels, the Division of Conservation strives to provide consistent and up-to-date instruction, and it is proud to be recognized for its efforts.

The following Kentucky attendees were also on hand to receive awards for outstanding conservation efforts:

• **NACD Friend of Conservation—Marvin Lee Bryant Jr.**—for his work with more than a dozen agencies and his dedication to conservation stewardship, research, education and outreach. Bryant, of Williamsburg, Ky., used an array of natural resources management techniques to improve what was once barren land. His contributions have benefited the wildlife habitat of Whitley County, as well as provided local landowners with a better understanding of the protection of their natural resources.

• **NACD Distinguished Service Award—Pat Henderson, NACD Executive Board Member**—for his leadership and contributions to the Conservation Partnership on local, state and national levels. As Breckinridge County Conservation District supervisor, Henderson has fought for funding and stability of conservation districts, served on his local conservation board for 30 years, held every office within the Kentucky Association of Conservation Districts and chaired many committees on the national level, including the District Operations/ Members Services Committee that began the National District Officials Training

***Continued to next page***




**TOP:** ***NACD President Steve Robinson (right) presents the NACD Quality District Training Award to Pat Henderson (left) and Steve Coleman, director of the Division of Conservation.***

**LEFT:** ***Steve Robinson presents the NACD Distinguished Service Award to Pat Henderson (left).***

**RIGHT:** ***Steve Robinson presents the NACD Friend of Conservation Award to Marvin Lee Bryant Jr. (left)*** Photos provided by the Division of Conservation

# Awards

## Coleman recognized for commitment to Conservation Partnership

Steve Coleman, director of the Kentucky Division of Conservation, was presented with the State Conservationist Award during the National Partnership Training Conference for his continued leadership and commitment to the Conservation Partnership. Coleman has worked for the Division of Conservation for more than 36 years and has been the division director for 17 years.

"Steve has used his wealth of expertise to reach out to other agencies with similar goals and pull all those resources together to create a stronger, knowledgeable group that can work to put conservation on the ground," said retiring state conservationist Tom Perrin, who presented the award to Coleman.

Coleman not only serves as a valuable contact to the 121 conservation districts across Kentucky, but he also serves the state's landowners and producers by working with many agricultural and environmental committees and agencies.

The Conservation Partnership in Kentucky includes the Kentucky Soil and Water Conservation Commission, Kentucky Association of Conservation Districts, Kentucky Natural Resources Conservation Service and the Kentucky Division of Conservation.

***Steve Coleman (left), director of the Kentucky Division of Conservation, receives the State Conservationist Award from retiring state conservationist Tom Perrin.*** Photo by Johnna McHugh

## Kentuckians honored for leadership in conservation

***Continued from previous page***

Recognition Program. Henderson was also inducted into the NACD Southeast Region Hall of Fame. As a respected conservation leader, he continues to inspire with his wealth of expertise, knowledge and passion for locally led conservation efforts.

- **NACD Outstanding Conservation District Board Member—James Lacy—**for his past accomplishments, including his involvement with district employees in planning national and regional meetings, as well as serving on national committees. Lacy, who serves as Wolfe County Conservation District supervisor, was also honored as the Board Supervisor of the Year during the National Conservation District Employee Association meeting. He was nominated by the Kentucky District Employee Association and will represent the Southeast for national competition. He has served on the Wolfe County Board for more than 30 years.
- **NACD's Top 10 Award –** Kentucky is routinely recognized as being one of the top 10 states that pay the most in dues to the NACD. Kentucky's conservation districts respect the importance of NACD's work and its efforts at the national level due to the hard work and dedication of national leaders like Pat Henderson and James Lacy.

## Celebrating Earth Day

***Continued from Page 3***

"**Duro Bag** will attend Earth Day in Cincinnati on April 16," says Matt Carter, environmental health and safety manager – Corporate, Florence. "We will have a tent set up showcasing our environmental friendly paper bags (made from recycled paper and using water-based inks). We will have employees on-site to discuss the importance of recycled paper bags, why and how paper is better for the environment than plastic and to distribute free samples. We will also be discussing and showing why some cities have banned plastic bags."

### New KY EXCEL Members

Advocate

Four Water LLC—Lexington
Maple Hill Manor Bed & Breakfast—Springfield
Northern Kentucky Chamber of Commerce—Fort Mitchell
Top of the Line Food Service—Louisville
Ward Lithographs Inc.—Mount Sterling

Partner

Smithfield Packing —Middlesboro

**Energy and Environment Cabinet**
Office of Communications and Public Outreach
5th Floor, Capital Plaza Tower
Frankfort, KY 40601

**Address Service Requested**

Presorted Standard
U.S. Postage
PAID
Permit #1
Lexington, KY

# Seedling nurseries: growing trees for healthy and productive forests

Kentucky's flowering trees of spring are a warm welcome after the long months of winter. Although all trees produce flowers, only a few of the state's native trees are showy enough to attract attention. Some of these include the Eastern redbud, flowering dogwood, pawpaw, wild plum and yellow-poplar. Their peak of bloom moves from south to north, and from lower to higher elevation as the average daily temperature rises. A good time to take a driving tour to view these trees is during the last two weeks of April, but any time from March through May you can look for these showy woodland bloomers.

The feature tree for this issue is the Eastern redbud. Redbud seedlings, as well as the other 'showy' species mentioned above, are available from early fall to late winter each year from the Kentucky Division of Forestry's (KDF) nurseries. Orders are shipped at your request from late winter through early spring for planting projects during the dormant period. Visit http://forestry.ky.gov/statenurseriesandtreeseedlings/Pages/default.aspx to obtain an order form or call the division's main office at 1-800-866-0555.

### *Just the Facts: Eastern Redbud (Cercis canadensis)*

- **Growth:** Eastern redbud is a relatively small tree growing up to 30 feet tall with a 35-foot spread and a multi-trunk growth habit. Flowers are reddish purple in bud, becoming rosy pink to purplish when open. The tree flowers for two to three weeks in March or April before leafout. Fruit is a 2-inch to 3-inch-long brown pod. Leaves are alternate, simple and broadly heart-shaped with a reddish purple color when they open, changing to a dark green in summer.
- **Sites:** Eastern redbud grows well in a number of soil types except those that are consistently wet. It tolerates both alkaline and acidic soils as well as full sun and light shade.
- **Range:** Eastern redbud grows throughout much of the eastern United States from New Jersey to northern Florida and extends as far west as Texas, Oklahoma and Kansas.
- **Human uses:** Eastern redbud is a popular ornamental tree, which can be found in many gardens and streetscapes. Because it is one of the earliest flowering trees, it is often used to add color to gardens.
- **Wildlife uses:** Cardinals, rose-breasted grosbeaks and bobwhite quail have been observed feeding on redbud seeds. Seed pods attract white-tailed deer and gray squirrels in the fall. Redbud flowers attract honey bees in the spring.
- **Tree Trivia:** In some parts of southern Appalachia, green twigs from the Eastern redbud are used as seasoning for wild game such as venison and opossum. It also is sometimes referred to as the Judas tree because it dates back to biblical times.