
Land & Air & Water

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Fall 2005

Kentucky Environmental and Public Protection Cabinet

Land Air & Water

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Natural beauty is focus of student art contest

Unbridled Spirit...Beauty Unbound

By Eva Smith-Carroll
Division of Waste Management

WANTED: Young Kentucky artists to create portraits of natural beauty. Student artists are invited to get out their art supplies, create a poster and enter the Commonwealth Cleanup Week art contest—*Unbridled Spirit...Beauty Unbound*—sponsored by the Environmental and Public Protection Cabinet.

The contest is open to grades K-12 in public and private schools. Home-schooled students may also participate.

The subject can be scenic beauty—the mountains of eastern Kentucky, rolling grasslands of central Kentucky, land along the Ohio River in northern Kentucky or lakes in western Kentucky—or Kentucky flora and fauna. Another approach is to show Kentuckians enjoying their state's natural beauty—a family on a picnic, hiking or boating, for example.


Posters must be submitted to a county extension office by Feb. 3, 2006. Links to each county office are online at <http://www.ca.uky.edu/county/>

Cabinet judges will choose winners from each of four different categories—grades K-2, 3-5, 6-8 and 9-12. Winners will receive a plaque and their designated classroom, school library or public library will receive \$500 for environmental education materials or activities.

Contest rules and entry forms are available online at the Division of Waste Management's Web site <http://www.waste.ky.gov>

If you have questions, call (502) 564-6716, ext. 297, or e-mail waste.ky.gov

The 8th annual Commonwealth Cleanup Week, including cleanup activities, will be March 19-25, 2006.

The 1998 Kentucky General Assembly designated the fourth week in March as an opportunity for Kentuckians to participate in "activities that highlight the natural beauty of their communities." 

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what's inside

Land
Air & Water

Fall 2005

Volume 16 Number 4

features

- 2 Reclaimed mine sites make ideal habitat for wildlife**
Wildlife Summit explores topics of wildlife survival and reclamation of coal mined lands.
- 8 An ideal house**
The EPPC's state fair exhibit housed ideas that protect the environment, as well as safeguard the family and home.
- 14 Open burning**
Regulation changes address disposal of vegetative debris created by storms.



contents

Natural beauty is focus of student art contest	Inside front cover
Preserving an oasis	1
Partnership promotes planting of hardwoods on mined lands	3
Watershed Roundtable update	4
Ozone coalitions do their share for cleaner air	5
Fires rejuvenate a barren rich in diversity	6
Louisville exhibit takes you on a journey of the environment	7
Inside the Kentucky EPPC	9-11
Customized stewardship planning made easy	12
Workshops teach the importance of watershed assessments	13
Out of the classroom and into the wilderness	15
Change the world—one lightbulb at a time	16
Base closure site is an economic success story	17
Downstream development + deteriorating dams = disaster	18
Awards	19-20
2005 Governor's Conference on the Environment update	20
PGA provides another means of glass recycling	Back cover

on the cover

Laurel Creek mirrors the beautiful fall colors in Elliott County. Photograph by Thomas G. Barnes, University of Kentucky, Department of Forestry.



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Preserving an oasis

By Chuck Wolfe

Office of Communications and Public Outreach

The Vernon-Douglas State Nature Preserve, 730 acres of steep hardwood forest on the eastern fringe of Hardin County, seems frozen in time.

“This has been relatively undisturbed for the better part of 80 to 90 years,” Joyce Bender, of the Kentucky State Nature Preserves Commission, tells a visitor. “It’s pretty unique to the Knobs region” – the long arc of hills that extends like a necklace around the western, southern and eastern fringes of the Bluegrass.

Thus, Vernon-Douglas fulfills a mandate handed down by the General Assembly when it created the preserve system, declaring that areas of “unusual natural significance” should be set aside and kept as “living museums of the native landscape.”

But to fully grasp the essence of the name – *preserve* – one needs to look outside the boundaries of Vernon-Douglas. Four things lie beyond its tree line—a large farm, a cell phone tower, the sprawling Pearl Hollow landfill and a four-lane highway—the Bluegrass Parkway.

The Vernon-Douglas preserve is, in effect, an oasis—a patch of Hardin County that remains an example of the natural landscape of Kentucky’s Knobs region because its acreage was set apart decades ago. The National Audubon Society held it until the Kentucky State Nature Preserves Commission acquired it in 1992. “It’s full of life and abundance and variety, and right across the fence is a monoculture,” Bender said.

Kentucky’s landscape has undergone a staggering transformation in the two centuries since statehood. Wetlands that once spread inland from the Mississippi and Ohio rivers, soaking the Jackson Purchase and northern Pennyriple, are greatly diminished and in some areas gone completely.

Two other mighty rivers, the Tennessee and the Cumberland, were among many impounded to form lakes—Lake Barkley, Lake Cumberland and Kentucky Lake among them—for recreation, flood control or hydroelectric power.

A tall grass prairie known as “the barrens” once was a vast swath that hemmed the western Knobs, swept westward across the southern Pennyriple and filled about a third of the Purchase. Now it is found in parts of but four counties—Warren, Hart, Metcalfe and Barren.

The Kentucky State Nature Preserves Commission, which has been laboring for years to conduct an inventory of Kentucky’s natural areas, estimates that only one-half of 1 percent of the state remains in a condition comparable to that which greeted the pioneers.

Joyce Bender stands beside a mature tree at Vernon-Douglas. Photo by Chuck Wolfe

“It’s full of life and abundance and variety, and right across the fence is a monoculture.”

Joyce Bender
Kentucky State Nature Preserves
Commission

That makes the preserves more than just pretty places, said Jon Rickert, an Elizabethtown businessman and outdoorsman who authored the Nature Preserves Act in 1976 when he was special adviser on environmental affairs to then-Governor Julian Carroll.

“Besides the aesthetic value of letting future generations have an opportunity to at least experience some of the natural heritage that we’ve been able to enjoy – besides the aesthetics of all that – you also have the importance of preserving species,” Rickert said. “Most of what we’re seeing now is not natural loss of species by extinction. It’s manmade by too many humans doing too many activities in too many places.”

Twenty-nine years after passage of the Nature Preserves Act and creation of the commission, Kentucky has 51 preserves spanning the state. Eight preserves are located within state parks.

Though each is scenic in its own way, scenery is not the point. The preserves exist to protect the natural environment and rare species. Many of the plants and animals harbored within them are endangered.

For example, Bat Cave Preserve within Carter Caves State Resort Park shelters the rare and endangered Indiana bat. Nearby, the Cascade Caverns Preserve protects two plant species rare in Kentucky—mountain maple and Canadian yew. The preserve at Blue Licks Battlefield State Park in Robertson County protects a modest population of Short’s goldenrod, which grows only in a tiny region around the park. It is found nowhere else in the world.

The preserve system is “an experiment in at least saving gene pool of plants and animals,” Rickert said. “As long as we can preserve a few little areas that truly have some scientific uniqueness, some value, it’s all worthwhile.”



The lobby of the Brown Hotel in Louisville had to be a bit like Ellis Island at the turn of the century as a myriad group of individuals gathered to explore ways to increase wildlife on reclaimed coal mine lands.

Coming from diverse cultures and speaking totally different languages, the new Americans were forced to forge a new way of life.

Similarly, the folks attending the Wildlife Summit with different agendas and different ideologies sought common ground in finding ways to solve two age-old problems: the survival of wildlife and the reclamation of land disturbed by coal mining.

Nationally renowned speakers addressed topics just as diverse:

- policy issues
- case studies
- opportunities
- obstacles to establishing wildlife habitat on mined lands
- wetlands and water
- revegetation/habitat restoration
- permitting/post-mining land use concerns
- reforestation/remining

Kentucky was a natural choice for the Wildlife Summit, given its abundance of lands needing reclamation and the success of the elk relocation program. In 1997, 150 years after they were hunted to extinction here, wildlife officials began



Elk resurgence brings Wildlife Summit to Kentucky

By Linda Potter
Department for Natural Resources

reintroducing wild elk to the eastern part of the state. Over the next five years, some 1,500 elk (mostly from Utah) were tagged and released with the help of the Rocky Mountain Elk Foundation. By monitoring their movements, wildlife scientists discovered that the elk liked to graze areas of the reclaimed mine sites. According to David Ledford, director of the Appalachian Wildlife Initiative, “the herd should hit 5,500 by the end of the year.” With the growth of the herd comes the responsibility of ensuring that the habitat grows proportionately.

Since the elk gravitate toward the reclaimed sites, it makes sense for the wildlife enthusiasts and the mining industry to work together to establish high-quality habitats for them. The summit began with an emphasis on habitat for game, which promises to boost tourism to the economically depressed areas of eastern Kentucky. Clyde Cook, a native of Pike County who works in the Division of Mine Permits



TOP: An elk makes himself at home on Starfire mine property. Photo by James Inman

ABOVE: A copperbelly water snake at the Peabody Wildlife Management Area, John Prine’s Paradise in Muhlenberg County.

Photo by John MacGregor

LEFT: A Kentucky offspring of a relocated elk. Photo by the Kentucky Department of Fish and Wildlife Resources

(DMP), described emerging from the woods and seeing the elk. “It’s really amazing to see a 700-pound elk grazing on the grass still wet with dew.”

Discussions revealed that the potential extends to fish and other species as well. Abandoned sediment ponds could conceivably morph into native wetlands, but landowners might not want the liabilities that accompany the ponds. Forests could support a wide range of creatures and provide economic benefits for the landowner or coal company, but grass is

Continued on Page 4





UK President Lee Todd (left) and Governor Ernie Fletcher signed the Appalachian Regional Reforestation Initiative in August. Creative Services photo

Partnership promotes planting of hardwoods on mined lands

By Linda Potter
Department for Natural Resources

In December of 2004, the Appalachian states of Kentucky, Maryland, Ohio, Pennsylvania, Virginia, and West Virginia, along with the federal Office of Surface Mining, signed an agreement to work together to promote and encourage the planting of more trees on active and abandoned coal-mined lands.

This agreement, the Appalachian Regional Reforestation Initiative (ARRI), promotes the reforestation of coal-mined lands using high-value hardwood trees.

The six states pledged to cooperate and partner in an effort to plant economically desirable trees, using current Forestry Reclamation Approach (FRA) technology. This approach promises to increase survival rates and growth rates of crop trees, increase overall productivity, and promote natural invasion and succession of plant and animal communities.

The University of Kentucky became the newest partner in this initiative on Aug. 17, 2005, when Governor Ernie Fletcher and University of Kentucky President Lee Todd signed the formal agreement.

“We want to grow our economy, utilize our resources in a sustainable manner and at the same time, protect and maintain our commitment to environmental quality,” said Governor Fletcher.

“The AARI initiative complements our state’s energy strategy to promote progressive reclamation practices through reforestation.”

This agreement is a natural progression since UK and the Division of Mine Reclamation and Enforcement (DMRE) have been partners in reforestation research techniques at the Starfire mine site near Hazard, Kentucky since 1997. More than 1 million native hardwood trees

have already been planted throughout Kentucky coalfields in this partnership with UK and others. Data gathered from Starfire continues to demonstrate reforestation’s potential for success and aided in the development of FRA technology.

FRA is a five-step reclamation process that has been proven by forestry research to increase tree survival and productivity. The five steps in the FRA are:

1. Create a suitable rooting medium for good tree growth that is no less than four feet deep and comprised of topsoil, weathered sandstone and/or the best available material.
 2. Loosely grade the topsoil or topsoil substitutes established in step one to create a noncompacted growth medium.
 3. Use native and noncompetitive ground covers that are compatible with growing trees.
 4. Plant two types of trees—early succession species for wildlife and soil stability, and commercially valuable crop trees.
 5. Use proper tree planting techniques.
- Reforestation of coal-mined land with high-value native hardwoods will allow communities to diversify their economies while reaping multiple environmental benefits.
- Reforestation also provides an economically viable post-mining land use option for both the landowner and the mining company. “Growing” a renewable resource to replace the mined out coal is a

Continued on next page

Environmental benefits of reforestation

- Increased diversity of plant succession
- Natural succession of native forest plants
- Reduced potential for establishment of invasive species
- Enhanced wildlife habitat
- Soil and water conservation
- Recovery of the hydrologic balance
- Improvement of overall water quality
- Carbon sequestration
- Increased timber value
- Landowner tax reduction
- Recreational areas
- Jobs for the local economy
- Local tax revenue

Watershed Roundtable update

The 2005 Kentucky Watershed Roundtable planning committee is finalizing its event program for the upcoming Watershed Roundtable scheduled for Nov. 2-4 in Bowling Green at the University Plaza Holiday Inn. This year's theme is "Watershed Strategies for a New Era: Protecting the Environment and the Bottom Line."

Concurrent group sessions will feature information on watershed, community and conservation strategies. Session topics will include watershed-based plans, cost of community services, the impact of sprawl on private forests, acid mine drainage remediation and highlights from several restoration projects.

This event is co-hosted with the Southeast Watershed Forum, which includes nine southeastern states. The roundtable has received such positive feedback over the years that it has become an annual event. This year marks the eighth time that the roundtable has convened. It is also the first time the event will be held in Kentucky.

Call the University Plaza Holiday Inn directly for room reservations. A block of rooms are reserved under "Kentucky Waterways Alliance."

Look for additional information and roundtable updates on Kentucky Waterways Alliance's Web site at www.KWAlliance.org.



Partnership promotes planting of hardwoods on mined lands

Continued from previous page

brilliant solution for the problems traditionally associated with coal mining. The disturbed land becomes a nursery for a new economy.

A critical part of ARRI is that of raising the awareness of government agencies, academia, private organizations, mining companies and the general public on the economic and environmental benefits associated with planting quality trees. These groups must then become involved in the reclamation effort, working together to identify incentives to promote reforestation on coal-mined lands.

UK's involvement will lend valuable resources in this effort, while creating a forum for the transfer of technology and providing a clearinghouse for the sharing of data and information as it relates to current FRA technology.



Elk resurgence brings Wildlife Summit to Kentucky

Continued from Page 2

quicker and cheaper. The possibilities are limited only by the imagination and the willingness of the stakeholders to look at reclamation from a new perspective—easier is rarely better.

In Kentucky, landowners have six options for post mine land use:

- fish and wildlife
- pastureland
- industrial/commercial
- forestland
- water resource
- residential

Many landowners place a higher value on leveled land than on forested or dedicated wildlife habitat. Coal companies have their own priorities, but usually economics drive their choice. Regardless of land use choice and implementation, after bond release, the landowner can use the land any way he chooses. Conservation easements would ensure the habitat in perpetuity, but landowners may not want their land restricted. Clearly, challenges surfaced that necessitate further discourse, especially in the area of incentives to both

the landowner and coal companies.

Paul Rothman, director of the Division of Mine Reclamation and Enforcement (DMRE), has advocated reforestation as a post mining land use for over a decade. He contends that the coal companies could actually save money by leaving 4 to 6 feet of loosely graded mine soil, rather than excessively compacting the soil by grading. "The loose soil will allow trees to grow, and these trees will regenerate forests, which become home to wildlife," he said. Rothman's work with Don Graves, of the University of Kentucky Department of Forestry, at the Starfire mine site was one of the case studies presented. While their research has largely been in reforestation, elk are thriving at Starfire and have been known to nibble at the saplings. (See *Partnership promotes planting of hardwoods on mined lands* on Page 3.)

Another case study was done at the Peabody Wildlife Management Area, John Prine's Paradise in Muhlenberg County. The coal company, along with

the Kentucky Department of Fish and Wildlife Resources and DMP joined forces to create a habitat for the copperbelly water snake. The implementation of the conservation agreement prevented the water snake from becoming a candidate for listing as a federally threatened or endangered species. "The reclamation was of definite benefit to the copperbelly water snake. The species is in better shape in Kentucky than the other states within its range," said Jonathan Scheibly, an environmental biologist for DMP.

The success of any conference is not always immediately measurable. This summit raised more questions than it answered. It presented issues of profound importance and pointed out the opportunities and obstacles that exist in alternative forms of reclamation. A great first step was taken; the challenge now is to stay the course.

The U.S. Office of Surface Mining hosted the event, which was sponsored by BASF Corporation and the Rocky Mountain Elk Foundation.



Ozone coalitions do their share for cleaner air

By Elizabeth Robb
Division for Air Quality

Local governments and regional ozone coalitions are doing their share for cleaner air in Kentucky. In urban areas, metropolitan governments and regional coalitions achieve ozone awareness and mitigation by issuing air quality alerts, developing media campaigns and holding local events.

The Ohio, Kentucky, Indiana (OKI) Regional Council of Government operates the Regional Ozone Coalition (ROC), a voluntary organization of local governments, organizations and businesses with the mission of improving the OKI region's air quality through public and business education, involvement and outreach. In Louisville, the Kentuckiana Air Education Network (formerly known as the Kentuckiana Ozone Prevention Coalition) is comprised of nearly 2,000 Kentuckiana businesses, organizations and local residents who commit to voluntary choices that will benefit air quality. In Lexington, the Mobility Office, located within the Lexington-Fayette Urban County Government, was designed to promote increased awareness of air quality issues in the area. The Lexington area has been in compliance with air quality standards since the mid-1990s, but the local government office continues to promote air quality issues and has established an Air Quality Advisory Committee.

Ozone coalitions in combination with regulatory programs have had proven success in minimizing ozone emissions in urban areas. EPA now has more stringent 8-hour ozone rules in effect, and both the ROC and Louisville Kentuckiana AIR Education (KAIRE) are working to lower ozone levels through voluntary and regulatory measures. For example, in the Louisville Metropolitan Statistical Area (MSA) ozone measurements have dropped dramatically. In 2002, the Louisville MSA documented eighty-eight (88) 8-hour ozone exceedances in 30 days, compared with two (2) 8-hour ozone exceedances in two days in 2004. The ROC has been recognized for eliminating an estimated 3.5 tons of VOC emissions per day. Ozone readings in northern Kentucky have also

dropped significantly. Air quality alerts are especially important in urban areas in the summer. Ground level ozone can routinely reach levels that are harmful to human health when fumes from cars, factories and household items like lawnmowers or paint bake in the heat. Fine particulate matter (PM2.5) is another pollutant that is now understood to be harmful to human health. Air quality, or smog alerts, are now issued when either ozone or PM2.5 are anticipated to reach

significant levels. Signing up to receive an air quality alert allows citizens to take action to protect their health by minimizing exposure to high ozone or particulate matter levels.

In Louisville, the program is called EnviroFlash, and individuals can sign up online at <http://www.apcd.org/enviroflash/> or call (502) 574-3319 to receive current Air Quality Index information. In the ROC region, more than 1,000

Continued on Page 16

Air Quality Index Color Code Guide 1-800-AIR IN KY

Air Quality Index Values	Level of Health Concern	Recommended Actions
0-50	Good —NONE	Keep cars and boats tuned up Use environmentally safe paints and cleaning products Conserve electricity—set A/C to highest comfortable level
51-100*	Moderate —Unusually sensitive people should consider limiting prolonged outdoor exertion.	Keep cars and boats tuned up Use environmentally safe paints and cleaning products Conserve electricity—set A/C to highest comfortable level
101-150	Unhealthy for Sensitive Groups —Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.	Limit daytime driving Limit vehicle idling Refuel vehicles after dusk Don't "top off" your gas tank Avoid congested periods Use water-based paints Use transit or carpool Bike or walk for short trips Use newest or best maintained car Combine trips and share rides Postpone using gasoline mowers Barbecue without starter fluid
151-200	Unhealthy —Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.	Limit daytime driving Limit vehicle idling Refuel vehicles after dusk Don't "top off" gas tank Avoid congested periods Use water-based paints Use transit or carpool Bike or walk for short trips Use newest or best maintained car Combine trips and share rides Postpone using gasoline mowers Barbecue without starter fluid
201-300	Very Unhealthy —Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.	Limit daytime driving Limit vehicle idling Refuel vehicles after dusk Don't "top off" gas tank Avoid congested periods Use water-based paints Use transit or carpool Bike or walk for short trips Use newest or best maintained car Combine trips and share rides Postpone using gasoline mowers Barbecue without starter fluid
301-500	Hazardous	Everyone should avoid all physical activity outdoors.

*Generally, an AQI of 100 for ozone corresponds to an ozone level of 0.08



Prairie grasses and wildflowers are reasserting themselves in a section of Eastview Barrens State Nature Preserve in Hardin County, the result of a fire carefully planned and carried out.

The “prescribed burn” transformed a thicket of sumacs, cedars and young oaks and hickories into an approximation of what originally had been—a meadow rich in diversity, poised to burst into bloom.

Even with the fire, the land was not entirely treeless and never had been. Great, gnarled oaks still towered over the grasses but were generously spaced. Their branches spread broadly—evidence that they had begun with ample room to grow.

Kentucky once had great “barrens”—the term given by settlers to a vast prairie that defined much of the western half of Kentucky. It even gave Barren County its name.

The barrens lay in a gigantic crescent that arched southward along the western edge of the Knobs region, across the southern Pennyryle and into the Jackson Purchase. Now, the barrens have largely disappeared. They have been tilled or developed in most places, and they have been simply overgrown—a testament to the effectiveness of decades of fire suppression.

Eastview Barrens, a 120-acre preserve southwest of Elizabethtown, is thought to have been “a mosaic of forest and grasslands and an in-between barrens,” said Joyce Bender of the Kentucky State Nature Preserves Commission. It also has a rocky glade.

“There is a little bit of everything,” said Bender, the commission’s branch manager for nature preserves and natural areas.

As long as there was fire, the barrens remained open. Tree growth was



Fires rejuvenate a barren rich in diversity


By Chuck Wolfe
Office of Communications and Public Outreach

controlled by natural fires from lightning strikes, even occasional fires caused by the sparks that were showered on the land by passing steam locomotives.

But fires were so effectively prevented that the trees moved in. The ground became thickly thatched. Tree seeds were heavy enough to penetrate the thatch and eventually sprout. Not so for the comparatively tiny seeds of grass and flowers.

“A lot of these prairie things—their

seeds are light and can’t make it,” Bender said. “This had become so shady with all these young sumacs. They would change the face of this area just by shading out all of the species that are sun loving and require the sun for their growth.”

The “sun-loving” species include wild quinine, which is making a comeback. The quinine, in turn, is essential to certain beneficial insects. No change in nature, it seems, occurs in a vacuum. “It’s all connected,” Bender said. 

Ragwort (Senecio) (top left) is plentiful since Kentucky State Nature Preserves Commission staff performed prescribed burning at Eastview Barrens.

Photos provided by the Kentucky State Nature Preserves Commission



The Louisville Science Center just unveiled its newest addition to the facility, and it is no small accomplishment. “The World Around Us” is an interactive, high-tech exploration of Kentucky’s diverse environment. The science center staff, armed with a new strategy for teaching science education influenced by KERA, set out to completely renovate its permanent exhibit space in the early 1990s. As a result, visitors can now learn about “The World Within Us,” “The World We Create,” and now “The World Around Us.”



Louisville exhibit takes you on a journey of the environment

By Kate Shanks
Office of Communications and Public Outreach

“We have precious natural resources we need to protect for future generations,” stated Gail Becker, executive director of the Louisville Science Center. “In order to do this, we have to understand the science.”

The science center is setting the bar with this exhibit. The center received multiple national grant awards, including one from the National Science Foundation.

“This is a huge endorsement from the leaders in our field of informal science education,” stated Becker.

Visitors to the 8,000-square-foot exhibit are greeted by a large globe of the Earth floating on air that introduces them to land, air and water. From there, visitors will likely be mesmerized by “Eco-Explorer,” a large screen showing panoramic photos of natural attractions in

Kentucky. Visitors can click on a destination, such as Blanton Forest in Harlan County, spin a steering wheel and watch the image rotate 360 degrees.

Once inspired by visions of Kentucky, visitors can wander into three main rooms of the exhibit—Aquasphere, Atmosphere and Terrasphere.

If the calming aqua blue walls of Aquasphere don’t draw you in, the one-of-a-kind water cycle exhibit will. More than 300 blue-colored balls, twice the size of marbles, make their way through the cycle. Visitors can manipulate the balls, much like in a pin ball game, as they flow through urban and rural landscapes.

The science center misses no opportunity to educate. The public restrooms in Aquasphere display information panels about wastewater treatment and conserving water.

Leaving the Earth temporarily, visitors can cross over into Atmosphere. The biggest attractions of this room are the “Sky Tracker” pods. Climb in and navigate into a hole in the ozone layer or over Mount St. Helens.

Visitors can also play “Watt’s the Score?” a game about conserving energy in the home,

community and school.

For those who want to return to Earth, make a final stop at Terrasphere and explore the “Environments that Support Us.” Learn about the “Life of a Log” at a forest display backdropped by a mural from Elliott County.

Also in Terrasphere, you might feel like something is staring at you. It may be the grey wolf, elk bull or black bear on display in “Diversity Dilemma.” Come face to face with the wolf and learn how its loss from the state decades ago affects deer populations today.

“The World Around Us” exhibit will take you on an impressive journey of the environment—from forests to streams, from the ozone layer to a western Kentucky wetland. In the time you spend in “The World Around Us” you will be inspired by the environment, understand the science behind it and learn how to protect it. All this without even leaving Kentucky.

The Louisville Science Center is open year round, seven days a week. The center is located on Main Street in downtown Louisville between Seventh and Eighth streets. For more information, including directions and admission fees, visit www.louisvillescience.org or call (800) 591-2203.



ABOVE: Students explore “Alive in Louisville.” This portion of the exhibit is funded by the Kentucky Division of Forestry’s Urban and Community Forestry Assistance Grant, which is sponsored in part by the USDA Forest Service.

LEFT: Youth use puzzles to learn about water in the “Earth Cycles” exhibit. Photos courtesy of the Louisville Science Center.



The house that EPPC built

By Kate Shanks
Office of Communications and Public Outreach

Energy-efficient appliances, environmentally friendly yard and garden tools, home safety devices, and many other elements figured into this house, which was built around the theme of the Environmental and Public Protection Cabinet.

What if the Environmental and Public Protection Cabinet (EPPC) built an ideal house? It would be energy efficient and conserve water. It would have walls of recycled newspaper, properly installed smoke detectors and safe alternatives for household chemicals.

The cabinet built this house on “Main Street” in the South Wing of the Kentucky Fair and Exposition Center during this year’s Kentucky State Fair.

More than 650,000 people visited the Kentucky State Fair and many toured “The House that EPPC Built.” The house included a kitchen, family room, bathroom, utility room, garage and patio.

Visitors learned how ENERGY STAR appliances save energy and money and reduce air pollution. They also had a chance to look under the hood of a hybrid vehicle, identify water wasters in the home and experience the “virtual bar” educational computer game that showed different levels of intoxication based on a person’s weight and alcohol consumption. Visitors picked up literature with tips ranging from mold prevention to stopping underage drinking.

Several lucky fair goers used what they learned in the house to win children’s bikes, tools, crumb rubber mulch and smoke detectors given away in the exhibit’s drawing.

“The House that EPPC Built” exemplified the four departments in the cabinet and the many different entities that are regulated by the Environmental and Public Protection Cabinet, such as horse racing, wrestling and boxing, charitable gaming and utilities to name a few.

“This exhibit provided the public with practical information they can use to create and maintain a safe and environmentally friendly home,” stated EPPC Secretary LaJuana S. Wilcher. “It also helped people understand the many services the cabinet provides.”

Those that missed “The House that EPPC Built” can view the rooms and read about the exhibit on the cabinet’s Web site at www.environment.ky.gov. This site is also useful for those that did visit the house and want additional information



TOP: The utility room displayed a variety of environmentally friendly household cleaners, a recycling bin, and an ENERGY STAR-rated washer and condensing gas furnace.

CENTER: The kitchen’s refrigerator was ENERGY STAR rated. The kitchen also emphasized the importance of reusable products, recognizing overpackaging and conserving water usage.

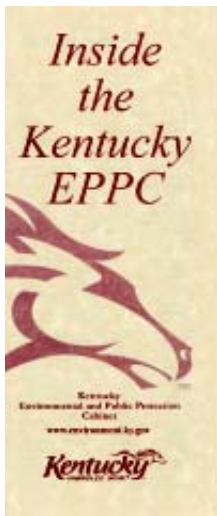
LEFT: The garage housed a hybrid vehicle, electric lawn mower, human-powered reel mower and hand tools. Crumb rubber mulch, made from scrap tires, surrounded the tree in the landscape. All photos provided by Kate Shanks

about what they learned.

“The cabinet is such a diverse agency. It’s hard to believe we were able to fit so much about what we do under one roof,” said Jennifer Parks, project manager for the exhibit.

The cabinet thanks those that provided materials including GE Appliance, Home Depot, Big Lots, Congelton Lumber, Keith’s Hardware, Coleman Lumber Yard and Platt Mechanical.





INSIDE the KENTUCKY EPPC

For answers to your questions

The Environmental and Public Protection Cabinet (EPPC) produced this handy resource guide that includes telephone numbers of all cabinet regional offices (See Page 11), as well as a list of EPPC issues in Kentucky that citizens may have questions or concerns about.

Tear out this guide and keep it in a convenient place. It could help get answers to questions about issues that are important to you. All phone numbers are (502) area code unless otherwise specified. For local and regional concerns, the appropriate EPPC regional office should be contacted.

Abandoned Drums/Oil Tanks	564-6716	Endangered/Threatened/Rare Species	573-2886
Abandoned Mined Lands	564-2141	Energy Conservation	564-7192
Abandoned Vehicle Recovery	564-6716	Energy -- Renewable (solar, wind, etc.)	564-7192
Above-ground Storage Tanks	564-5981	Environmental Education:	
Acid Rain (permits)	573-3382	General Information	564-5525
Agriculture Corrective Measures	573-3080	Clean Air for Kentucky	800-928-0047 or 573-3382
Agricultural Districts	573-3080	Conservation (Envirothon, soil)	573-3080
Agricultural Equipment Revolving Fund	573-3080	Forestry	564-4496
Agriculture Water Quality Acts	573-3080	Environmental Emergencies (24/7)	564-2380
Agriculture Water Quality Authority	573-3080	Environmental Leadership (Ky. Excel)	564-0323
Agriculture Water Quality Plans	573-3080	Environmental Services (lab)	564-6120
Air Quality Inspections	573-3382	Environmental Trends (Env. Quality Comm.)	564-2150
Air Quality Permits	573-3382	Explosives and Blasting	573-0140
Air Releases (vapors, fumes, odors)	573-3382	Fires (outdoors):	
Air Quality Index	800-AIR INKY	Air Quality Laws	573-3382
Air Quality Assistance for Small Businesses	564-0323	Fire Marshal	573-0382
Alcoholic Beverage Licensing and Enforcement	564-4850	Fire Prevention (homes, businesses)	573-0385
Asbestos	573-3382	Forestry Laws	564-4496
Banking	573-3390	Waste Management Laws	564-6716
Best Management Practices:		Fish Kills	564-2380
Agriculture	573-3080	Fishing Advisories	564-3410
Conservation	573-3080	Floodplain Issues	564-3410
Forestry	564-4496	Forest Fires	564-4496
Biodiversity	573-2886	Forest Health	564-4496
Blackwater Release (24/7)	800-928-2380 or 564-2380	Forest Resource Utilization	564-4496
Brownfields	564-0323	Forest Stewardship	564-4496
Charitable Gaming, Bingo and Texas Hold-em	573-5528	Freon (general information)	573-3382
Clean Air Act	573-3382	Geographic Information Systems	564-5174
Clean Community Program	564-6716	Groundwater	564-3410
Clean Water Act	564-3410	Groundwater Protection Plans	564-3410
Complaints:		Hazardous Air Pollutants	573-3382
Air	573-3382	Hazardous Waste	564-6716
Insurance	564-6034	Hazardous Waste Incinerators	564-6716
Oil and Gas Drilling	573-0147	Hearings (administrative)	564-7312
Water	564-3410	Heritage Land Conservation Fund	573-3080
Waste	564-6716	Horse Racing	859-246-2040
Compliance Assistance	564-0323	Household Hazardous Wastes	564-6716
Composting	564-6716	Illegal Dumps	888-NO DUMPS
Conservation Districts	573-3080	Incinerators (permits)	573-3382
Dam Issues	564-3410	Indoor Air (general information)	573-3382
DEP Scholarship Program	564-2150	Insurance:	
Drinking Water	564-3410	General Information	800-595-6053
Drinking Water Operator Certification	564-0323	Agent Licensing	564-6004
Drought Information	564-3410	Fraud	564-1461
Dry Cleaners' Information	573-3382	Health Insurance Coverage Denials/Appeals	564-6088
Ecosystem Management	564-4496	Insurance Company Information	564-6082
Electrical Licenses	573-2002	Insurance Program for Seniors	564-6088
Elevators	573-1694	Kentucky Access	866-405-6145
Employment	564-2042	Kentucky Mine Subsidence Fund	564-6055

Local Government Premium Tax	564-1649
No-Fault Rejections	564-6046
Publications	564-6034
Kentucky Master Logger Program	564-4496
Kentucky River Locks and Dams	564-2866
Laboratory Certification	564-6120
Landfarming/Landspreading	564-6716
<i>Land, Air & Water</i> Subscriptions	564-5525
Landfills	564-6716
Landslides	564-6940
Lead (general information)	573-3382
Leaking Cargo/Drums	564-6716
Logging Inspection and Enforcement	564-4496
Logging Laws and Regulations	564-4496
Medical Waste	564-6716
Mercury	564-6716
Mold (general information)	573-3382
Natural Areas Registry	573-2886
Nature and Wildlife Fund	573-2886
Nature License Plates	573-3080
Nature Preserves	573-2886
Non-Coal Mining (clay, limestone, sand, gravel)	564-2340
Nonpoint Source Pollution	564-3410
Oil and Gas Drilling Permits:	
Gathering Line Licensing	573-0147
Well Plugging Program	573-0147
Production Reporting	573-0147
Bonding	573-0147
Records, Transfers, Violations	573-0147
Operator Licensing	573-0147



Open Burning	573-3382
Ozone	573-3382
Phone Slamming	800-772-4636
Plumbing	573-0365
Pollution Prevention:	
Air	573-3382
Waste	564-6716
Propane Licenses	573-1702
Radon (general information)	573-3382
Reclamation of Mined Lands	564-2340
Recycling and Marketing Assistance	564-6716
Risk Assessment	564-6120
Securities (financial)	573-3390
Shale Extraction	564-2340
Small Operator's Assistance Program	564-2320
Smog Alert (Northern Ky)	800-621-SMOG
Soils and Erosion	573-3080
Soil Erosion and Water Quality Cost Share Program	573-3080
Soil and Water Conservation Commission	573-3080
Soil Surveys	573-3080
Solid Waste	564-6716
State Forests	564-4496
State Revolving Fund: Drinking Water/Wastewater	564-3410
Storm water Runoff	564-3410
Stream Construction/Dredging	564-3410
Superfund Sites	564-6716
Surface Mining Law Enforcement	564-2340
Surface Mining Permits	564-2320
Swimming Advisories	564-3410
Tax Appeals	573-4316
Tire Dumps	564-6716
Tires (scrap)	564-6716
Toxics (air)	573-3382
Tree Farm Program	564-4496
Tree Seedlings	564-4496
Underground Coal Mining	573-0140
Underground Storage Tanks	564-5981
Universal Waste	564-6716
Urban Forestry	564-4496
Used Motor Oil Collection	800-282-0868
Utility Problems	800-772-4636
Vehicle Emission Testing	573-3382
Waste and Recycling Education	564-6716
Wastewater Operator Certification	564-0323
Wastewater/Sewage Issues and Permits	564-3410
Water Conservation/Shortage/Supply	564-3410
Water Quality:	
Monitoring	564-3410
Standards	564-3410
Total Maximum Daily Loads	564-3410
Water Quality Certification	564-3410
Water Withdrawal	564-3410
Watershed Conservancy District	573-3080
Watershed Management	564-3410
Water Watch Program	800-928-0045
Water Well Issues	564-3410
Wellhead Protection Program	564-3410
Wetlands	564-3410
Wild Rivers Program	564-3410
Wire Burning	564-6716

The Kentucky Environmental and Public Protection Cabinet (EPPC) encourages you to use this directory so that we can help you find the answers you need. Our office hours are 8 a.m. to 4:30 p.m., Monday through Friday. Visit the cabinet's Web site at www.environment.ky.gov for more information about the cabinet and its activities.

CENTRAL OFFICES

All phone numbers are 502 area code unless otherwise designated

<p>Office of the Secretary 564-3350</p> <ul style="list-style-type: none"> Admin. and Information Services 564-7320 Administrative Hearings 564-7312 Communications and Public Outreach 564-5525 Inspector General 564-1985 Legal Services 564-5576 Legislative and Intergovernmental Affairs 564-3350 Mine Safety Review Commission 573-0316 Regulatory Affairs 564-3350 Environmental Quality Comm. 564-2150 Ky. State Nature Preserves Comm. 573-2886 <p>Dept. for Environmental Protection 564-2150</p> <ul style="list-style-type: none"> Division for Air Quality 573-3382 Division of Compliance Assistance 564-0323 Division of Enforcement 564-2150 Division of Env. Services 564-6120 Division of Waste Management 564-6716 Division of Water 564-3410 <p>Dept. for Natural Resources 564-6940</p> <ul style="list-style-type: none"> Division of Abandoned Mine Lands 564-2141 Division of Conservation 573-3080 Division of Forestry 564-4496 Division of Mine Permits 564-2320 Division of Mine Reclamation and Enforcement 564-2340 Division of Oil and Gas Conservation 564-0147 Mine Safety and Licensing 564-0140 Technical and Adm. Support 564-2320 	<p>Dept. of Labor 564-3070</p> <ul style="list-style-type: none"> Division of Claims Processing 564-5550 Division of Compliance 564-3070 Division of Education and Training 564-3070 Division of Employment Standards, Apprenticeship and Training 564-3070 Division of Info. and Research 564-5550 Division of Ombudsman 564-5550 Division of Security and Compliance 564-5550 Division of Workers' Comp. Funds 564-3070 Labor Management, Relations and Mediation 564-3070 Occupational Safety and Health 564-3070 Workers' Claims 564-5550 Workplace Standards 564-3070 <p>Dept. of Public Protection 564-7760</p> <ul style="list-style-type: none"> Alcoholic Beverage Control 564-4850 Board of Claims 573-2290 Board of Tax Appeals 573-4316 Charitable Gaming 573-5528 Crime Victims Comp. Board 573-2290 Division of Adm. Services 564-7760 Financial Institutions 573-3390 Housing, Buildings and Construction 573-0364 State Fire Marshal 573-0382 Ky. Boxing and Wrestling Authority 564-7760 Ky. Horse Racing Authority 859-246-2040 Office of Insurance 564-3630 Public Service Commission 564-3940
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EPPC REGIONAL OFFICES

<p>Dept. for Environmental Protection</p> <ul style="list-style-type: none"> Ashland — Air Quality 606-929-5285 Bowling Green 270-746-7475 Columbia <ul style="list-style-type: none"> Water 270-384-4734 Waste Management 270-384-4735 Florence 859-525-4923 Frankfort 502-564-3358 Hazard 606-435-6022 London 606-878-0157 Louisville <ul style="list-style-type: none"> Water 502-429-7122 Waste Management 502-429-7120 Madisonville <ul style="list-style-type: none"> Water 270-824-7529 Waste Management 270-824-7532 Maxey Flats 606-784-6612 Morehead — Water, Waste 606-784-6635 Owensboro — Air Quality 270-687-7304 Paducah <ul style="list-style-type: none"> Air Quality, Water 270-898-8468 Waste Management 270-898-8495 	<p>Dept. for Natural Resources</p> <ul style="list-style-type: none"> Division of Mine Reclamation and Enforcement <ul style="list-style-type: none"> London 606-878-0098 Madisonville 270-824-7536 Middlesboro 606-248-6166 Pikeville 606-433-7726 Prestonsburg 606-889-1746 Division of Abandoned Mine Lands <ul style="list-style-type: none"> London 606-878-0071 Madisonville 270-824-7534 Prestonsburg 606-889-1741 Division of Forestry <ul style="list-style-type: none"> Betsy Layne 606-478-4495 Campbellsville 270-465-5071 Elizabethtown 270-766-5010 Frankfort 502-573-1085 Gilbertsville (J.P. Rhody Nursery) 270-362-8331 Hazard 606-435-6073 Madisonville 270-824-7527 Mayfield 270-247-3913 Morehead 606-784-7504 Pineville 606-337-3011 West Liberty (Morgan Co. Nursery) 606-743-3511
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Customized stewardship planning made easy

Forest Stewardship Plans now available on CD-ROM

By Gwen Holt
Division of Forestry

Foresters have long been developing lengthy stewardship plans for forest landowners in Kentucky the old fashion way. These plans often included several pages of typed and sometimes handwritten information along with hand-drawn and hand-colored maps.

The Division of Forestry has now gone high tech. Foresters now have a new software tool called The Forest Stewardship Plan Geobook that helps them develop stewardship plans on CD ROM.

The Geobook software allows the forester to create a digital book with plan information for the landowner, as well as a digital interactive map.

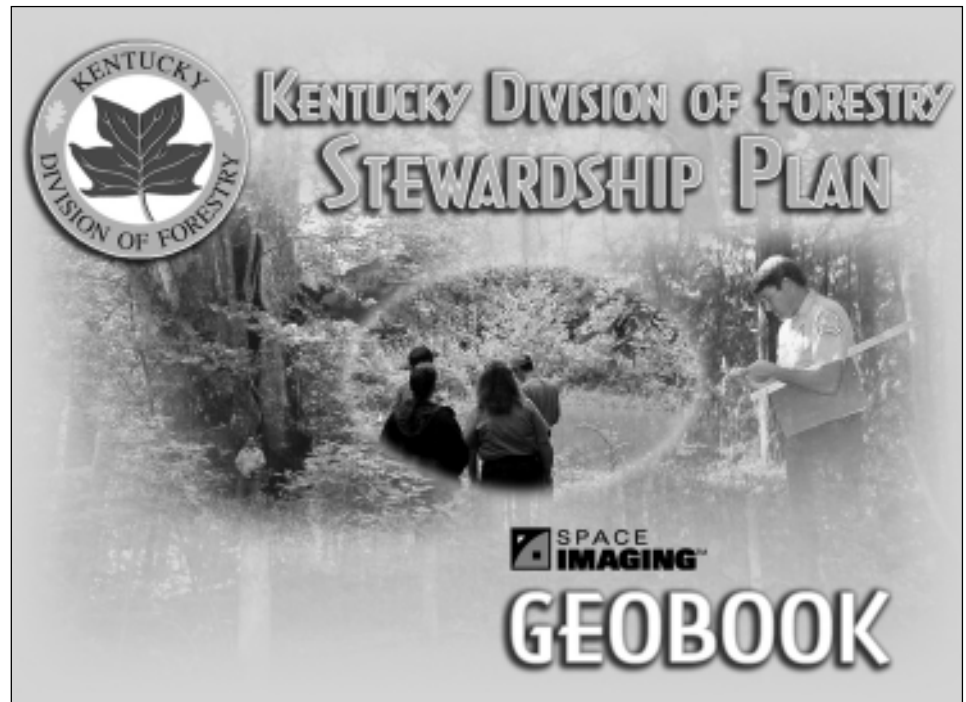
Instead of the lengthy paper plans of the past, the Geobook contains more information than could ever have been included in past stewardship plans.

Paper copies of stewardship plans will still be available for landowners who do not have the technological equipment or knowledge to use a Geobook.

The software's book-like format is very user friendly. The information is presented on pages that are organized logically into chapters. Users can easily flip through the pages of the book to access images, maps, recommendations and other supporting content relative to their property.

The Geobook not only provides a customized stewardship plan for the landowner's property, it also has volumes of information to assist in making sound decisions regarding the sustainability of their forest resources.

Each of the division's nine district offices are installing the equipment needed to produce the Geobooks and expect to be fully operational in the next few months.



Take a look at some of the chapters included in the Geobook:

“Interactive Map of Your Property”

(GIS layers will vary depending on the location of your property):

- topographic map
- aerial map
- soils layer
- property boundary
- streams layer
- roads layer

“Forest Stewardship Plan”

- general property description
- major forest types and conditions
- forest wildlife and conditions
- watershed and conditions
- aesthetic features
- forest stand descriptions
- general recommendations

“Managing Your Forest”

- landowner cost-share assistance
- Best Management Practices (BMPs)

- champion tree program
- american tree farm system
- tree seedling information
- wildland fire protection
- timber taxation
- selling your timber
- Kentucky Woodland Owners Association
- Kentucky Association of Consulting Foresters

“Additional Information”

- alternative forest products
- forestry Web sites
- forestry terms
- wildlife habitat how-to's
- forest insects and disease
- tree planting manual
- managing sustainable forests
- forestry water quality plan
- burning laws
- cost-share assistance

Workshops teach the importance of watershed assessments

By Margi Jones
Division of Water

Experience and science tell us that a stable river or stream is one that is just wide enough, deep enough and long enough to move the amount of water, gravel (or sediment load) and woody debris produced in its watershed without significantly eroding its banks, changing the depth, width or slope or substantially changing course (length), even in high water or flood situations.

Over time, many watersheds have been cleared of forests, hillsides were

of fine-grained sediments that degrade gravel bed stream habitats and is one of the leading causes of stream impairment in Kentucky. In addition, channel incision typically reduces the variability of the stream channel and impairs habitat quality.

Habitat alteration, hydromodification (straightening or altering the stream channel) and siltation account for almost half of the impaired waters listed in the Division of Water 2004 303(d) report. See the report at <http://www.water.ky.gov/sw/tmdl/303d.htm>.

Until recently, river management has largely focused on water and how to

contain its flow. Not enough emphasis has been placed on how to identify the source of sediment impacts and mitigate impairments. River scientists, natural resource professionals and managers are now bringing the principle of river “stability” into the management of stream corridors.

The Division of Water (DOW) Nonpoint Source (NPS) Section has collaborated with the University of Louisville Stream Institute (ULSI) to assess the physical stream channel characteristics of Kentucky streams. As a result of NPS Section initiatives and training opportunities, the DOW and other agencies have begun to incorporate the principles and applied methods of physical stream characteristics into stream alteration permits, stream restoration and mitigation guidance.

Recently, the DOW and the ULSI started emphasizing the importance of conducting assessments on a watershed scale. Comprehensive watershed assessment incorporates human, biochemical and physical watershed evaluations. Such assessments are critical to determining which stream reaches can benefit from restoration and effective restoration design.

Despite their importance, effective watershed assessments are not typically completed for restoration projects because of the lack of trained personnel who can accurately and efficiently conduct them.

To help bring attention to this deficiency, the ULSI in cooperation with the NPS Section conducted two workshops to address fluvial geomorphic assessment

Continued to Page 16

TOP: *Streambank erosion as a result of stream instability.*

LEFT: *Landowners explain past and present land use activities.*

Division of Water photos



farmed and stream systems have been straightened and channelized. More recent land-use activities include large-scale channelization for agriculture and flood control, mining, road construction and logging. These activities have contributed to stream instability over much of the Commonwealth.

Sediment and erosion have become an increasing problem. Channel incision or degradation (erosion of the stream bottom) causes stream bank deterioration that migrates both upstream and downstream and releases fine-grained sediments into stream systems. Siltation is the deposition



State open burning regulation amended

By Elizabeth Robb
Division for Air Quality



Alternatives to Open Burning

Reduce: Look for items that have less packaging.

Reuse: Give old items to thrift stores.

Recycle: Many communities can recycle plastic, aluminum and newspaper.

Contact your local solid waste coordinator for more alternatives to open burning.

Among its other updates, the regulation now gives local governments greater flexibility in disposing of vegetative debris and “clean lumber” resulting from storms.

Kentucky’s regulation on open burning has been updated to help local governments dispose of dead trees and limbs left in the wake of violent storms.

The Division for Air Quality began work to overhaul the regulation following the ice storm and tornadoes of 2003. An amendment passed legislative review and became effective in July. County and municipal governments may need to review local burning ordinances to be sure they are in compliance with state-level standards.

Among its other updates, the regulation now gives local governments greater flexibility in disposing of vegetative debris and “clean lumber” resulting from storms. Significant provisions of the regulation include:

- Definitions for clean lumber, wood waste and yard waste.
- Enhanced fire training requirements.
- A maximum ambient temperature, 50 degrees Fahrenheit, for comfort heat fires.
- Updated burning restrictions for counties that fail to meet federal standards for ozone and particulate matter air pollution.


- Enhanced definition of garbage to make it clear that burning of materials such as plastics and bottles may not be burned.

The current regulation 401 KAR 63:005 is available online at <http://www.air.ky.gov/news/>

Local ordinances can have more stringent requirements than are in effect at the state level. In Oldham County, a local ordinance limits open burning to brush from land clearing and strictly prohibits the burning of leaves and grass clippings. Burning leaves and grass clippings release large amounts of particulate matter, which is a pollutant regulated by the Environmental Protection Agency (EPA) and linked to increased asthma attacks, emphysema and heart attacks. Particulate matter is a precursor to ground-level ozone, also linked to lung damage. Yard trimmings and leaves can easily be composted in a corner of the backyard. As a bonus, the finished compost can do wonders to improve garden soil.

In Spencer County, Fire Chief Nathan Nation sent letters to Spencer County residents informing them of state laws governing the practice of open burning and encouraging citizens to contact the Division for Air Quality before conducting a burn. The division can train municipal and volunteer fire departments and dispatchers on the regulation, and can provide informational brochures to fire departments interested in mailing information to citizens in their fire district.

From passing ordinances to conducting education and outreach campaigns, local officials are making a difference in the lives of Kentuckians and finding ways to encourage every citizen to do their share for cleaner air by looking for alternatives to open burning.

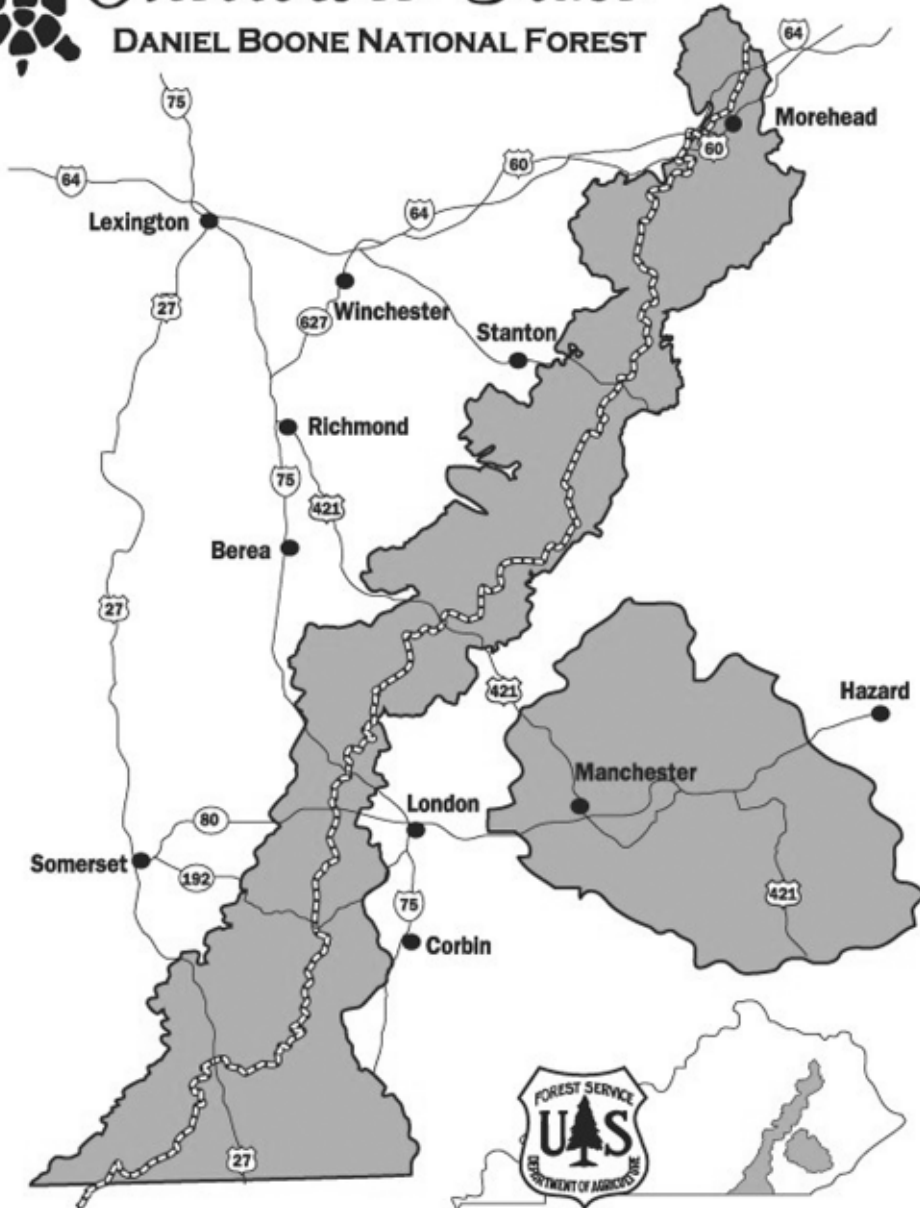
Knowing state and local rules and regulations surrounding open burning will help everyone breathe easier. For more information contact the Division for Air Quality at (502) 573-3382. 





Sheltowee Trace

DANIEL BOONE NATIONAL FOREST



streams throughout the Daniel Boone National Forest in Kentucky. The trail was built in 1979 and provided hikers a unique look at the biodiversity of Kentucky.


The hikers trekked from the most southern point of the trail in Kentucky at Big South Fork Recreation Area at the Kentucky-Tennessee border to Camp Wildcat in the Daniel Boone National Forest. The hikers passed by natural wonders such as Cumberland and Yahoo falls, which are reminders of the many opportunities for environmental education in Kentucky.

Throughout the 110-mile journey, students from counties surrounding the trace joined the hikers to participate in programs ranging in topics from black bears in Kentucky to management of the forest. Hikers documented these educational experiences in journals to share with others.

“I think the most exciting part of this project is students having a chance to learn more about their state and some of the natural wonders found in Kentucky,” stated Kim Feltner, Daniel Boone National Forest employee. “What’s found along the Sheltowee Trace cannot be found inside a classroom. Mother Nature can teach us a lot!”

In addition to celebrating Environmental Education Week, this project is designed to highlight the trace as an educational and recreational resource and to celebrate the 100th anniversary of the USDA Forest Service. Next year, hikers will complete the journey by finishing the northern portion of the trace.

“I hope that, at the completion of the hike, I can share with others a picture of Kentucky’s varied, valuable and exciting natural resources that are available to everyone as they step outside and into Kentucky’s diversified forests,” stated Doug McLaren, University of Kentucky Department of Forestry.

To view pictures and read hikers’ journal entries, visit the project Web site at <http://www.kentuckyawake.org>. 

Out of the classroom and into the wilderness

By Kate Shanks
Office of Communications and Public Outreach

A team of adventurous environmental educators hiked a portion of the Sheltowee Trace in honor of Kentucky Environmental Education Week celebrated Sept. 11-17. Educators from a variety of agencies came together to

explore the Sheltowee Trace as an educational resource.

The trace extends 267 miles from Pickett State Park in Tennessee to just north of Morehead, Kentucky. The trace traverses forest, ridge tops, meadows and

Change the world—one lightbulb at a time

Did you know that the energy you use in your home can be responsible for twice the greenhouse gas emissions as your car? That is because most electricity is generated by burning fossil fuels, which releases greenhouse gases into our air. If you are like most people, you want to make a difference...but do not know where to start.

Here is a bright idea. Changing the world takes less time and energy than you might think. In fact, it is as simple as changing a light.

The Kentucky Office of Energy Policy, along with utilities, energy efficiency organizations, retailers, manufacturers, and consumers across the country, has joined the ENERGY STAR *Change a Light, Change the World* campaign—a national challenge to help Americans change the world one light, one step, at a time. The campaign begins this month (October).

You typically spend more to light your home than you do to operate your refrigerator all year long. If you are still using traditional incandescent bulbs and inefficient fixtures, you are wasting a lot of energy and money—and creating a lot of unnecessary pollution. Switching to energy-efficient lighting can save you time, energy and money—and help the environment. These products last up to ten times longer, which can mean more than seven years between bulb changes. In addition, since they also use at least two-thirds less energy, you will save money on your utility bills.

Try simply changing out the five lights you use most to ENERGY STAR-qualified ones. You will be doing your part to reduce the emissions that cause global warming, and if all of our homes did it, we would prevent greenhouse gas emissions equivalent to those from more than 8 million cars.

The ENERGY STAR *Change a Light, Change the World* campaign is sponsored by the U.S. Environmental Protection Agency and U.S. Department of Energy. For information, go to www.energystar.gov/changealight or visit the Kentucky Office of Energy Policy's Web site at www.energy.ky.gov



Ozone coalitions do their share for cleaner air

Continued from Page 5

members receive smog alerts. You can sign up at <http://www.doyourshare.org> or call (800) 621-SMOG. In the Lexington-Fayette County area, air quality alerts are e-mailed to local television and radio stations, as well as local government entities (See AQI information on Page 5).

Receiving air quality alerts empowers citizens to help minimize ozone and PM2.5 levels by making simple personal choices, like carpooling, riding the bus, combining errands, or refueling and mowing the lawn after 6 p.m. Transportation is responsible for 44 percent of the ozone pollution load in the OKI region, and more than 40 percent of ozone forming emissions in the Louisville Metro area. The ROC allows its member governments, civic organizations and the business community to participate in transportation and development planning. In Louisville the Ticket to Ride program offers ride sharing options, and TARC provides bus service throughout the metro area.

Governments, businesses, schools and individuals are encouraged to participate in these voluntary partnerships designed to protect human health and the environment. If you would like to receive air quality alerts or join the growing number of people working to promote healthy air quality, contact your regional ozone network or the Kentucky Division for Air Quality at (502) 573-3382.



- Regional Ozone Coalition 1-800-621-SMOG; <http://www.doyourshare.org>
- Louisville Kentuckiana AIR Education Air Quality Index (502) 574-3319; <http://www.apcd.org/kaire>
- Division for Air Quality (502) 573-3382 or 1-800-928-0047; <http://www.air.ky.gov>
- Statewide Air Quality Index 1-800-AIR-IN-KY
- Lexington-Fayette County Urban Government Mobility Office <http://www.lfucg.com/Mobility>

Workshops teach the importance of watershed assessments

Continued from Page 13

(methods of assessing stream forms and processes) on a watershed scale. The workshops were the first training of this type in Kentucky and were conducted by Dr. Arthur Parola, director of the ULSI.

The first was a four-day intensive workshop for natural resource professionals from ten agencies that included hands-on instruction and fieldwork. Thirty participants learned about channel forms and changes, sediment sources, characterization of sediments, channel classification and stability, and fluvial geomorphic assessment.

The second was a two-day workshop developed for state and federal government managers and policy makers. Workshop attendees included the Corps of Engineers, U.S. Environmental Protection Agency, the Transportation Cabinet, the Division of Mine Reclamation and Enforcement, the Kentucky Department of Fish and Wildlife Resources, the U.S. Forest Service, U.S. Fish and Wildlife Service and the Division of Water. Topics included the importance of using geomorphic assessment to identify how land-use changes affect stream channels, to assist in determining the sources of sediments, sediment storage, and stream reach stability as well as the role of stream restoration in watershed management for sediment and habitat impairment and flood hazard reduction. As part of their fieldwork, officials also visited the 319(h)-funded Wilson Creek Restoration Project in Bernheim Forest.

The importance of understanding stream processes has a direct bearing on how natural resource professionals work with citizens and local government agencies on improving the quality of the waters of the Commonwealth.

These workshops were funded in part by a grant from the U.S. Environmental Protection Agency under §319(h) of the Clean Water Act through the Kentucky Division of Water.



Base Realignment and Closure (BRAC) and environmental cleanups have been notorious for producing economic burdens and “ghost towns.” The Lexington Bluegrass Army Depot (LBAD), located in Avon, Ky., was not left to this fate.

The state assumed management of the 776-acre site with the goals of economic redevelopment and job creation. These goals have been met and exceeded. Prior to BRAC about 1,200 personnel were employed at LBAD. Presently, employment is at 1,750, representing approximately 50 employers.

This successful beneficial land reuse by the Kentucky Department of Military Affairs has included their efforts toward securing a forthcoming 50,000 sq. ft. aircraft hangar expansion to rebuild, modify and maintain military helicopters. This project is expected to bring to LBAD (presently called Bluegrass Station) approximately 300 new jobs with salaries averaging \$40,000.

Crucial to supporting this success was a 1998 partnering initiative to better advance environmental cleanup at the facility. The collaborative work efforts between the Division of Waste Management’s Hazardous Waste Branch, the Army, Army Corp of Engineers and their contractors, the U.S. Environmental Protection Agency, and Department of Military Affairs have helped make LBAD a success. Numerous Environmental and Public Protection Cabinet employees and former employees provided a major role in the challenging cleanup efforts at the former Army depot.

Under Army operations during World War II, LBAD was commissioned as an ordnance signal and supply depot. From 1941 through 1977, its mission expanded to various light industrial activities. In 1988, the secretary of defense listed LBAD for closure under BRAC. In 1994, the facility was selected for reuse and scheduled for transfer to the Department of Military Affairs for beneficial reuse of the site.

Before final transfer, under the hazardous waste laws and BRAC, the Army was required to identify and clean up any contamination due to past operations. As a part of the cleanup from 1995 through 2003, the partnership team



Lexington Bluegrass Army Depot

Base closure site is an economic success story

By **Larry D. Hughes**
Division of Waste Management

conducted investigations, risk assessments and corrective measures throughout the entire facility based on the projected land reuse. Final public notice for the cleanups occurred this summer and final transfer of the facility is expected to take place by the end of this year.

Challenging conventional thinking about the federal Resource Conservation and Recovery Act and BRAC, LBAD has become a thriving business community and a great success story. This kind of collaborative teaming effort demonstrates that successful protection of human health and the environment can be achieved in conjunction with economic redevelopment, in order to benefit all citizens of the Commonwealth.

What is BRAC?

Base Realignment and Closure. It is the congressionally authorized process the U.S. Department of Defense uses to reorganize its military base structure. **Source:** BRAC Web site at <http://www.defenselink.mil/brac/>

Is Bluegrass Station also the Bluegrass Army Depot?

No. The Lexington Army Depot merged with the Bluegrass Depot in Richmond in 1964, thus creating the Lexington Bluegrass Army Depot (LBAD).

It remained the LBAD until 1988, when the U.S. Department of Defense announced the closure of the Lexington facility. Some of the operations were moved to the Richmond facility, which was renamed the Blue Grass Army Depot (BGAD). Ownership of the Lexington part of LBAD was passed on to the Commonwealth of Kentucky.

Source: The Bluegrass Station Web site <http://bgs.ky.gov/>

An aerial view of the Bluegrass Station, which currently employs about 1,750. Photo provided by the Bluegrass Station

Downstream development + deteriorating dams = disaster

By Linda Potter
Department for Natural Resources

“Unless something is done to rehabilitate or remove these structures, they will continue to pose a public safety issue. The cost of rehabilitation will only increase with time, as deterioration increases and construction costs go up.”

Steve Coleman
Division of Conservation

This photo shows projected amounts of flooding should the dam at Plummers Landing in Fleming County become breached. Courtesy of the Fox Creek Conservancy District

Since the mid-1950s, Kentucky’s watershed program has depended on its 198 flood control dams to provide flood protection throughout its 32 watersheds. In addition to their flood protection, they provide water for people and livestock, habitat for wildlife and recreational opportunities.

The total annual watershed benefits to Kentucky exceed \$11,500,000. However, 120 of these dams are more than 30 years old, two will reach the end of their life cycle (50 years) this year, and 71 are in desperate need of repair.

Further, many of these structures are now in a far different setting than when they were originally constructed. Population growth has forced development upstream and downstream from 30 dams, altering the dams’ hazard classification. Dams that protect people and buildings downstream require higher standards than those protecting agricultural lands. Many of the dams lie in upstream agricultural areas, unknown to the residents protected by them.

Land use changes have occurred, sediment pools have filled, structural components have deteriorated and many do not meet the current rigorous state dam safety regulations that have been enacted since the dams were built. Many are quietly deteriorating as time takes its toll on their components. One can only imagine the

devastation to populated areas if one of these structures gave way. Homes, schools and nursing care facilities lie in the water’s path.

“Kentucky needs an estimated \$20 million to repair, upgrade or rebuild the existing 198 watershed structures built in Kentucky over the last 50 years to protect the lives of people and our natural resources,” said Steve Coleman, director of the Division of Conservation.

“Unless something is done to rehabilitate or remove these structures, they will continue to pose a public safety issue. The cost of rehabilitation will only increase with time, as deterioration increases and construction costs go up,” Coleman said.

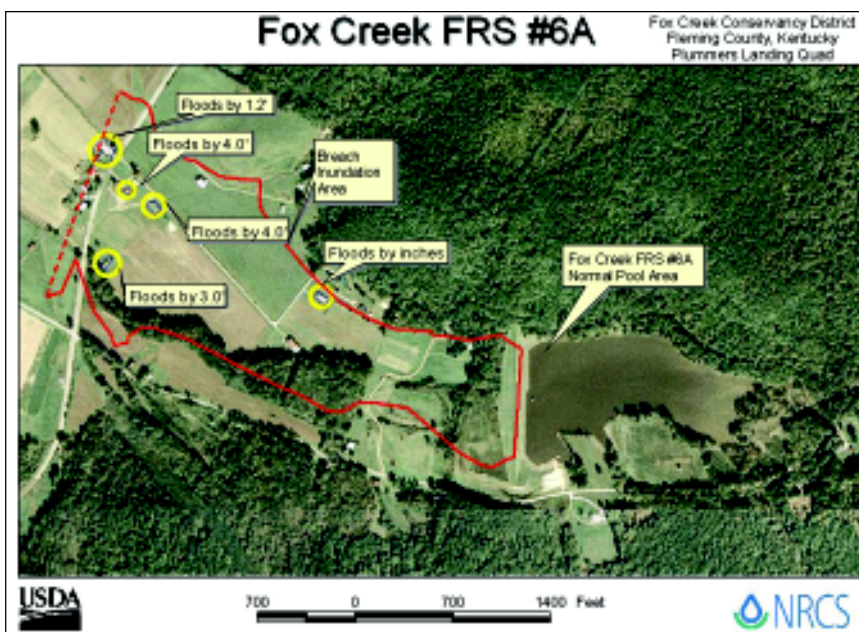
Watershed Conservancy Districts, subdistricts of conservation districts, assumed operation and maintenance of the dams after their construction. The conservancy districts have diligently watched and cared for the dams. However, the districts cannot afford the major repairs and upgrades now required by regulatory agencies and necessary for preventing loss of life.

The Small Watershed Rehabilitation Amendments enacted by Congress in 2000 require Kentucky to fund 35 percent of the cost of rehabilitation in order to receive the 65 percent federal match. Dams will be prioritized according to individual needs such as:

- Extending the life of the dam;
- Deterioration of components of the dam;
- Repairs from past catastrophic storm damage;
- Upgrades required to meet state dam safety laws; and
- Decommissioning the dams.

The funding will be passed through the Kentucky Division of Conservation to the local watershed conservancy districts for repairing, upgrading or rebuilding the locally sponsored and owned dams. The USDA Natural Resources Conservation Service will provide engineering and technical assistance to insure that the rehabilitated dams will meet all state and federal environmental and safety standards.

The Commonwealth must find \$6 million to fund the state’s share of the rebuilding efforts. If it does not, the potential loss of life resulting from a dam breach could be catastrophic in the developed areas downstream.



Awards

Conservation districts hold 62nd convention

By Martin Bess
Division of Conservation

This year the Kentucky Association of Conservation Districts (KACD) had the honor of playing host to the National Association of Conservation Districts (NACD) Southeast Regional meeting, which includes nine southern states. Both the NACD Southeast Regional meeting and the 62nd annual KACD convention were held this summer at the Downtown Marriott in Louisville.

The conservation districts and the association have been very active this past year in dealing with numerous soil conservation and water quality issues that faced the Commonwealth. The convention highlighted these accomplishments, as well as had a full agenda on important topics such as soil and water conservation issues, conservation program updates, technical information and educational ideas.

Conference attendees and guests were also offered the opportunity to tour the Heritage Farm LLC, Woodland Farm, as well as Churchill Downs and the Derby Museum.


The convention offered a time for exchanging ideas during several concurrent sessions where topics ranging from district supervisor leadership to funding of local districts to financial record keeping and audits were discussed. Junior conservation boards and environmental literacy, as well as a new education program developed by the Department of Agriculture called "Agriculture Adventures" were also highlighted.

Each year, the convention emphasizes the importance of conservation and environmental efforts by recognizing individuals that go above and beyond the call of preserving the state's natural resources. It also honors producers who take the initiative to implement sound, innovative and cost-effective conservation techniques and best management practices, while demonstrating and educating other members of the community about the problems and solutions associated with soil and water conservation. Individuals recognized were:

- **C. Thomas Bennett**, KACD Conservation Person of the Year, for his leadership and commitment in building partnerships between the wildlife concerns and those of agriculture and private landowners.
- **Robey Farm of Logan County**, Outstanding KACD Conservation Cooperator—state winner. Owners, Delmar "Lee" Robey III and Denise Robey, received \$500. Craig Roberts of Caldwell County was state runner-up. Craig and Karen Roberts received \$250.
- **Melissa Tabor**, Elementary Conservation Teacher of the year. Tabor is a fourth-grade teacher at Flaherty Elementary in Ekron, in Meade County.



Woodford County High School students took first place during the Envirothon competition held earlier this year. Division of Conservation photo

- **Scott Pile**, Secondary Education Conservation Teacher of the Year. Pile is a seventh-grade science teacher at Calloway County Middle School in Murray, Ky.
- **Taylor County Conservation District**, Outstanding Conservation District Environmental Education Award of the Year. The district considers the Junior Conservation Board the most important education activity in its area. The Junior Board was organized in 1999.
- **Caldwell County Conservation District (western) and Boone County Conservation District (eastern)**, Outstanding Conservation Districts. The KACD Recognition Program emphasizes the concepts of planning for success, organizing to give that service and evaluating district services.
- **Boone County Conservation District and the Bluegrass District Office of the Kentucky Division of Forestry** received the Forestry Award.
- **Scott County Conservation District** won the Outstanding Junior Board Award.
- **Carroll County Conservation District** won the Soil Stewardship Award.
- **Elizabeth Goff**, Pulaski County, received the KACD Auxiliary Natural Resource Scholarship.
- **Megan Holcomb**, Hopkins County, received the KACD Auxiliary George Crafton Scholarship.
- **Debra Williams** received the KACD Auxiliary Natural Resources Nontraditional Scholarship.
- **Woodford County High School** won the Kentucky Envirothon. 

Forestry division to be recognized for outstanding contributions

The Kentucky Division of Forestry will be receiving special recognition this month as it accepts a Distinguished Service Citation at a ceremony in Louisville.

The National FFA Organization selected the division because it has contributed to the continued success of FFA programs and agricultural education. These programs help millions of students prepare for careers in agricultural science, business and technology.

Each year, the Division of Forestry actively participates in the National FFA Forestry Career Development Event.

The division is responsible for all of the on-site logistical arrangements as

well as supplying volunteers and judges.

Jennifer Turner, the division's environmental education specialist, has served as the liaison between the Kentucky Division of Forestry, the Kentucky forest industry and the National FFA Organization and has coordinated this event for the past six years.

Awards such as the Distinguished Service Citation recognize the impact such programs have on students through the cooperation of the entire community.

The award will be presented during the 78th National FFA Convention, Oct. 26-29.

Congratulations to the EPPC's Division of Forestry.



The National FFA Organization

The FFA is a national youth organization that includes more than 476,000 students from 50 states, Puerto Rico and the Virgin Islands. FFA strives to make a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education.

Visit www.ffa.org for more information.

2005 Governor's Conference on the Environment update

The Governor's Conference on the Environment, previously scheduled in September, is now on the calendar for Nov. 3-4 at the Hyatt Regency Louisville.

The theme is "A Healthy State." It is also the goal of many in Kentucky—to ensure a healthy environment, healthy economy, healthy workforce and healthy citizens within the Commonwealth.

Speakers will be providing perspectives on several topics during panel sessions on Friday (see agenda at right).

The registration fee for the conference will be \$80. A reduced preregistration of \$65 is available until Oct. 21. The conference registration fee includes the Secretary's Reception on Thursday evening, as well as the luncheon and breaks on Friday.

To preregister for the conference and receive the reduced fee, send a completed (downloadable) registration form along with payment to: **Governor's Conference on the Environment, 14 Reilly Road, Frankfort, KY 40601-1973.** Checks should be made payable to "Governor's Conference on the Environment."

Credit and debit card payments are not accepted.

Additional conference information and the registration form are available on the conference Web site at <http://www.environment.ky.gov/govconference.htm>

A block of rooms has been reserved at the Hyatt Regency Louisville for conference attendees at the rate of \$110

for single or \$135 for double, plus tax.

Call the Hyatt Regency Louisville at (800) 233-1234 or (502) 581-1234.

E-mail Michelle.Gillis@ky.gov with any questions concerning registration or call (502) 564-2150.



A Healthy State

Thursday, Nov. 3, 2005

- Afternoon — Possible area tour
- 3:30 p.m. — Registration opens
- 5 p.m. – 7 p.m. — Secretary's Reception

Friday, Nov. 4, 2005

- 8 a.m. — Registration opens
- 8:30 a.m. – 9:15 a.m. — Opening Session
- 9:15 a.m. – 10:15 a.m. — A Healthy Community
- 10:15 a.m. – 10:30 a.m. — Break
- 10:30 a.m. – 11:45 a.m. — A Healthy Environment
- 11:45 a.m. – Noon — Move to Luncheon
- Noon – 1:30 p.m. — Luncheon with guest speaker
- 1:30 p.m. – 2 p.m. — Break
- 2 p.m. – 3 p.m. — Healthy Citizens
- 3 p.m. – 3:15 p.m. — Break
- 3:15 p.m. – 4:30 p.m. — A Healthy Economy
- 4:30 p.m. — Closing remarks by Governor Ernie Fletcher

PGA provides another means of glass recycling

By Eva Smith-Carroll
Division of Waste Management

Glass recycling by municipal/ community recycling programs in the state has been dropping due to the expense involved in sorting and shipping glass to cullet processors.

Cullet is broken or refuse glass usually added to new material to facilitate melting in making glass containers.

An alternative to shipment to cullet processors is reducing the glass to pulverized glass aggregate, also called PGA.

The Division of Waste Management's Kentucky Recycling and Marketing Assistance Program has acquired a glass pulverizer that is available to city and county recycling programs through a Memorandum of Understanding.

This machine – a Glass Aggregate Systems H-100V Pulverizer – creates

*(left to right)
Division of
Waste Manage-
ment staff
Timmy Bryant,
John Smith
and Tom Heil
demonstrate
use of the glass
pulverizer that
is available for
loan to
government
recycling
programs.
Division of Waste
Management
photo*



rounded, smooth-edged aggregate and sand that can be mixed with dense grade aggregate to use as roadbed underlayment and for other similar applications. The pulverizer can process 300-500 pounds of

glass per hour and must be fed by hand.

For more information, call Tom Heil at (502) 564-6716 or e-mail Thomas.Heil@ky.gov



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