

Land Air & Water



Kentucky Energy and Environment Cabinet

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Land Air & Water

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From the Secretary's Desk

I'm writing this message as a followup to hearings conducted by Region IV of the U.S. Environmental Protection Agency (EPA) to hear comments on EPA's pending objections to 36 draft Clean Water Act 402 permits (NPDES permits for discharges) for coal mining operations in eastern Kentucky. The Energy and Environment Cabinet requested that Region IV conduct these hearings to give those affected by these pending objections an opportunity to share their concerns. As expected, the hearings were attended by hundreds of people who represented a broad range of interests related to mining, especially surface mining, in eastern Kentucky.

I don't expect all readers of *Land, Air & Water* to agree with the cabinet's position on this particular issue—the issue of EPA's pending objections. As I stated in my comments, the hearings themselves were unprecedented in cabinet history. Also without precedent is the number of pending permit objections, as Department for Environmental Protection Commissioner Bruce Scott stated in his comments. He noted that Kentucky has been delegated by the EPA to administer the NPDES program in Kentucky since 1983, and since that time, out of thousands of permits proposed, there is only one (of which the agency is aware) instance where an objection may have occurred.

We are hopeful that there can be rational and fair resolution on this issue, and remain committed to working with our counterparts in Region IV, as we've been doing now for more than two years. The frustration, however, also remains because a great deal of state, federal and industry resources have been expended.

As I stated during the hearings (and in my formal comments submitted to the EPA), as someone responsible for overseeing the state's environmental protection programs, I support, and am in fact obligated to enforce, regulations necessary to protect our land, air and water resources. We can and must do all that is reasonably possible to protect our environment and the lives and health of our citizens. We have federal and state laws and regulations that not only guide this process, but that bind us so that our decisions are not arbitrary, political or otherwise without basis. However, EPA should not create new regulatory requirements that have not undergone the appropriate congressional or rule-making processes. As it is, EPA is preventing, through its objection process, Kentucky, a delegated state, from issuing permits with no recourse for us or for the regulated community, or for the thousands of Kentuckians who depend on mining for their livelihoods.

Simply stated, EPA has an obligation to adhere to formal federal rulemaking processes that allow all parties to have input. Whether you agree or disagree with the cabinet's position, I encourage you to be informed on this and other environmental issues. It is through constructive dialog and discussions that we can take responsible actions to better our Commonwealth.

Should you like a copy of my comments and those of Commissioner Scott, they are available online at <http://eec.ky.gov>.

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

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Our Cover



An Eastern Tailed-Blue (*Cupido comyntas*) perches on Elephant's Foot (*Elephantopus carolinianus*). Photograph taken in Nelson County by Todd Hendricks, Division of Waste Management.



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From cooking oil to biodiesel

Franklin County school uses grant to produce biofuels

Article and photos by Mary Jo Harrod
Division of Compliance Assistance



TOP LEFT: Thomas Younger and D.J. Tabor conduct tests. **RIGHT:** Younger and Francis Wheatley (right) use soap made from biodiesel byproducts. **ABOVE:** Younger pours soap.

Since receiving \$5,000 from the 2011 Kentucky Biofuels for Schools grant program, made possible by the *TogetherGreen* Fellow Program and the Kentucky Division of Compliance Assistance (DCA), students at Franklin County Career and Technical Center (FCCTC) have learned to produce biofuels.

“I want my students to think outside the box,” says Francis Wheatley, a teacher at FCCTC. “Maybe they can start the movement to get beyond oil usage. Cooking oil that you eat can power a vehicle, and that’s pretty profound to my students.”

Wheatley’s students bought a processor and underwent training from Loyola University and Kenya Stump, who is the founder of the Kentucky Biofuels for Schools program and branch manager for the Environmental Assistance Branch in DCA.

“We set up a lab in the summer, dedicated to alternate fuels, with biodiesel being a big part of that,” explains Wheatley. “We receive five gallons of cooking oil at a time from the school cafeteria and 40 gallons from a local business.”

All 20 of Wheatley’s students in the upper-level classes have been trained to produce biodiesel. However, two students have taken the lead in the production of biodiesel—Jarrod Adams, a senior

at Franklin County High School, and Thomas Younger, a junior from Western Hills High School.

Students work in groups of three and make five to 10 gallons of biodiesel at a time. Before making the biofuel, a titration test is done on the used oil to check for free fatty acids and calculate the amount of methanol and catalyst to use. Before moving to the large processor, students conduct a jar test to ensure the reaction is correct. Once a student moves to the large processor, it takes about three days before the final biodiesel is ready for use. Students then wash and dry the biodiesel prior to storage. After the fuel is made, a burn test is performed with lanterns to test its quality and check the pH. A gel test is also done to find the temperature where the biodiesel will solidify. Students check for soap and glycerin byproducts through other quality assurance tests.

Finally, students compare emissions from normal diesel to that of the biodiesel using tailpipe emission testing equipment. What they have found is that the biodiesel cuts pollution emissions by 50 percent. This shows real-time environmental benefits from switching to biodiesel.

The biodiesel produced by the students is used in furnace-type heaters in the

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The Audubon Society and Toyota launched the five-year TogetherGreen initiative in 2008 to build the promise of a greener, healthier future through innovation, leadership and volunteerism. Founded in October 2010, the Kentucky Biofuels for Schools program encourages Kentucky high schools to teach, produce and use biofuels within their schools and community.

Agencies channel knowledge into stream restoration

Article and photography by Allison Fleck
Division of Water

When sediment plumes began appearing in Bath County's Clear Creek Lake near the mouth of Clear Creek, Tom Biebighauser, a wildlife biologist with the U.S. Forest Service Cumberland District in Morehead, called upon the Natural Channel Design Working Group (NCDWG) to study the problem.

The NCDWG brings together experts from diverse disciplines to explore how to restore stream health using natural channel design methods. The disciplines represented include microbiology, geology, chemistry, botany, hydrology, soil science, engineering and forestry. There are also college professors, government administrators and grant writers.

Natural channel design is an approach to stream restoration that addresses the entire stream system. It is based on "fluvial geomorphology," which is the study of a stream's interactions with the local climate, geology, topography, vegetation and land use. In Latin, "fluvial" refers to "river," "geo" to "earth or soil," and "morphology" to "form and structure." Fluvial geomorphology involves a complex set of factors, requiring expertise from many disciplines.

The goal of natural channel design is to work with, not against, a stream's natural form and function, said Dr. Art Parola, director of the University of Louisville Stream Institute, which initiated formation of the group in 2000.

Parola said the Kentucky landscape has changed greatly since the 1700s, when human activity intensified. Streams were often buried, dredged, straightened or moved to accommodate the growth in agriculture, mining, logging and urbanization.

The focus of natural channel design is to restore those streams rather than stabilize or enhance them. All successful designs achieve sediment transport, habitat enhancement and bank and channel stabilization. Contours and gradient are also carefully calculated.

Barbara Scott, working group member and supervisor of the DOW Water Quality

Certification Section, said many people don't realize how important streams are to the environment.

"Streams function as drainage systems for watersheds, but they also moderate the flow of floodwaters, process pollutants, recharge groundwater, support wetlands and provide habitat for wildlife and aquatic organisms," said Scott. "When those streams are damaged, entire systems can be disrupted."

"We are going to work our way upstream from the sediment plume to discover what factors might be involved," said Biebighauser. He had suggested the group meet on site in Bath County for their bimonthly meeting. "Because sediment in lake water is harmful to fish and other aquatic life, we will explore how to restore the stream's health using natural channel design methods."

Scott said these methods might include creating a meandering path to slow the water; installing in-stream structures such as boulders, logs and root wads to create pools and riffles; and planting vegetation to provide long-term stability and floodplain functionality.

John Walker, a park ranger with the U.S. Forest Service, suggested logging activities 20 years ago are contributing to the current erosion problem.

"The old root systems are rotting and no longer hold soil," he said. "Plus, there was a slide on the hill above us, which is also releasing sediment into the waterway."

As the NCDWG continued to inspect Clear Creek and suggest ways to reduce erosion, Scott said the field trip demonstrated the value of bringing together experts in a wide



(Top to bottom): U.S. Forest Service wildlife biologist Tom Biebighauser (right) explains the morphology of an incised streambank to members of the Natural Channel Design Working Group during a field trip to Bath County. Division of Water (DOW) biologist Al Westerman lifts a blanket of thick moss on a fallen tree to search for salamanders. DOW geologist Beth Finzer (right) and Claudia Cotton, a U.S. Forest Service soil scientist, study soil and rocks found on the incised banks of the Rebel Trace Creek. Claudia Cotton studies the embankment of Rebel Trace Creek.



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And the winner is...Kentucky

Commonwealth receives 2012 ENERGY STAR Partner of the Year Award

By Eileen Hardy

Department for Energy Development and Independence



(Left to Right) John Davies, deputy commissioner of the Kentucky Department for Energy Development and Independence; Jean Lupinacci, U.S. Environmental Protection Agency director of the ENERGY STAR Commercial and Industrial Branch; and Len Peters, secretary of the Kentucky Energy and Environment Cabinet. Photo courtesy of the EPA

Long recognized for its rich heritage and tradition, Kentucky has been in the spotlight as a leader in the national “green” economy, promoting many creative partnerships and initiatives toward energy efficiency and independence.

This spring the Commonwealth received a 2012 ENERGY STAR Partner of the Year award from the U.S. Environmental Protection Agency (EPA) for exceptional energy efficiency and related program delivery. This is the first time a state government has received the honor. The award was presented at a ceremony in Washington, D.C., in March, which also marked the 20th anniversary of ENERGY STAR.

Kentucky has enjoyed considerable success in using ENERGY STAR as a means to transform its markets and economy toward greater energy efficiency. The award represents collaboration among many partnerships created with federal stimulus funding awarded by the Department

for Energy Development and Independence. Programs such as the School Energy Managers Project, managed by the Kentucky School Board Association, and the Kentucky National Energy Education Development Project created learning opportunities to include environmental stewardship and uncovered savings of more than \$12.7 million. Kentucky consumers saved more than \$1,519,000 annually on their energy and water bills by purchasing ENERGY STAR appliances through the Appliance Rebate Program. And, with direct support from ENERGY STAR, the Louisville Kilowatt Crack Down project promoted energy efficiency awareness with more than 200 building owners and operators joining a public-private partnership.

Also sharing in the 2012 Partner of the Year award were the Kentucky Housing Corporation (KHC) and Kentucky Pollution Prevention Center (KPPC). Collectively, their

efforts to communicate the importance of energy efficiency to a wide audience distinguish the Commonwealth of Kentucky, the KPPC and the KHC as leaders.

KHC launched the statewide Kentucky Home Performance (KHP) with ENERGY STAR program last year to help Kentucky households become more energy efficient and comfortable, providing cash rebates and below-market financing for improvements to single-family residences. KHP’s network of energy evaluators and contractors completed more than 500 home upgrades with a total homeowner investment of more than \$6.8 million, helping to create new jobs in 2011. Energy reduction per home averaged 26 percent.

As a champion of Kentucky energy management programs, the KPPC enrolled 100 percent of the state’s 174 school districts in the Kentucky Energy Efficiency Program for Schools, with 70 percent of Kentucky’s K-12 school districts becoming ENERGY STAR partners. KPPC provided key assistance in helping school districts reduce operational costs and improve energy performance. The center’s portfolio of programs that use ENERGY STAR’s Guidelines for Energy Management help build self-sustaining

energy management programs. Through its Environmental Sustainability Program and KEEPS (Kentucky Energy Efficiency Program for Schools), KPPC promotes ENERGY STAR processes and resources in an effort to encourage behavioral and operational changes that implement best energy management practices as an effective business model.

In addition to the partnership award, Kentucky also had three private sector nationally recognized awardees—GE Appliances and Lighting of Louisville; LG&E/KU and Toyota Motor Engineering and Manufacturing North America Inc. in Erlanger, Ky.

Over the past 20 years, with help from ENERGY STAR partners, American families and businesses have saved about \$230 billion on utility bills and prevented more than 1.7 billion metric tons of carbon pollution. Nationally, the 109 ENERGY STAR award winners were chosen from nearly 20,000 partners from across the nation. Organizations were recognized in one of four ENERGY STAR award categories—corporate commitment, sustained excellence, partner of the year, and excellence in delivering specific promotions. For more information about ENERGY STAR, visit www.energystar.gov or call 888-782-7937.



Participants at the summit take time out for a tour of the Woodford Reserve facility.
Photo by Mary Jo Harrod

Bourbon and the environment

A recipe for a great combination

By Mary Jo Harrod
Division of Compliance Assistance

Most people probably wonder what bourbon and environmental protection have in common.

“A lot, actually,” says John Eisiminger, coordinator of the Kentucky Department for Environmental Protection’s KY EXCEL program. “Kentucky’s bourbon industry relies on natural and local resources, such as groundwater, to produce their product, and it is in their best interest to protect those resources.”

For that reason, Eisiminger and Division of Compliance Assistance (DCA) staff held a Sustainable Spirits Summit that brought together representatives from Kentucky’s distilleries and breweries and the Kentucky Distillers Association (KDA) to discuss environmental successes and challenges, as well as regulatory topics and sustainability. The inaugural summit was held in October at Wild Turkey Distillery in Lawrenceburg, followed by a second meeting in March at Woodford Reserve in Versailles.

“What we all realized was that Kentucky’s spirits industries are on the road to sustainability, and yet with all of their progress and successes, it is kept hidden from consumers and visitors,” says Kenya Stump, DCA environmental assistance manager. “Our goal now is to work with the industry to tell their environmental story and assist them with resources so they understand their obligations and can take voluntary steps to improve the environment, become more efficient and, hopefully, save money.”

Some environmental challenges faced by industry members include waste-to-energy options, reuse of waste products, staying current on federal requirements, energy, water and land conservation surrounding their historic properties, and improving internal and external communications.

“Environmental sustainability is a key corporate responsibility focus area for Brown-Forman and Woodford Reserve Distill-

Launched in 2006, KY EXCEL is a voluntary program open to any individual, organization, community or business to improve and protect Kentucky’s environment above and beyond the state’s environmental requirements. To learn more, go to <http://dca.ky.gov/kyexcel>.

ery,” said Andy Battjes, manager of environmental performance at Woodford Reserve Distillery. “The Sustainable Spirits Summit provides us with a forum to share our successes, collaborate as we develop solutions to environmental challenges and learn from other companies in our industry as we support Brown-Forman in achieving its environmental sustainability targets.”

Representatives from Jim Beam Brands Old Grand Dad Plant and Plants 1 and 2, Maker’s Mark Distillery and Heaven Hill Distilleries Inc. were invited to discuss some of their KY EXCEL projects that include forming an eco-team to lessen the environmental impact of a facility, planting native grasses and developing wetlands, creating e-scrap recycling and waste reduction programs, baling plastic, doing lighting projects and participating in adopt-a-highway programs.

Attendees agreed the meetings were beneficial in learning new ways to be sustainable and providing opportunities for networking for future information. As a result, the group decided to continue with biannual meetings rotated among state distilleries. Additionally, DCA will work with KDA to maintain an online forum for the industry and will explore the possibility of webinars and additional training being offered in the future. The group also decided to utilize Wizness, a social media site, that allows members to post news articles, reports and pose questions and receive answers about issues they are experiencing.

DCA plans to visit several distilleries this summer and develop an industry “best practices” guide.

“We want to showcase in Kentucky and nationwide what the spirits industry is doing to protect, conserve and preserve Kentucky’s land, air and water resources,” says Eisiminger.

Waste tire program benefits the Commonwealth



Workers spread crumb rubber mulch made from waste tires on a Carrollton city park playground. The mulch application was funded by an EEC grant provided by the \$1 fee per new tires paid by Kentucky consumers. DWM photo

By George Gilbert
Division of Waste Management

Continuing fluctuations in gasoline prices have not stymied our obsession with driving, nor has the number of tires we generate as a result of our persistent desire to hit the road.

In 2010 Kentuckians purchased roughly 4 million tires of all sizes, including large truck tires. That's the equivalent of 5.3 million passenger tires. With so much rubber being replaced each year, it's encouraging to know that Kentucky's Waste Tire Program is working to recycle and beneficially reuse scrap tires.

The Waste Tire Program began in 1992 when the Kentucky Legislature passed a law requiring a \$1 fee on every new motor vehicle tire. However, the fee was exempt if the tire was designated for recycling. Unfortunately, unscrupulous waste tire haulers would claim to be recyclers, allowing the tire retailer an exemption, and with no intent to recycle would stack the tires where mosquitoes could breed and, in some cases, catch fire.

As a result, waste tires in piles grew to more than 10 million statewide, and because of the recycling exemption, the Waste Tire Fund never exceeded \$360,000. The legislature convened a waste tire group that included tire retailers, waste tire transporters, state personnel, county officials and other affected stakeholders to hammer out a new waste tire law, which was passed in 1998. Under the new and current program, the Waste Tire Fund receives about \$2.6 million per year in fees, from which the Energy and Environment Cabinet (EEC) runs waste tire amnesties; grants funding for playground mulch or athletic field crumb rubber; permits waste tire accumulators, transporters and processors; and enforces the law.

"Kentucky's waste tire program continues to be one of the best in the nation," said Tony Hatton, director of the EEC's Division of Waste Management. "It represents a successful joint effort between state and county government leading to a high recycling rate and reduction of waste tire dumps."

In January, the Division of Waste Management released its 2011 Waste Tire Report, which showcases the effectiveness of the waste tire program in the Commonwealth. Key points from the report include:

- Kentuckians recycled about 81 percent of their waste tires compared to 78 percent nationally for 2009, the last year that the Rubber Manufacturers Association compiled the data. Kentucky's major markets for waste tires include:

- √ Tire derived fuel (62 percent)—using whole tires or shredded tire pieces combined with coal to make energy.

- √ Disposal (19 percent)—landfilling waste tires after cutting or shredding to prevent air entrapment that would raise them to the surface and interfere with garbage compaction equipment.

- √ Ground rubber (14 percent)—includes crumb rubber that can be added to athletic fields to resist compaction of soil, and larger mulch that improves falling resistance and decreases injuries at playgrounds.

- √ Civil engineering (4 percent)—landfill bottom plastic liner protection in which tire derived chips are added over gravel or cloth fabric and drainage netting to further protect the thin plastic and manufactured clay liners beneath.

- Waste tire amnesties collected 1.08 million tires in 2011 compared to 0.9 million in 2010. Since 1998, the program has funded the removal and disposal of nearly 18.3 million waste tires at a cost of \$18.3 million from 120 county amnesties.

- Approximately 2.1 percent of waste tires were illegally disposed in open dumps or tire piles. The EEC provided \$256,461 to 117 counties to pick up and dispose of 249,312 tires.

- Last year, only four cases of West Nile Virus were reported. Success may be attributed to the removal of waste tire piles, which breed mosquitoes in standing water trapped inside.

- In 2011, the EEC granted \$400,000 to purchase crumb rubber for athletic fields and rubber mulch for playgrounds.

- The in-state markets for tire derived fuel increased in 2011 from 0.8 million to 1.7 million tires per year, or 28 percent to 55 percent.

- Future recycling markets would strengthen the free market and could include:

- √ Incorporation of rubber from waste tires into automotive parts, as Kentucky is the fourth largest auto producer in the U.S.

- √ Rubberized asphalt in specialized applications, such as open-graded friction course to reduce expensive noise reduction barriers and allow rain drainage to prevent hydroplaning accidents, and gap-graded overlays to increase pavement strength, longevity and drivability.

"In January, the division worked with the Finance and Administration Cabinet to award the fiscal year 2012 amnesty contract and will be ready to continue this popular program in the fall," said Ricky Solomon, supervisor of the Recycling Assistance Section.

The Waste Tire Report is found at <http://waste.ky.gov/RLA/Waste%20Tires/Pages/default.aspx>. For questions about the report, email George.Gilbert@ky.gov or call 502-564-6716.

Urban meets “wild” in Rubbertown



By Cindy Schafer,
Office of Communications, with
Carolee Crowe, Michelin/ASRC

American Synthetic Rubber Co. (ASRC) in Louisville manufactures synthetic rubber for the tire industry. As a master member of KY EXCEL, the company has made significant environmental improvements by recycling or reusing 98 percent of its manufacturing waste and reducing air emissions from its processes. ASRC, located in the Rubbertown neighborhood, has also given new life to a closed landfill near the plant by developing a certified wildlife habitat that includes prairie, wildflower, forest and wetland areas. The habitat provides research and educational opportunities for local groups and schools.

The idea for a wildlife habitat came about in 2006 when ASRC assisted Louisville’s Farnsley Middle School with developing an outdoor classroom based on a “native habitat” landscape.

“In working with Farnsley’s outdoor classroom planners, and while attending community meetings on behalf of ASRC, I realized that there weren’t significant amounts of green space in the industrial areas that make up Rubbertown,” said



Rich Robinson, environmental and security manager at ASRC.

That same year, ASRC was accepted into the U.S. Environmental Protection Agency’s (EPA) National Environmental Performance Track program, making it the first company in Jefferson County and the first chemical company in Kentucky to be accepted into the program.

“Through our partnership with the EPA, we met with the Wildlife Council and learned about their national program that encourages companies to convert unused land into wildlife habitats,” Robinson continued. “To further explore the idea, I contacted the Kentucky Department of Fish and Wildlife Resources to get their thoughts on ASRC converting an old landfill across the street from our

TOP LEFT: ASRC employees Gretchen Thompson, Bruce Lucas and Marie Bordas plant native wildflowers after weeding out invasive species. **RIGHT:** Farnsley Middle School students visit the bee hives in the wildlife habitat. **ABOVE:** Bob Anson and other ASRC employees carry trees for planting in the habitat. Photos courtesy of Carolee Crowe

Join KY EXCEL today!

KY EXCEL is the Department for Environmental Protection’s free program whose members voluntarily undertake projects that enhance and protect Kentucky’s environment. Become an environmental leader by joining KY EXCEL. To learn more, call 800-926-8111 or visit <http://dca.ky.gov/kyexcel/>.

Rubbertown plant into a native wildlife habitat. I also shared this idea with various Rubbertown community and business leaders, who were very enthusiastic about the conversion.”

Waste Management, the company that owns the 75-acre landfill property, was immediately sold on the idea.

Since 2007, ASRC employees have planted trees, wildflowers and shrubs on the site. Prairie and wildflower areas that were seeded have been cleared of invasive species and maintained using mowing treatments for weed control to ensure native species continue to flourish.

Two bee hives were installed in 2010 and produced honey the first year. Cindy Ems, ASRC’s environmental coordinator and beekeeper, led a group of students

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Godbold named Tree Farm Inspector of the Year

By Lynn True
Division of Forestry

Sean Godbold was recently honored as the 2011 Kentucky Tree Farm Inspector of the Year at the Kentucky Forest Industries Association's 47th annual meeting. Godbold, a service forester for the Kentucky Division of Forestry's Central District office, has helped advance forest management through his work with private landowners and the Kentucky Tree Farm Program since 2007.

Godbold's commitment to inspecting and recertifying tree farms has helped promote the program by developing forest stewardship plans for private nonindustrial forest landowners, marking timber for sale and marking timber stand improvement. In addition to completing inspections and bringing new tree farms into the program, Sean has also been involved with activities that promote the benefits of tree farms and sustainable forestry.

In order to become a certified tree farm and maintain certification, landowners must implement a management plan based on strict environmental standards and pass an initial inspection and subsequent inspections every five years.

Kentucky has more than 800 certified tree farms owned by private landowners who manage their forests for a wide range of environmental, economic and social benefits. Tree farmers share a unique commitment to protect wildlife habitat, watersheds, woodlands and to provide recreation for their communities while producing wood for America. These individuals hold the key to sustaining our forests.



Forester Sean Godbold (left) receives the award from Tree Farm Committee Chair W. Cary Perkins. Division of Forestry photo

The Kentucky Tree Farm Committee is sponsored by the Kentucky Forest Industries Association and the Kentucky Division of Forestry and is part of the American Tree Farm System promoting sound forest management through sustainable forestry. For more information about the program or how you can become a certified tree farmer, contact Bob Bauer at 502-695-3979 or Pam Snyder at 1-502-564-4496.

More information is available at <http://www.kytreefarm.org/> or <http://www.forestry.ky.gov/programs/stewardship/American+Tree+Farm+System.htm>

Galloway recognized as Outstanding Service Forester

By Lynn True
Division of Forestry

In recognition of outstanding professional services, Kevin Galloway was recently honored as Outstanding Service Forester by the Kentucky Woodland Owners Association (KWOA). Galloway, who works for the Division of Forestry's Northeastern District, has assisted private landowners with managing their forestlands since 1992. He was selected by KWOA to receive the award based on his accomplishments in forest management and his long-time association with private forest landowners.

As a service forester, Galloway provides technical assistance to landowners, prepares forest stewardship plans and inspects American Tree Farms for certification. His responsibilities also include fighting wildfires, conducting forestry education programs and assisting with timber harvest inspections.

"Kevin is highly respected and appreciated by landowners throughout northeastern Kentucky and by his fellow foresters across the state," said Leah MacSwords, director of Kentucky Division of Forestry. "The division is fortunate to have the dedication, experience and leadership of employees like Kevin."

Galloway's district serves Bath, Boyd, Carter, Clark, Elliott, Fleming, Greenup, Lewis, Mason, Menifee, Montgomery,



Service Forester Kevin Galloway (right) receives the award during the KWOA annual meeting. Division of Forestry photo

Morgan, Nicholas, Robertson and Rowan counties. Despite a demanding workload, he also makes time to work with other agencies, including the conservation districts, county extension, Kentucky Department of Fish and Wildlife Resources, and the USDA Natural Resource Conservation Services and Farm Services Agency.

Brownfields are ideal locations for healthcare facilities

Articles by Herb Petitjean
Division of Compliance Assistance

Finding property to open a healthcare facility, especially property in the right location, can sometimes be a discouraging task. But, the staff at the Kentucky Brownfield Redevelopment Program can help alleviate some of that stress. The program puts abandoned and underutilized properties like old gas stations, factories and dry cleaners that may have environmental issues back into productive use. Many of these facilities would be ideal for clinics, dental offices and other healthcare facilities, but they are vacant due to concerns about potential contamination from past uses.

These properties are often in underserved areas. Redeveloping them helps healthcare providers take advantage of location, existing infrastructure and, oftentimes, the buildings. Multiple funding sources are available to assist in the transformation of these properties, in which healthcare providers are removing contamination and blight and helping to revitalize the community.

Here's how the process works:

- Brownfield Redevelopment Program staff meets with providers to learn about the communities they would like to serve and their criteria for the property and/or building.
- The program identifies potential properties in those communities, compiles basic information about the properties and presents the candidate sites to the healthcare provider.
- If there is a suitable property, the program can often provide a free environmental assessment that helps the healthcare provider decide if they would like to develop on the property. The assessment also provides a degree of environmental liability protection for the provider.
- The program can assist the healthcare provider with identifying and applying for funding to clean up and redevelop the property.
- Lastly, the program helps to shepherd the property through the cleanup and redevelopment process.

Putting healthcare facilities on brownfields can improve both the health of citizens and of the communities in which they live. For more details about this initiative, email herb.petitjean@ky.gov or call 800-926-8111.

Agencies channel knowledge into stream restoration

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range of disciplines to solve a complex problem.

"Every stream situation is different and presents a unique set of circumstances that are constantly evolving," said Scott. "As a team, we can combine our knowledge to consider alternatives before deciding on the best approach for a given stream project. We will continue to work to find a solution for Clear Creek."

Natural Channel Design Working Group member agencies

- Kentucky Division of Water
- Kentucky Department of Fish and Wildlife Resources
- Kentucky Transportation Cabinet
- University of Louisville
- U.S. Forest Service
- U.S. Army Corps of Engineers
- Natural Resource Conservation Service

Kentucky Takes Steps to Encourage Brownfield Redevelopment

Since many businesses hesitate to redevelop vacant brownfield properties because of potential environmental issues, Kentucky has taken steps to reduce some of those concerns.

Legislation enacted in 2005 provides environmental liability protection to bona fide prospective purchasers who have no affiliation with the responsible party, have conducted an environmental assessment prior to acquisition and are committed to acting in a responsible manner by meeting other specified requirements.

House Bill 465, which was enacted this spring, provides greater clarity to these requirements and also addresses liability concerns related to petroleum releases.

The Kentucky Department for Environmental Protection and the U.S. Environmental Protection Agency (EPA) are currently finalizing a Memorandum of Agreement that will clarify the roles of these two organizations in overseeing property cleanups. In the agreement, the EPA formally recognizes that Kentucky's voluntary cleanup program is protective of human health and the environment. The EPA also agrees that, with rare exception, it will not take action against any party conducting a cleanup under the state program.

Through House Bill 465 and the agreement, Kentucky is reducing the liability issues related to revitalizing these abandoned properties. The Kentucky Brownfield Redevelopment Program is ready to answer questions about liability, as well as assist in identifying tax credits and other incentives that help redevelop these blighted properties.

For additional information about the Kentucky Brownfield Redevelopment Program, email herb.petitjean@ky.gov or call 800-926-8111.

After the storm

KYEM and DEP offer assistance to West Liberty and Morgan County during extraordinary cleanup efforts

By Roberta Burnes, Division for Air Quality and Virginia Lewis, Division of Waste Management

Tim Conley remembers exactly where he was at 5:47 p.m. on March 2, 2012. “I was in the vortex of a tornado,” says Conley, and he isn’t joking. The Morgan County judge-executive was standing in the doorway of West Liberty’s city hall, ushering pedestrians into the building as a powerful storm approached. “I looked up and there it was—the inside wall of the tornado, right there in front of me,” he recalls. Within minutes, the EF-3 twister had virtually leveled the eastern Kentucky town. “As soon as it was over, we got to work,” says Conley, “and we haven’t let up since.” The tornado outbreak killed 24 people in Kentucky, including seven from Morgan County. But, it could have been much worse. Only two days earlier, tornadoes had swept through Morgan and several other Kentucky counties. So when the National Weather Service predicted even more powerful storms on March 2, says Conley, “folks paid attention and took cover.”

How do you prepare for the unthinkable? Kentucky’s Natural Disaster Plan was created in the wake of the tornado “super outbreak” of 1974, when 148 tornadoes swept through the eastern U.S. Kentucky’s plan relies on a network of local, state and federal agencies, all prepared to hit the ground running when the need arises.

Kentucky Emergency Management (KYEM) coordinates this partner-

ship, mobilizing needed resources and assistance during major emergencies. Directed by Brigadier General John W. Heltzel, KYEM works with all state and county emergency management officials and first responder teams for emergency operations, mitigation and recovery during natural and man-made disasters.

Search and rescue is always a top priority, but emergency responders are often stymied by impassable roads and hazard-

ous conditions such as downed power lines or chemical spills. Getting a handle on those immediate threats is essential.

“When disaster strikes, those first few hours are critical for public safety,” says Robert Francis, who leads the Emergency Response Team (ERT) of the Energy and Environment Cabinet. As soon as roads have been cleared, ERT responders focus on hazards that pose an immediate threat, such as orphaned liquid petroleum tanks (which could explode), pesticide containers, heating oil tanks, fuel cans and downed transformers.

Storm Relief for Farms

Farms in many parts of the state were particularly hard hit by the spring storms. With barns and fencing gone in many areas, farmers struggled to round up and feed surviving livestock. The Kentucky Cattlemen’s Foundation (KCF) coordinated a statewide disaster relief fund to help farmers in need.

“The entire industry got involved in the relief effort,” said KCF President Mike Bach. “Some donated their time, while others donated money and supplies.”

In just two weeks, KCF raised more than \$45,000 from businesses and individual donors from across the U.S. The money was used to purchase badly needed fencing supplies for storm-stricken counties. KCF worked with county extension agents to identify areas in need, and to connect farmers with supplies and volunteer assistance.

Transformers are the bucket-shaped cylinders that often sit atop utility poles. All transformers contain oil, which may spill when poles are knocked down. However, older transformers may also contain toxic polychlorinated biphenyls, commonly known as PCBs. Hazardous spills like these often require removing contaminated soil and disposing it in an approved landfill.

“Virtually every transformer in Morgan County came down on March 2,” said Francis.

ERT staff survey the damage in West Liberty.





Clockwise from top left: A dark stain on the pavement is spilled oil from two downed transformers amid the mangled remains of a utility pole; downed street signs; a tree filled with insulation; debris as far as the eye can see. ERT staff photos



Mountains of Debris

As storm victims struggled to assess the damage, the enormous scope of the cleanup effort began to emerge. Brick, drywall and twisted metal roofing mingled with vegetative debris and countless personal belongings. And everywhere, pink tufts of insulation clung like cotton candy to tree branches.

The Department for Environmental Protection (DEP) provided guidance on the safe handling of storm debris; however, even getting this information into the hands of storm victims was initially a challenge. With phone and internet service down in many communities, DEP staff hand-delivered storm debris fact sheets directly to residents in the hardest-hit areas.

Whenever possible, the debris was sorted into general categories at staging areas for proper disposal—damaged appli-

ances, construction and demolition debris, and vegetative and woody debris.

“We collected at least 70,000 tons of solid waste after the storms in Morgan County,” said Conley, “and that doesn’t include tree branches and vegetative waste.” Construction and demolition debris went to an approved landfill. The storms generated massive amounts of vegetative debris.

“Right from the start, we made the decision to chip and shred the woody debris rather than burn it,” Conley remembers. “I just couldn’t stand the thought of people waking up every day to a haze of smoke, and having to breathe it.”

In Morgan County alone, Conley estimates at least 70,000 cubic yards of vegetative waste was ground into 10,000 cubic yards of mulch. That’s enough mulch to fill the beds of 10,000 full-sized

pickup trucks.

Many of the buildings destroyed in the storms were older, and that presented a whole new set of challenges. Asbestos is a mineral fiber commonly found in older buildings in pipe insulation, ceiling tiles and flame retardant materials. When disturbed, microscopic asbestos particles can become airborne and inhaled. This, in turn, can lead to serious health problems such as lung cancer and mesothelioma.

“The best way to minimize this risk was to keep debris piles wet,” explains John Lyons, director of the Division for Air Quality (DAQ).

DAQ staff worked with local fire departments to encourage regular misting of demolition debris until it could be safely buried in an approved landfill.

Emergency Cleanup Grants

With cleanup costs mounting by the day, the Division of Waste Management (DWM) quickly mobilized financial assistance by offering emergency cleanup grants of \$50,000 each to storm-affected counties. Twenty-two counties applied for and received funds totaling \$1.1 million. Four of the hardest-hit counties were awarded additional funding—Laurel, Magoffin and Menifee received an additional \$75,000, while Morgan County received an additional \$150,000.

“Only days after the March 2 tornadoes, DWM staff hand-delivered grant applications to affected counties,” says DWM Director Anthony Hatton. “Most counties received checks within a few

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Lexington high school to compete at national Canon Envirothon

By Kimberly Richardson
Division of Conservation

Congratulations to the Paul Lawrence Dunbar High School Envirothon Team for achieving first place at the Kentucky Envirothon contest. The five-member team from Fayette County competed at the two-day competition in May.

“The Envirothon is a great hands-on learning experience for high schools that serves to educate youth on the importance of protecting the future of our natural resources,” said Steve Coleman, director of the Kentucky Division of Conservation, who heads up the Kentucky competition.

Students began preparing for the competition months in advance. Then, two regional competitions were held—this year at the Baker Natural Area in Logan County and the University of Kentucky’s Robinson Center for Appalachian Sustainability in Breathitt County. Overall, 34 teams competed regionally, and from those teams 13 advanced to the state competition.

Paul Lawrence Dunbar students will now have the opportunity to compete at the North American Canon Envirothon. Fifty-five teams representing 45 U.S. states, nine Canadian provinces and one Canadian territory will compete for the top prize. Teams will compete in five areas of environmental studies—soil/land use, aquatics ecology, forestry, wildlife and this year’s environmental issue—nonpoint source pollution/low-impact development. Test questions include written and required hands-on observations, measurements and calculations. Teams will also compose and deliver a 20-minute oral presentation on a given scenario pertaining to nonpoint source pollution/low-impact development and answer questions in front of a panel of judges.

“The Canon Envirothon serves as a great networking opportunity for students to meet other students from across the U.S. and Canada and introduces students to potential careers in natural resources management,” continued Coleman.

The top 15 teams will be awarded a share of more than \$125,000 in scholarships and Canon products. The contest will take place at the Susquehanna University in Selinsgrove, Penn., July 22-28, 2012. This year marks the 25th anniversary for the Envirothon competition. To learn more, visit www.envirothon.org or conservation.ky.gov.

Kentucky Division of Conservation staff coordinate the state competition. Other state agencies assist with test writing and site preparation, including the Kentucky Division of Water, Kentucky Division of Forestry and the Kentucky Department of Fish and Wildlife Resources. Sponsors include Kentucky Association of Conservation Districts, Kentucky Farm Bureau Federation, Kentucky Department of Agriculture, Kentucky Corn Growers Association, Kentucky Small Grains Association, Kentucky Farm Credit Services and Kentucky Association of Conservation Districts Auxiliary.



(L to R) Scott Christmas, Kentucky Farm Bureau; Deborah Ferguson, Maria Wang, Emma Daugherty, Lydia Livas, Orsolya Hegyi and Adam Andrews, Kentucky Corn Growers Association. David Hargis photo

Sharing the forestry message

The *Lorax* reminds children to protect their environment

By Lynn True
Division of Forestry



Dr. Seuss’ *The Lorax* has been “speaking for the trees” for more than 40 years through storytelling, musicals, television and now an animated movie. The movie and the resurgence of the book brings a welcome opportunity to take the forestry message to the classroom. Throughout March, foresters and rangers with the Kentucky Division of Forestry (KDF) visited schools and read *The Lorax* as part of National Reading Month. Likewise, Energy and Environment Cabinet Secretary Len Peters read the book to a group of first-graders in Franklin County as part of 2012 Earth Day and The Year of Kentucky’s Forests activities.

“Reading *The Lorax* will help start a dialogue with students about how to properly manage and protect natural resources,” said Leah MacSwords, director of KDF. “We hope that students will understand that trees are renewable and that using a resource in a responsible manner is a necessity and not a bad thing.”

Secretary Len Peters (above) reads *The Lorax* to first-grade students at the Early Learning Village in Franklin County in celebration of Earth Day and The Year of Kentucky’s Forests. Photo by Ricki Gardenhire

ECAP: simplifying compliance

Real customer service, a real person, real results

By Mary Jo Harrod
Division of Compliance Assistance

“Compliance Assistance. This is Kerri. May I help you?”

This is what callers hear when they call the Environmental Compliance Assistance Program’s (ECAP) Help Desk with questions about environmental compliance and regulations.

Kerri Cope, along with Kenya Stump and Emily Ohde, provides free assistance to state businesses, individuals and

ECAP staff, therefore, must be aware not only of what the department’s regulations are and what resources are available, but also what else is going on in state government and directing callers to the appropriate contact or resource.

“Our goal is to respond to a client’s request within 24 hours. Most people are very happy to be able to talk to someone and have that person listen to what

has the potential to have a greater impact on small businesses.

“Air regulations can be very daunting, and emissions calculations can be difficult. Our job is to help with that and make the process easier to navigate and understand,” says Cope.

Small businesses often do not have the technical staff to handle safety, health and environmental matters. That is where ECAP provides assistance. ECAP’s services include hotline assistance, site visits, classroom and electronic training and developing resource guides to help with understanding environmental regulations.

“Even basic paperwork with the department can be complicated if you are a business that has never had to deal with environmental issues before,” says Cope, who has worked in Division of Compliance Assistance (DCA) since 2007. “We help to ensure that businesses or other facilities understand what they are applying for and how to do it in the most efficient way possible. After that, we strive to work with them on understanding what their obligations are and to be better prepared for an inspection. In essence, we act as a go-between for the regulated community and the department.”

One advantage of being proactive and working with ECAP is that when clients ask for assistance, they are eligible for certain “enforcement discretion” when areas of noncompliance are identified.

“Our ultimate goal is to help increase compliance and understanding of environmental obligations so that facilities become better environmental stewards,” says Stump.

Clients ask a variety of questions—some of which fall under DCA’s jurisdiction and some that have to be directed to other areas of state government.

For more information about DCA or ECAP, call 800-926-8111 or visit <http://dca.ky.gov/Pages/default.aspx>.



Kerri Cope

“Our ultimate goal is to help increase compliance and understanding of environmental obligations so that facilities become better environmental stewards.”

Kenya Stump
ECAP Branch Manager

organizations as she explains the caller’s environmental obligations or works with them to correct problems and get back into compliance.

“We get calls about everything—regulations regarding air, water and waste, plus calls about topics other than those regulated by the Department for Environmental Protection, such as radon, black mold and even bedbugs,” explains Cope. “Callers will tell us what they do and then ask if they need a permit or what regulations apply.”

their problems are and be willing to find an answer. They want an advocate and someone to explain things in plain language,” says Kenya Stump, ECAP branch manager.

ECAP operates the Small Business Environmental Assistance Program, mandated under the Clean Air Act, and one of a nationwide network of small business assistance providers. The majority of calls received by ECAP deal with water issues; however, when small businesses call, it is usually about air regulations because that

Meet Ben Ueltschi

Caretaker of central Kentucky's most precious gems

Article and photographs by Evan Satterwhite
Department for Natural Resources

Protecting Kentucky's forests is a never-ending, but satisfying job for Ben Ueltschi. A state forest program specialist and eight-year veteran with the Kentucky Division of Forestry, Ueltschi oversees four state forests within central Kentucky, including Knobs State Forest and Wildlife Management Area.

Knobs State Forest spans approximately 1,539 acres in Bullitt County. The property was added to the state forest system in 2006 and is the first legacy forest in Kentucky. The Forest Legacy Program is a federal program that supports state efforts to identify and protect environmentally sensitive forests.

Ueltschi is also the state coordinator for the Forest Legacy Program and works closely with the Kentucky Heritage Land Conservation Fund Board in the processes of land acquisition. He makes site visits and helps survey the property before it can be purchased from willing landowners.

Within the boundaries of Knob State Forest, Ueltschi performs timberstand improvements, clears trails and roads, controls invasive species, polices the area, looks for illegal activity and marks property borders. Timberstand improvement contributes to the sustainable future of the forest and health of the high-quality timber for future harvests. He uses a traditional woodland management method referred to as "coppicing" where young trees are cut back to near ground level, which subsequently promotes shoots and suckers.



LEFT: Ueltschi clears a state-access maintenance road through Knobs State Forest.

RIGHT: The results of Ueltschi's handy work are evident throughout Knobs State Forest as he points out the healthy seedlings produced from mature white oaks.

"What I like best about my job is being out in nature every day during all kinds of weather, as well as dealing with the public and answering their questions," said Ueltschi.

Since nearly half of the world's forest cover has disappeared, and the rest is at risk from invasive species, illegal logging and arson, the public's help is needed to act responsibly and to report suspicious activity.

Arson is responsible for nearly 60 percent of all wildfires in Kentucky. To report forest arson, call the Target Arson Hotline at 1-800-27-ARSON or contact your local law enforcement officials.

Also, be kind to the forest during visits. Tread lightly on the trails, taking all trash with you when you leave. Take only photographs and memories, not the flowers, leaving them for others to enjoy.

Enjoy a state forest near you

Everyone has heard of the rain forests of a different hemisphere, but here in the Commonwealth we have some of the most lush and healthy forests in the world. Forests create cleaner water and air, jobs for more than 1 million Americans and are home to two-thirds of the world's land species. Forests are also essential to the health and quality of life for people everywhere. Forests renew the air we breathe and moderate the global climate. They play a major role in recycling atmospheric moisture and stabilizing soils. Forests, quite simply, help sustain all life on Earth.

According to the Kentucky Division of Forestry, forests occupy 47 percent of the state's land area, totaling about 12 million acres. The forestland consists of 72 percent oak-hickory species, 9 percent oak-pine and 5 percent softwood.

The Division of Forestry manages 10 state forests with a combined total of 43,667 acres—Big Rivers, Green River, Kentenia, Kentucky Ridge, Knobs, Marion County, Marrowbone, Pennyriple, Rolleigh Peterson and Tygarts. The properties are managed for hardwood timber and wildlife management and maintained using the ecosystem management approach to ensure biological diversity and sustainable use. They are working forests where educational demonstration areas and recreational opportunities exist. With the exception of the Rolleigh Peterson property, the state forests are open year-round and are accessible to the public.

Kentucky's state forests offer numerous activities, including picnicking, hiking, fishing, wildlife viewing, canoeing and regulated hunting. Horseback riding is allowed only at a limited number of forests, and all off-road vehicles are strictly prohibited. To find a state forest near you, visit <http://forestry.ky.gov/Kentuckysstateforests/Pages/default.aspx>.

Morgan County Nursery devastated by March tornado

By Lynn True
Division of Forestry

On March 2, the Division of Forestry's Morgan County Nursery was all but destroyed by the same tornado that hit West Liberty. Leah MacSwords, director of the Kentucky Division of Forestry (KDF), said the main office building, two barns, a storage building and a cooler containing more than 400,000 seedlings were destroyed. There was additional damage to state and federal vehicles, fire suppression equipment, a Firewise educational trailer, several tractors and numerous tree lifters and mowers.

"Although the loss is extensive and the scene is devastating, we have salvaged as much as possible and we hope to begin rebuilding," said MacSwords. "The nurseries are the heart and soul of our agency, and it would be an enormous setback if we were unable to return to normal operations."

KDF employees showed remarkable dedication during the cleanup, including a crew of approximately 30 foresters and ranger technicians from nearby districts who joined the nursery staff in a recovery and salvage effort for nearly a week. Additional help came from KDF's other nursery, John P. Rhody Nursery, which assisted with seedling orders through the remainder of the season.

The Morgan County Nursery also housed the division's fire cache, and according to damage reports, an estimated 75 percent of all firefighting tools, from hand tools to handheld radios, were lost.

Despite the devastation at the nursery, forestry officials remain hopeful that they will be able to rebuild as soon as possible. For more information about the state nurseries and the recovery effort at the Morgan County Nursery, contact KDF at 1-800-866-0555 or visit <http://forestry.ky.gov/Pages/default.aspx>.



ABOVE: Fire tools, seed bags and equipment were strewn across the nursery valley. Many of the beds will be cleared and prepped for new seedlings.



LEFT: Buildings and equipment were lost or badly damaged. Nursery and other KDF employees salvaged bags of seedlings that would be eventually shipped to customers.



Photos by KDF

After the storm *Continued from Page 10*

weeks of applying for funds." The money was used to help pay for the cost of collecting, transporting and disposing of solid waste generated by tornado damage.

Meanwhile, Federal Emergency Management Agency (FEMA) teams were also busy assessing the damage. Twenty-three counties across Kentucky were eventually designated to receive federal disaster relief funding.

Less than three months after the storms passed, most of the debris had been cleared from West Liberty and the rest of Morgan County.

"We've moved into long-term life saving now," says Conley. Helping small businesses repair and re-open is one of his top priorities. "People here are resilient," he reflects, "but rebuilding

a town like this is going to take time and money."

Money cannot bring back loved ones, replace sentimental belongings or resurrect the broken trees scattered across the hill-sides. But with care and a helping hand, it can help communities get back on their feet.

Kentucky Emergency Management's website lists several recognized disaster relief agencies that have been identified as serving Kentucky specifically in the recovery effort: <http://kyem.ky.gov/donationsvolunteers/Pages/default.aspx>.

To help victims in Morgan County and West Liberty with 100 percent of the funding going to storm victims, donations can be made to the Morgan County Disaster Relief Fund at 606-743-3195.

Water treatment plants recognized for performance

By Allison Fleck
Division of Water

Forty-nine water treatment plants in Kentucky have been recognized by the Energy and Environment Cabinet for their demonstrated success in producing drinking water in 2011 that consistently met or exceeded state water quality standards.

The systems honored are among 155 public and private water treatment plants in the state that participated in the U.S. Environmental Protection Agency's Area-Wide Optimization Program (AWOP), serving a total of more than 1.5 million people. The program challenges plants to reduce turbidity levels below those required by state and federal regulations. Turbidity, or cloudiness, of water can be caused by sand and dirt, as well as bacteria and viruses. Particle removal is critical for producing water that is free from dirt and microbes that can cause waterborne diseases.

"Together, these 49 systems serve more than a million Kentuckians who can be assured that their water treatment systems are working hard to produce safe drinking water from Kentucky's lakes, rivers and reservoirs," said Julie Roney, coordinator of the Kentucky Division of Water Drinking Water Program. "The operators and staff of these plants deserve our recognition and our gratitude for making the technical, managerial and financial improvements to their operations that allow them to continue to provide clean drinking water to the public."

Two of the water systems received an AWOP Champion Award, which takes into account the number of years the system has been optimized as well as the dedication of the operating staff. In a repeat of 2008, Hardin County Water District No. 2 won in the category for large population served (more than 10,000 customers). The Williamsburg Water Treatment Plant won the Champion Award for small population served (fewer than 10,000 customers).

Six treatment plants received special recognition for achieving the optimized water quality goals 100 percent of the time during 2011—Cave Run Regional Water Commission, Columbia/Adair County Water Treatment Plant, Greensburg Water Works, Hardin County Water District No. 2, Jackson County Water Association and Kentucky American Water/Richmond Rd.

Water systems recognized for meeting those goals 95 percent of the time during 2011 include Barbourville Water and Electric, Beattyville Water Works, Benham Water Plant, Booneville Water and Sewer District, Burnside Water Co., Crittenden-Livingston County Water District, Danville City Water Works, Elizabethtown Water Departments A and B, Franklin Water Works, Georgetown Municipal Water Service, Glasgow Water Companies A and B, Green River Valley Water District and Greenup County Water System.

Also, Hardin County Water District No. 1, Hartford Municipal Water Works, Irvine Municipal Utilities, Jackson Municipal Water Works, Jamestown Municipal Water Works, Kentucky American Water/Kentucky River Station, Kentucky American Water/Hardin's Landing, Lawrenceburg Water and Sewer Department, Leitchfield Water Works, Liberty Water Works, Logan-Todd Regional Water Commission, London Utility Commission, Louisa Water Department, Madisonville Light & Water, McCreary County Water Districts A and B, Morehead Utility Plant Board, Nicholasville Water Department, North Point Training Center, Northern Kentucky Water Service A and C, and Paducah Water Works, Paris Water Works, Pineville Water Service, Rattlesnake Ridge Water District, Stanford Water Works, West Liberty Water Co., and Williamsburg Water Department.



KWVOA Awards

Each year, the Kentucky Water and Wastewater Operator's Association (KWVOA) recognizes the accomplishments of drinking water treatment plant and wastewater treatment plant operators and systems that demonstrate a dedication to the provision of safe drinking water and protection of the environment through persistence, innovation and hard work. For 2012, these individuals and systems were recognized:

- **Earl T. Mitchell Award (Drinking Water Operator)**—Barry Bolin has demonstrated a commitment to the improvement of the management and technical progression of operations, maintenance and/or water quality at Paducah Water, where he has worked for 18 years. He has been a member of the Drinking Water Certification Board since 1991 and is a strong supporter of the KWVOA.

- **J.C. Chambers Award (Wastewater Operator)**—Elliot Turner, district manager for the Northern Madison County Sanitation District has demonstrated a commitment to the improvement of the management and technical progression of operations, maintenance and/or water quality. He is a 22-year veteran wastewater operator.

- **Eugene Nicholas Award**—Ama Bentley, owner of Appalachian States Environmental Lab, has demonstrated a commitment to the improvement of the management and technical progression of operations, maintenance and/or water quality, with the emphasis/involvement being on the advancement of water and/or wastewater operator education. With more than 20 years of laboratory experience, Bentley's "customer first" mentality has fueled her desire to further water and wastewater compliance education. She has long been a great supporter of the KWVOA and has volunteered many hours of her time for the support and education of treatment operators in Kentucky.

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Urban meets “wild” in Rubbertown

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from Farnsley Middle School on a tour of the hives and taught them about the honey-making process.

“We felt it was important to add a large green space to the community, which will not only provide additional migratory pathways for native species, but also offer the opportunity for neighborhood students and visitors to observe wildlife in a natural environment—something they wouldn’t normally be able to do in an urban setting,” said Ems. A third hive is planned later this year.

ASRC’s efforts to improve its community surroundings are evident by the dedication its employees show to this habitat. Future activities include additional seed drilling in selected plots, a rotational mowing program in the prairie restoration area, additional plantings and maintenance in the wildflower plots and the installation of bat boxes, wood duck nesting boxes, rock and brush piles, and watering spots. Walking trails and a dock at the pond will be constructed, as well as educational plots installed near the entrance and improvements made to the parking area.

“As part of the Michelin Group, our worldwide mission statement includes a strong commitment to the environment,” said Robinson. “We believe our co-development of the native habitat with Waste Management to be a great fit for the company’s goals, the Rubbertown community and also for our own employee volunteers who have already spent many hours over the past several years planting trees and wildflowers in the habitat. It’s very gratifying to see 75 acres of native habitat beginning to prosper in an industrial setting.”

In April, the Environmental Quality Commission recognized ASRC with an Earth Day Award for their contributions in protecting the environment and restoring habitats for insects and wildlife in their community.

Gadson gives lecture at UK



Arnita Gadson (center right), executive director of the Kentucky Environmental Quality Commission, stands with Dr. Doo Oak Kim (center left) and students in the International Public Policy and Management Institute (IPPMI) at the University of Kentucky. Gadson delivered a lecture on April 19 to the South Korean exchange students who are young professionals in fields such as municipal government, public health, affordable housing and waste management. Studying at UK’s Martin School of Public Policy and Administration for one year, the Seoul natives expressed a wish to learn more about environmental legislation, environmental history and environmental politics in the U.S. For more information about the IPPMI, visit <http://www.martin.uky.edu/IPPMI/>. For more information about the EQC, visit <http://eqc.ky.gov>.

From cooking oil to biodiesel

Continued from Page 1

bus garage and for summer diesel agricultural equipment, such as mowers and tractors. Before the student biodiesel can be used in on-road motor vehicles, it must meet state standards and comply with additional state fuel tax regulations. Currently, the school is keeping the biodiesel in nonroad applications.

“It’s fun and educational getting everyone involved in making the biodiesel,” says Younger, who plans to go into the automotive and engineering field. “This gets us thinking about what we can use as an alternative, that we can take a waste product and turn it into fuel.”

A byproduct of the process is glycerin, so the students make soap, which has become popular and is in demand by the bus garage and school. Working on cars in the automotive shop means lots of grease and grime, but the soap the students make not only cleans their hands well, but leaves them soft. Wheatley says they may attempt making candles in the future from some of the glycerin.

D.J. Tabor, a sophomore at Western Hills High School, enjoys creating biodiesel and making soap because it is “definitely something different.”

“My students are amazed,” says Wheatley. “Everyone who comes in is blown away. My students are doing research on their own to learn to build their units and be more self-reliant. I want my students to understand that there are fuel alternatives that can perform well in current vehicles. Our future depends on it. There are renewable resources to transport us from one place to another. This is just the beginning of what we can do.”

More information on the Kentucky Biofuels for Schools program can be found at www.bio-schools.org or by emailing kenya@bio-schools.org.



KET spotlights Kentucky communities at their best

Dave Shuffett participates in Commonwealth Cleanup Week event

By Virginia Lewis
Division of Waste Management



Spring cleaning took on a whole new meaning when Rabbit Hash canine mayor Lucy shook Dave Shuffett's hand and welcomed him to town for some "ruff" and dirty work. It was all a part of a contest hosted by Kentucky Educational Television (KET) where voters could compete for Shuffett, the *Kentucky Life* host, to tape a "Dave Does It" segment spotlighting Commonwealth Cleanup Week activities in their communities.

Shuffett, KET staff and



contest winners picked up litter and old tires along the river in Rabbit Hash, a small, colorful Boone County community.

"We're fortunate to live in such a beautiful state, and it's really a privilege to do what we can to keep our waterways clear and our trails and roadsides litter free," said Shuffett.

Kelly Chapman, solid waste coordinator and solid waste supervisor at Boone County Public Works, said it was awesome having Shuffett and his crew in her community.

Tips for Improving Your Environment Year-Round

- Pick up a piece of litter every day.
- Keep a litter bag in your vehicle so that you dispose of litter properly.
- Donate your old electronics or dispose of them properly.
- Recycle old tires.
- Create a green space by planting trees and shrubs in an area in need of improvement.
- Donate gently used clothing to needy organizations and shelters.
- Identify items that you can repurpose and reuse.
- Compost yard and food waste; seek advice if you don't know how.
- Participate in or help conduct a local recycling drive in your neighborhood, schools or businesses.

"Their presence really energized our volunteers. Everyone was so excited that they came to our community to do a story, so it lent an air of pride to the event," Chapman said. "Because of the extra publicity, we were able to reach more people with the message that litter is a real problem along the river. It's amazing to see neighbors doing dirty, strenuous work alongside someone they've never met before."

Volunteers filled a 30-yard dumpster with trash, cleaned up enough metal to fill a dump truck and found about 50 tires.

"I'd say that's a great accomplishment," Chapman continued.

Commonwealth Cleanup Week, coordinated by the Kentucky Division of Waste Management (DWM), is an annual event that kicks off the Great American Cleanup. During the third week of March, Kentuckians are encouraged to take part in celebrating clean, safe and healthy communities by volunteering to beautify

and "spring clean" their neighborhoods, cities and counties. This marks the 14th year of the event.

Deborah Conway, a supervisor in DWM's Recycling and Local Assistance Branch, is the state coordinator of the Kentucky Clean Community Program and a Keep America Beautiful affiliate. KET approached Conway about participating in the cleanup event.

"Engaging individuals to take greater responsibility in cleaning their environment is a key goal that we work toward through Commonwealth Cleanup Week," says Conway. "We join with caring citizens—KET, communities, organizations, individuals, solid waste coordinators and media—to coordinate the cleanup and work together to educate, increase pride in our communities, encourage sustainable practices and promote a healthier environment for all Kentuckians."

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TOP: Shuffett interviews Rabbit Hash residents, including Kelly Chapman. **ABOVE and LEFT:** Canine mayer Lucy gets a photo-op with Shuffett. Shuffett picks up trash along the riverbanks of Rabbit Hash. Photos courtesy of Steve Shaffer/KET



FAR LEFT: *Emily Larson of Taylor County High School received her certificate from John Eisiminger of DEP for best photograph.* Photo by Emily Sherrard
LEFT: *Amber Pyle of Pleasure Ridge Park High School received her certificate for best drawing from DEP Deputy Commissioner Aaron Keatley.* Photo by Jason Stinson



ABOVE: *Jacob Turner (right) from Western Hills High School holds his certificate for best sculpture, along with DEP Deputy Commissioner Aaron Keatley.* Photo submitted

Eco-Art Contest winners announced

By Mary Jo Harrod
Division of Compliance Assistance

The halls at the Department for Environmental Protection (DEP) Training Center in Frankfort are brighter since they are decorated with the artwork from the 2012 winners of the DEP Eco-Art Contest. The contest, in its third year, was open to eligible Kentucky high school students who created art using the contest themes of conservation, pollution prevention and environmental protection. Students were encouraged to submit their work in a variety of media, including drawing, painting, print work, sculpture and photography. More entries were submitted this year than in the past, with several coming from student artists at schools that had not previously participated in the contest.

“The purpose of the annual contest is to encourage high school students to think about the environment and inspire them to reflect their thoughts on the environment in their artwork,” said R. Bruce Scott, DEP commissioner.

Winning entries were submitted by Kisaki Takeuchi of Lyon County High School in Eddyville; Amber Pyle of Pleasure Ridge Park High School in Louisville; Erin Downs and Stephen Welch of North Bullitt High School in Shepherdsville; Jacob Turner of Western Hills High School in Frankfort; and Emily Larson of Taylor County High School in Campbellsville.

Make plans to visit the DEP Training Center to view the winning student artwork, past and present. Details about the 2013 contest will be announced later this year. For more information, visit <http://dca.ky.gov/LGGS/Pages/ecoart.aspx>.

KET spotlights Kentucky communities at their best *Continued from Page 17*

To sweeten the deal, civic, religious and nonprofit organizations could enter to win six separate \$100 prizes in a random drawing if they registered through their local solid waste coordinator and completed a cleanup project during Commonwealth Cleanup Week.

Chapman considers Commonwealth Cleanup Week and other cleanup events beneficial to her community.

“Cleaner communities are more prosperous and foster a greater sense of

neighborhood pride. Cleaner riverbanks encourage tourism and outdoor recreation, both of which have economic benefits as well as promoting a general sense of well-being for our residents,” she said. “After a cleanup, I’ll drive through the countryside we just cleaned and I get the best feeling. I hope all of our volunteers leave with that feeling of pride.”

During last year’s event, more than 34,000 Kentuckians picked up 36,774 bags of trash and 2,481 tires along 4,212

miles of roadway. In addition, these same volunteers cleaned up nine illegal dumps.

Although this year’s Commonwealth Cleanup Week is over, there are still many opportunities to get involved, clean up, and beautify your community. Contact your county’s solid waste coordinator for more information. A list of solid waste coordinators is available at <http://waste.ky.gov/RLA/Documents/Solid%20Waste%20Coordinators%208-25-10.pdf>.

Earth Day awards applaud environmental stewardship

By Janet Pinkston
Environmental Quality Commission

“Confront every plastic spoon” was the message novelist Bobbie Ann Mason delivered at the Kentucky Environmental Quality Commission’s (EQC) Earth Day Awards ceremony. Each year, the EQC recognizes individuals and institutions who have contributed to protecting the environment.

Mason was chosen to keynote the event because her work celebrates western Kentucky and its people; the author challenged her audience not to be a throw-away society, not to be slaves to convenience. During her childhood on a Mayfield farm “there was no garbage pickup because there was no garbage. Everything mattered. We knew how to use everything, we saved everything... we couldn’t afford to be wasteful,” Mason said.

Mason encouraged a return to this approach, and a shift in public opinion may indeed be under way. In Bowling Green, for example, children at Richardsville Elementary School eat a cold lunch once a month to save energy by not firing up the stoves.

Other 2012 EQC Earth Day Award winners include:

- The **City of Greenville** preserved the only wooded parcel in the city’s business district by turning it into a 12-acre park with walking and jogging trails, a pond, a stream, an outdoor classroom and a preserve for wildlife habitat.
- **John Gagel**, a sustainability manager at Lexmark International Inc., persuaded colleagues to clean up Cane Run Creek and plant native species along its banks, which runs through Lexmark’s Shadybrook Park.
- **Larry Griffin, International Paper Inc.**, the Henderson mill manufactures 100-percent recycled containerboard for corrugated boxes and has made great strides in energy conservation and stewardship initiatives thanks to Griffin’s leadership as an environmental manager. The company diverted 2.6 million tons of discarded boxes from landfills, reduced fresh water consumption by 400,000 gallons per day and reduced energy usage

(Left to right) EQC
Chairman Scott
Smith; Lifetime
Achievement Award
recipients Nina
and Dean Cornett
and Secretary Len
Peters, Energy
and Environment
Cabinet. Creative
Services photo



by 50 percent needed to produce a ton of containerboard over a 10-year span.

- **Richardsville Elementary School, Warren County** is the nation’s first public school designed to consume a minimal amount of energy (net zero). Unique design features include solar panels that produce 2,500 kilowatt hours of electricity on a sunny day; clerestory windows that bounce sunlight onto curved ceilings to flood classrooms with natural light and a geothermal heating and cooling system.

- **Kentucky Division of Forestry (KDF)** is celebrating 100 years of service to Kentucky citizens. KDF provides protection from wildfire, technical aid to landowners and two nurseries that grow native seedlings for reforestation. In addition, it manages 10 state forests and provides numerous programs that provide Kentuckians with information about the importance of forestry to the state’s environmental and economic health.

- **American Synthetic Rubber Co.** (for details read “Urban meets wild in Rubbertown” on Page 6).

- **Robert and Adriana Lynch** operate a farm in Whitley County using best practices such as riparian buffers, fencing off forests from livestock, improving and protecting water sources, and planting trees and grasses that prevent erosion. The couple planted 4,000 hardwoods on their property. They also open their farm for tours and estimate hosting 2,000 guests.

- **Marshall County Conservation District** has promoted Earth Day for the past five years by providing free seedlings, energy-saving lightbulbs for those who sign energy conservation pledges

and e-scape recycling. The district also participates in local recycling of paper, plastic and cardboard. It provides help to landowners with their agriculture water quality plans and provides dead animal disposal. Other projects include Agricultural Day for fourth-graders, developing a nature trail at Lakeland Wesley Village, providing educational models for use in schools and help with tree identification and land markers.

- **Lifetime Achievement Award—Dean and Nina Cornett** have a long list of green achievements to their credit. They cleaned up a one-acre dump and turned it into a park. As filmmakers, they have educated thousands about bears, chestnut trees and the Kenai Peninsula in Alaska. They have been instrumental in focusing attention on Kentucky timber theft. Victims of timber theft are often left with environmental damage to their property as well as loss of income from the stolen trees. Many victims are absentee landowners who may not learn of the theft for months, and weak laws make thieves hard to prosecute, according to the Cornetts.

- **The Public Service Award—the Floyd County Conservation District** addresses not only the environmental education needs of the county, but provides technical expertise to local groups and landowners to implement best practices, conducts workshops that promote erosion prevention, restoration of wildlife habitat and programming specific to rural populations and crops. The district works with students involved in vocational studies to help them understand environmental and agricultural issues.

Nomination period opens for 2012 Environmental Excellence Awards

By Mary Jo Harrod
Division of Compliance Assistance

The Kentucky Department for Environmental Protection (DEP) is soliciting nominations for the 2012 Environmental Excellence Awards. Through this awards program, DEP is providing a platform to tell the stories of the environmental stewardship taking place in the Commonwealth.

“With this awards program, the Kentucky Department for Environmental Protection recognizes some of the environmental leaders in the Commonwealth and highlights their achievements,” said R. Bruce Scott, DEP commissioner. “Their efforts are an inspiration and encouragement to others to protect Kentucky’s environment and conserve our precious resources.”

The awards being offered include three Environmental Pacesetter Awards that recognize exemplary efforts to protect the environment, conserve resources and set an example of environmental stewardship for the Commonwealth. These awards are open to small and nonprofit organizations and designed to recognize all types of environmental leaders, especially small businesses and communities.

Other awards include the Community Environmental Luminary Award, which highlights achievements in community-based environmental education and outreach. The Resource Caretaker Award focuses on efforts to conserve Kentucky’s resources. The KY EXCEL Champion Award recognizes a KY EXCEL member that has shown leadership in promoting positive environmental behaviors and the KY EXCEL program. KY EXCEL is a voluntary program that recognizes efforts to improve and protect Kentucky’s environment above and beyond the state’s environmental requirements and is open to any individual, organization, community or business.

Award nominations are being accepted until close of business Aug. 1, 2012. Winners will be notified in September and invited to the awards presentation scheduled during the Governor’s Conference on the Environment.

For more information about the awards program and to obtain a nomination form, visit <http://dca.ky.gov/> or call the Division of Compliance Assistance at 800-926-8111.

KWVOA Awards *Continued from Page 15*

Outstanding Drinking Water Treatment Plant—The Mount Sterling Water Treatment Plant is a 48-year-old facility that consistently excels in the areas of water quality, maintenance, appearance, training, record keeping and safety and “does not appear to show its age.” The staff is dedicated to the proper operation and maintenance of the facility, and they work diligently to provide a high-quality product to its consumers.

Outstanding Wastewater Treatment Plant—The Ohio County Regional Wastewater Plant has shown in its four years of existence that it is operated by an experienced and dedicated staff who are committed to high levels of water quality, maintenance, appearance, training, record keeping and safety.

The KWVOA is a statewide, not-for-profit association dedicated to the enhancement of Kentucky’s water environment through training, education, certification and the exchange of operational and technical information with experienced water quality specialists. Its membership includes more than 1,400 individuals and organizations in the fields of water treatment, engineering, manufacturing and supplies, contracting and other areas of interest to the water industry.



Hahn is winner of Earth Day photo contest

Emily Hahn, 13, of Paducah Middle School captured this winning photograph of a tree on Greenway Trail in Bob Noble Park.

In its second year, the photography contest, sponsored by the Kentucky Energy and Environment Cabinet, asked Kentucky middle-school students to submit an original photo along with a paragraph explaining why their photo represents this year’s Kentucky Earth Day theme “*Celebrating Kentucky’s Forests*.”

Hahn wrote, “My photograph is a black and white picture of a tree taken at a vertical angle. My main focus of the photograph is a lone branch towards the top of the tree. My main focus (the branch) is completely in focus, while the remainder of the photograph is slightly out of focus. I believe that my photograph represents the theme “*Celebrating Kentucky’s Forest*” because simply the tree is a major part in forests. The Greenway Trail is a fairly new trail off of our local Bob Noble Park. Many people like myself go to admire the beauty of the trees, take a bicycle ride or play on their Frisbee golf range. The tree in my photograph is an older tree that survived the devastating ice storm of ‘09. The tree is lucky to be standing because many trees around our area collapsed due to the amount of ice that built up on them.”

The Kentucky Department of Parks provided Hahn and her family two nights lodging at a Kentucky State Resort Park of her choice for winning the contest.



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Save the Date:
Governor's Conference on Energy and the Environment — Oct. 8-9
Hyatt Regency Louisville

Seedling nurseries: growing trees for healthy and productive forests



Prunus serotina, commonly known as black cherry, is not generally cultivated as an ornamental plant, but it seeds itself readily and is often found in landscapes. It is a valuable timber tree because the wood is prized for carpentry. Black cherry seedlings, as well as other native species to Kentucky, are available from early fall to early spring each year from the Kentucky Division of Forestry's (KDF) nurseries. Orders are shipped at your request for planting projects during the dormant period. To obtain an order form, visit KDF's website at <http://forestry.ky.gov/statenurseriesandtreeseedlings/Pages/default.aspx> or call the division's main office at 1-800-866-0555.

Just the Facts: Black Cherry (*Prunus serotina*)

• **Growth:** Black cherry is a medium-sized tree with a long, straight, clear bole and can reach heights approaching 100 feet. The leaves are alternate, simple, 2 inches to 5 inches long with an oblong shape and finely serrated edge. Small, white flowers hang in narrow clusters and appear in late spring. Fruit matures in late summer as a dark purple drupe, almost black when ripe.

- **Sites:** Black cherry grows well on a wide variety of soils; however, it prefers moist, deep, fertile soils. It also prefers full sun to partial shade and tolerates both alkaline and acidic soils. Black cherry is especially susceptible to infestations by eastern tent caterpillars and the cherry scallop shell moth. Cherry leaf spot and black knot are also common diseases on black cherry.
- **Range:** Black cherry is found throughout the eastern United States. It grows from Nova Scotia and New Brunswick west to southern Quebec and Ontario into Michigan and eastern Minnesota; south to Iowa, extreme eastern Nebraska, Oklahoma and Texas, then east to central Florida.
- **Human Uses:** The wood of black cherry is a strong, close-grained hardwood and is valuable for making furniture and cabinets. The bark has medicinal properties and in the southern Appalachians, bark is used in cough medicines, tonics and sedatives. The fruit is also used and is typically made into jelly or wine. Appalachian pioneers sometimes flavored their rum or brandy with the fruit to make a drink called cherry bounce.
- **Wildlife Uses:** Black cherry fruit is an important source of mast for many nongame birds, squirrel, deer, turkey, mice and moles, and other wildlife.
- **Tree Trivia:** The leaves, twigs and bark of black cherry contain cyanide in bound form as the cyanogenic glycoside, prunasin. During foliage wilting, cyanide is released and domestic livestock that eat wilted foliage may get sick or die.