
Volume 16 Number 1
Winter 2005

Land & Air & Water

Kentucky Environmental and Public Protection Cabinet

Land Air & Water

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Environmental and
Public Protection Cabinet
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Teaching the three R's is contest focus

By Eva Smith-Carroll
Division of Waste Management

Kentucky students in grades 1-8 are being asked to help raise public awareness about the three R's of responsible solid waste management—reduce, reuse, and recycle—by taking part in an environmental education contest.

The 2005 Commonwealth Cleanup Week contest has been redesigned so that students in grades 1-2 participate in a poster contest and grades 3-5 and 6-8 classrooms create a multimedia public awareness campaign as a class project.

Entries will be judged on a school level. Three school winners, one from each grade category, must be submitted to county extension offices by Feb. 4, 2005.

County winners will be eligible for the state competition. Environmental and Public Protection Cabinet judges will choose up to three state winners from each of three different categories—grades 1-2, 3-5 and 6-8—for a total of nine winning entries.

Information about contest rules, prizes and entry forms is available online at the Division of Waste Management Web site <http://www.waste.ky.gov/ccw/>

The 1998 Kentucky General Assembly designated the fourth week in March as Commonwealth Cleanup Week, an opportunity for citizens to come together and “spring clean” Kentucky. In addition to the environmental education contest, activities for Commonwealth Cleanup Week—March 20-26, 2005—will include organized cleanup events across the state and prize drawings for participating groups.



Land Air & Water Online

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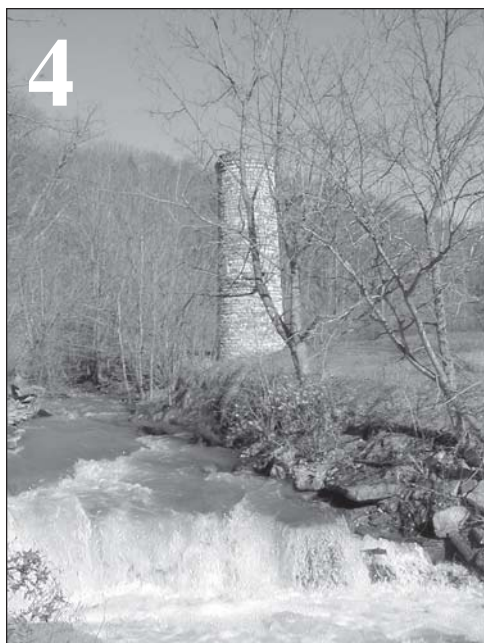
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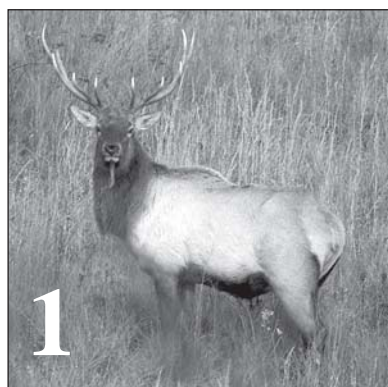
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Features



Gadgets galore

High-tech solutions to environmental problems showcased during the Governor's Conference.



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Task force given charge to develop a statewide energy policy.

30 years of safe drinking water 4

December 16 marked the anniversary that established standards for safe drinking water.

On the Cover

Although beautiful to look at, this ice-encased leaf is just a small reminder of the ice storm of February 2003. The storm brought with it ice-laden tree branches and power lines that caused debris-filled streets throughout the Commonwealth. Photograph by Thomas G. Barnes, University of Kentucky, Department of Forestry.

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Task force will create energy policy for the state

By Mark York
Office of Communications and Public Outreach

Despite the fact that Kentucky is the third-leading coal producing state in the country the Commonwealth has never had a formal, statewide energy policy. That will no longer be the case as Governor Ernie Fletcher last November appointed the Commonwealth Energy Policy Task Force and gave it a charge to finalize a comprehensive energy policy for Kentucky.

In a series of meetings across the state the task force received testimony on a wide range of issues, from alternative fuels to training new coal miners.

"I have laid out three principles for the task force—maintain Kentucky's low cost energy, responsibly develop Kentucky's energy resources and preserve Kentucky's commitment to our environment," stated Governor Fletcher.

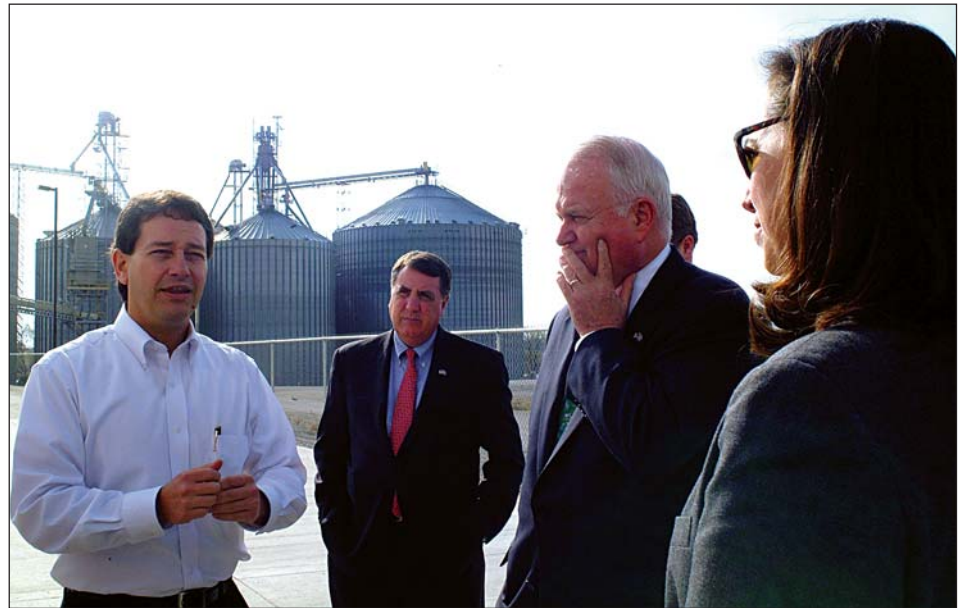
The task force was co-chaired by Environmental and Public Protection Cabinet Secretary LaJuana S. Wilcher and Commerce Cabinet Secretary Jim Host. Other members were Gene Strong, Secretary of the Cabinet for Economic Development; Robbie Rudolph, Secretary of the Finance and Administration Cabinet; Virginia Fox, Secretary of the Education Cabinet; Sen. Robert Stivers, R-Manchester; and Rep. Tanya Pullin, D-South Shore.

The task force received input during three public meetings from a diverse

"Ethanol in fuels is truly a bright spot in Kentucky's energy picture."

Secretary LaJuana S. Wilcher

collection of industry, organizations and citizens, including electric utilities, the coal industry, the gas industry, the Sierra Club, the Kentucky Corn Growers Association, the Clean Fuels Coalition, state universities and the Rocky Mountain Elk Foundation.



TOP: A male elk has made its home on the reclaimed surface mine property of Starfire in Breathitt County. **ABOVE:** Commonwealth Agri-Energy's Mick Henderson (left) talks about the ethanol production process to Energy Policy Task Force members Gene Strong, Jim Host (second and third from left) and LaJuana S. Wilcher. Photography by Creative Services

Representatives from the state's universities discussed the need for energy research and received a warm response from the task force.

"There is tremendous potential for the quality researchers at our universities and research facilities to increase their federal research funding if the state partners with them," said Secretary Host. "This funding will not only keep and attract bright people to Kentucky but will position our researchers to provide solutions to Kentucky companies that are working to become more efficient and environmentally friendly."

The need for energy conservation and use of alternative fuels also surfaced at the public meetings.

After hearing testimony at the Hopkinsville Training College, the task force toured Commonwealth Agri-Energy, a leading ethanol producer in western Kentucky (see *New ethanol stations open in western Kentucky* on Page 6).

"Ethanol in fuels is truly a bright spot in Kentucky's energy picture," said Secretary Wilcher. "Not only does ethanol use improve the environment by reducing emissions, it also promotes the creation of jobs in agri-businesses across the state."

The task force also received information on a reforestation effort on former mine sites. The Kentucky Reforestation Initiative is an ongoing cooperative effort between the Department of Natural

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Before and after: The Bourbon Stockyards property (below) was cleaned up and converted into a campus for the Home of the Innocents (left). The 2004 Phoenix Community Impact Award was presented last fall in St. Louis, Mo. Photographs courtesy of the Home of the Innocents



Louisville brownfield project wins national award

By Eva Smith-Carroll
Division of Waste Management

Cattle and hogs were part of Louisville's Butchertown neighborhood since the 1830s, when the vast Bourbon Stockyards opened. Until its closure in 1999, the stockyards was a vital part of the neighborhood's economy. Today, the site is a 20-acre village for abused, abandoned and neglected children.

The Home of the Innocents in Louisville, an environmental remediation project that converted the Bourbon Stockyards into a children's campus, won the 2004 Phoenix Community Impact Award last fall. The Phoenix Award is given for innovative projects that bring brownfields back to productive use.

Brownfields are properties that are abandoned or underutilized due to real or perceived contamination. Brownfields are a problem for both large and small communities throughout the Commonwealth because they create health and environmental problems, reduce property values and tax revenues and add to urban blight.

Governor Ernie Fletcher has called the revitalization of brownfields an important issue in his administration. Last March, a regulation was adopted that encourages redevelopment by providing standards for remediation and goals for cleanup.

This was the third national award for a brownfield project overseen by the Environmental and Public Protection Cabinet's Division of Waste Management. Two previous Louisville

projects—Papa John's Cardinal Stadium in 1999 and Waterfront Park in 2002—also won Phoenix awards.

Staff with the division's Brownfield Program in the Superfund Branch worked with consultants from AMEC Earth & Environmental on the Home of the Innocents project to develop a management plan to make the site safe for a low cost and reviewed the resulting cleanup.

The site was previously contaminated by lead, arsenic and asbestos. To reclaim it, contaminated soil was taken away from the site of the children's residential village and buried beneath crushed concrete, geotextile fabric (permeable material used in building foundations) and clean soil.

The Home of the Innocents, Kentucky's largest nonprofit provider of children's services, bought the property in 1999 and work began on converting the site into a campus. More than 900 companies, organizations and individuals donated \$25 million for the project. Construction was completed in the spring of 2003.

The site has a long history. The Bourbon House, an inn built in 1834, was the forerunner of the Bourbon Stockyards, built in 1869. It was the oldest continually operating stockyard in the United States when it began phasing out in the 1970s.

For further information on the Brownfield Program, contact Herb Petitjean at (502) 564-6716 or Herb.Petitjean@ky.gov



Air toxics workgroup convenes

By Elizabeth Robb
Division for Air Quality



Environmental and Public Protection Cabinet Secretary LaJuana S. Wilcher addresses the air toxics workgroup at its first meeting in September. Division for Air Quality photo

In response to the concerns of many Kentuckians regarding the effects of toxic air pollutants to their health, Environmental and Public Protection Cabinet (EPPC) Secretary LaJuana S. Wilcher created a statewide air toxics workgroup to address elevated levels of toxic air pollutants throughout the state's industrialized areas and population centers.

At the first workgroup meeting held in September, Secretary Wilcher emphasized the importance of this group and the ultimate responsibility of the cabinet to protect public health and the environment.

"During the next several months, it will be our responsibility to focus on the legal aspects of an air toxics program, establish goals and targets for a state program and respond to information developed through the workgroup," said Secretary Wilcher.

The workgroup's members will work with the Kentucky EPPC and its Division for Air Quality to look at current regulations and how they protect public health. This workgroup includes individuals from throughout the state with backgrounds

ranging from toxicology to environmental protection to risk assessment.

"We have a very diverse group of experts who will work with us to review science, the facts and the impacts associated with air toxics in Kentucky," said Secretary Wilcher. "We know we have some 'hot spots.' We need to delineate those areas, determine whether more data is needed and where we have regulatory gaps. Then it's the state's job to fill those gaps, doing the public's business in a public way."

The Division for Air Quality monitors and enforces regulations for six criteria pollutants: ozone, carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and particulate matter (PM_{2.5} and PM₁₀). According to the U.S. Environmental Protection Agency (EPA), the measured levels of these six air pollutants on a national level dropped by 51 percent between 1970 and 2003. The Division for Air Quality has also seen a significant decline in these pollutants.

Currently, Kentucky adopts regulations set by the EPA for toxic and hazardous air pollutants. EPA regulations based

Members of the air toxics workgroup

The workgroup is comprised of the following individuals:

Lloyd Cress, chair—Department for Environmental Protection, EPPC

Scott Smith—Office of Regulatory Affairs, EPPC

Charles Bennett—Marathon Ashland Petroleum

Sharon Dodson—Louisville Gas & Electric

Dale Duhon—Atofina Inc.

Carolyn Embry—American Lung Association

Tom FitzGerald—Kentucky Resources Council

Arnita Gadson—West Jefferson County Community Task Force

Dr. Mark Klan—Environmental

Toxicology and Risk Assessment LLC


Don Neman—Rhom and Haas Corporation

Gautam Trivedi—URS Consulting

Art Williams—Louisville Metro Air Pollution Control District

on Maximum Achievable Control Technology (MACT) have been promulgated. However, the EPA has run into significant delays in releasing the residual risk portion of this program.

In the absence of federal rules, the newly formed air toxics workgroup will embark on a path to develop a state regulatory program to identify ambient levels of toxic air pollutants that will provide an adequate margin of safety for public health and establish implementation measures for this program.

For more information about air quality in Kentucky, see the Division for Air Quality's Web site at www.air.ky.gov. For more information regarding air quality in the Louisville Metropolitan area, visit the Louisville Metro Air Pollution Control District's Web site at www.acpd.org. 

Safe Drinking Water Act marks 30 years

By Jeff Grubbs
Division of Water

Today we can turn on our faucets to get clean, safe water that we use for cooking, drinking and bathing. But national standards to ensure the safety of drinking water occurred only recently. This year marks the 30th anniversary of the Safe Drinking Water Act (SDWA), signed into law by President Gerald Ford on Dec. 16, 1974.

As far back as 4,000 years ago, aqueducts and plumbing systems were constructed to make water available to a community pump or fountain where people filled containers to carry water to their homes.

The early Greeks developed hot and cold water systems. The Roman aqueducts transported water from far away sources. In 1804, Frankfort's first system delivered water from Cove Spring to residents via pipes made of logs. Even though water was made available, all these systems lacked any sort of treatment to make it safe.

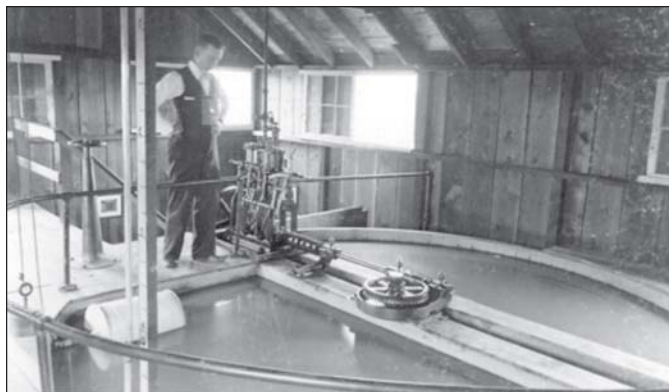
Around 400 B.C., Hippocrates believed there was a connection between water quality and health. He recommended boiling and straining water.

Much later, in 1854, Dr. John Snow discovered that victims of a cholera outbreak in London had all used water from the same contaminated well. In the 1870s, Louis Pasteur and Robert Koch developed the theory that germs spread disease.

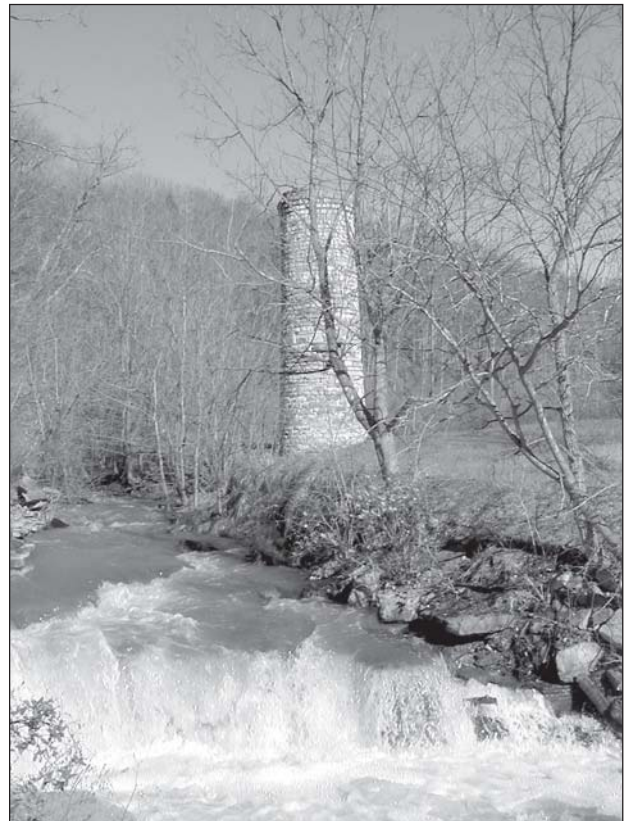
In 1895, during the era of widespread waterborne illnesses, Louisville Water Company was one of the first facilities to provide water treatment controls by combining coagulation with rapid sand filtration of Ohio River water. This treatment technique lowered turbidity and removed 99 percent of the bacteria from

the water. Consequently, there was a noticeable drop in outbreaks of waterborne illnesses in the Louisville area.

The objective of the 1974 SDWA was to have the Environmental Protection Agency (EPA) establish



federal, enforceable health standards for contaminants in drinking water. To reach this goal, the EPA conducted a survey of 70 cities throughout the nation for the presence of six specific chemicals, so-called "volatile" organics, of primary concern to the EPA. Owensboro was chosen for one of the surveys. Cincinnati was also selected for comprehensive sampling and analysis because the Ohio River was highly polluted with industrial, municipal and agricultural wastes. The comprehensive survey was an outgrowth of studies and research conducted in previous years revealing the presence of small concentrations of carcinogenic chemicals in drinking water supplies of New Orleans and Cincinnati.



ABOVE: *The stone water tower at Cove Spring Park in Frankfort is a remnant of the city's first-known water system.* Photo by Cindy Schafer

LEFT: *Louisville's Crescent Hill Treatment Plant went into operation in 1908, featuring a unique filtration system pioneered by Louisville Water Co. engineer George Warren Fuller. The "rapid sand filters" removed sediment and bacteria from the water.* Photo courtesy of the Louisville Water Co.

The first 18 interim standards were set in 1975. The number of contaminants grew to 90 when amendments were added to the original act in 1996. By 2010 that number could reach as high as 130. The EPA also set guidelines (called national secondary drinking water standards) for contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor or color) in drinking water.

The EPA requires that each state adopt and administer state rules that are at least as stringent as federal requirements. The Kentucky Division of Water (DOW) has had full authority and responsibility,

Continued on Page 8

Return of the majestic Great blue

By Brainard Palmer-Ball Jr.
Kentucky State Nature Preserves Commission



In this day of diminishing wildlife populations and natural habitats, it is heartening to reflect on some of the success stories in conservation. Most involve game species like the white-tailed deer and wild turkey that have been the focal point of significant efforts to restore their numbers. However, there are also a growing number of cases involving species that have responded to the specific and indirect effects of a combination of generalized environmental regulation and habitat restoration efforts. One such species is the Great blue heron.

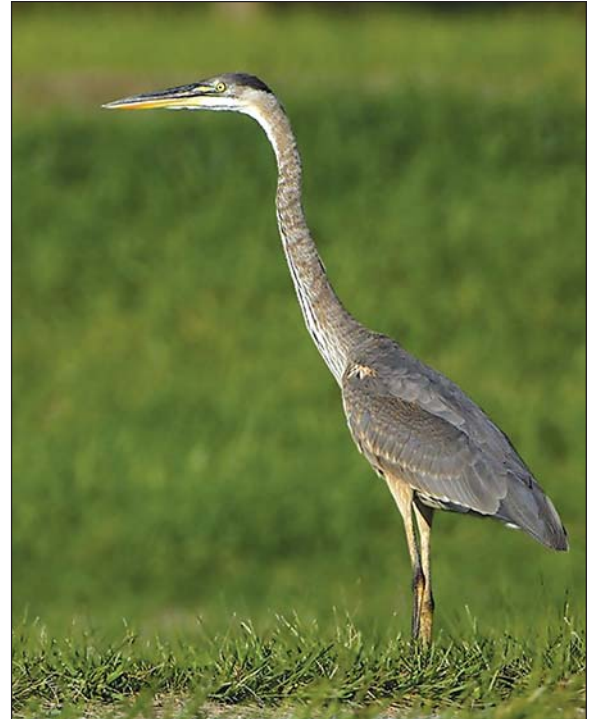
This large wading bird was once a common inhabitant of the swamps and sloughs of western Kentucky. The loss of natural wetlands and the devastating effects of the accumulation of residues from organophosphate pesticides like DDT, resulted in the nearly complete disappearance of this grand bird from the state during the middle of the 20th century.

With the banning of DDT in the early 1970s, the stage was set for the species to return from the brink of local extinction. Wetland protection and restoration measures subsequently put in place have resulted in a dramatic increase in the state's nesting population.

In addition, this large fish-eater seemingly adapted to life on the state's reservoirs during the 1980s, and since the turn of the 21st century it has moved onto rivers and streams across the western three-quarters of the state.

Presently, every year produces a number of new reports of nesting colonies, and the state's breeding population is certainly more widespread, and likely more numerous, than at any time in the past two centuries.

In 2004, the Kentucky State Nature Preserves Commission and the Kentucky Department of Fish and Wildlife Resources, in cooperation with private citizen volunteers, members of the Kentucky Ornithological Society, and personnel from other state and federal agencies, conducted a comprehensive survey of the nesting colonies of wading birds, primarily Great blue herons, across the state. This was the third such cooperative effort in recent years; others

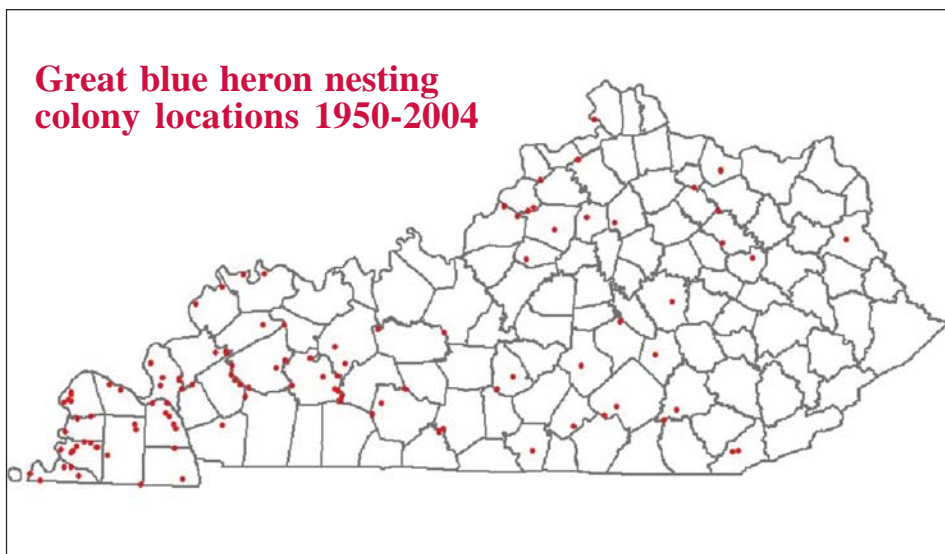


were undertaken in 1994 and 1999.

The results of this year's survey continue to show a dramatic increase in Great blue herons in Kentucky. As of the mid-1950s, nearly 900 pairs of Great blue herons were known to nest at eight sites in the western quarter of the state; it is likely that some additional sites were present but unknown to ornithologists of the era. From published accounts, it appears that for about a decade from the late 1960s to the late 1970s, the species disappeared from Kentucky as a breeder and was even more scarce at other times of the year. However,

Continued on Page 17

The Great blue heron population has been growing steadily throughout Kentucky. Its nesting colonies and breeding population is likely more numerous than at any time in the past two centuries. Photos provided by Walton, Ky., school teacher Lana Hays. Map provided by KSNPC



Corn grown in western Kentucky will now fuel thousands of cars and trucks, as well as reduce air pollution.

Max Arnold & Sons, LLC, a family-owned supplier and operator of fueling sites in western Kentucky, began introducing more than 1 million gallons of ethanol into the western Kentucky petroleum market last October.

Phillip Russo, vice president of the company, noted that the ethanol (E10) blend, which is 10 percent ethanol and 90 percent standard gasoline, will be supplied to more than 44 unbranded retail locations and to all Max Fuel Express convenience store locations in 10 counties, with no increase in price at the pumps.

Christian County Judge-Executive Steve Tribble is extremely excited about the move.

“We are so proud to be the first to voluntarily introduce ethanol in our gasoline in Hopkinsville and the surrounding region, not only to improve our air quality but our local farming economy and the ethanol production plant located here at home in Hopkinsville.”

In the first year of distribution, the E10 blend will utilize more than 1 million gallons of ethanol from the Hopkinsville Commonwealth Agri-Energy plant, which is owned by a farmer cooperative and the Kentucky Corn Growers Association. Russo said that 375,000 bushels of Kentucky grown corn will be used to produce that amount.

E10 is currently only used in areas of Kentucky where the clean blend is mandated. Any vehicle can use ethanol in a 10 percent blend. E10 will be available at stores in Hopkinsville, Madisonville, Greenville, Princeton, Russellville, Mayfield and Paducah.

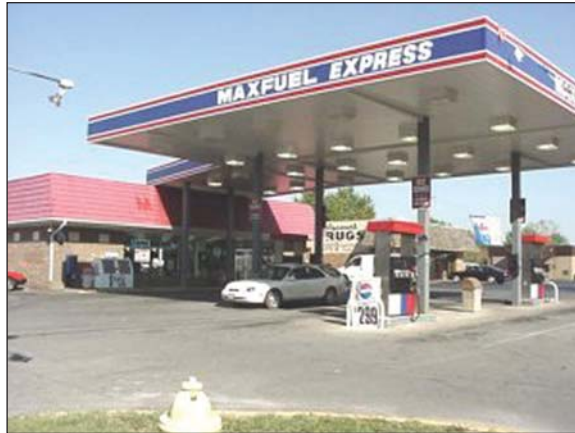
Last year, the Environmental Protection Agency designated the Hopkinsville and Clarksville, Tenn., region as a “nonattainment” area due to smog levels.

No government-mandated measures are yet in place, but local officials are required to prepare a plan of action to

reduce air pollution. Ethanol will likely be an important part of any action plan since it is biodegradable and reduces carbon monoxide, ozone, fine particulate matter and toxic emissions from tailpipes.

For more information about renewable fuels, see the Division of Energy’s Web site at www.energy.ky.gov

See also *Task force will create energy policy for the state* on Page 1.



TOP and BOTTOM: The Commonwealth Agri-Energy plant in Hopkinsville will provide more than 1 million gallons of ethanol to be used in the E10 blend in its first year of distribution. Photo by Creative Services

LEFT: Maxfuel Express #20 in Hopkinsville. Photo courtesy of MaxFuel Express

New ethanol stations open in western Kentucky

By Lola Lyle
Division of Energy



State recycling program turns 25

By Eva Smith-Carroll
Division of Waste Management

It all started with a Chevy LUV truck, a driver and one worker.

The Division of Waste Management began operating the paper recycling program for Frankfort-based state employees on Dec. 1, 1980. The first training sessions for state workers were held that month in the Cabinet for Human Resources building.

“Our little LUV truck was outfitted with plywood sideboards and a tarpaulin from the Department of Transportation to transport the paper to our contractor, Frankfort Scrap Metal. It wasn’t anything fancy as we resembled a ‘Sanford and Son’ operation,” recalls Charles Peters, who supervised the program at that time. Peters said during the first full year of operation, the fledgling one-man operation managed to collect 381 tons of paper.

In 1990 the program was expanded by executive order to apply to all state employees, including those at state universities.

Brian Bentley, who took over as resource recovery program coordinator in 2002, said the 1990 order was crucial to the growth of the Kentucky Recycling Program since it mandated recycling by state agencies.

Today the program is a profitable operation that shows continued growth. There has been an 80 percent increase in tonnage and a 60 percent increase in revenue over a three-year period, said Sara Evans, manager of the division’s Resource Conservation and Local Assistance Branch.

State government workers are familiar with the first part of the process. Resource recovery workers who drive the trucks and a crew of inmates and temporary workers make regular visits to 130 state office locations in Frankfort where they



ABOVE: Brian Bentley, resource recovery coordinator, stands in front of a compressed bale of shredded paper collected from government office and university buildings.

LEFT: One of the 2005 GMC box vans that was purchased with profits from the sale of the recycled paper. Photos provided by Creative Services

The value of the paper depends upon the grade with white ledger being among the most valuable.

The contractor supplies the material to paper mills where it will be pulped and used to manufacture new paper products.

Money from the sale of the paper covers all the program costs with profit left over.

During fiscal year 2004 the program used \$210,000 in profits to buy three 2005 GMC box vans and new lockable carts that comply with confidentiality requirements. The new carts will be especially useful for the paper and microfiche destruction service the program offers to agencies that need to dispose of sensitive documents.

The Kentucky Recycling Program has come a long way since its Chevy LUV years. Bentley is an enthusiastic promoter of the program and sees a potential for expansion. Plans are in the works for a move to a new location with more space and better facilities for the workers. A bigger facility will allow for stockpiling more materials and possibly branching out to handle other recyclables.

For more information, contact Brian Bentley at (502) 564-8070, Sara Evans at (502) 564-6716 or e-mail waste@ky.gov.

More information about the paper recycling process is online at <http://www.epa.gov/epaoswer/non-hw/muncpl/paper.htm>



State foresters elect new chairman



Leah W. MacSwords

By **Gwen Holt**
Division of Forestry

Leah W. MacSwords has been elected chairman of the Southern Group of State Foresters. She began her term Oct. 1. The Southern Group of State Foresters is a coordinating body whose members include state foresters from 13 southern states, the U.S. Virgin Islands, Puerto Rico, and the USDA Forest Service.

The group discusses and facilitates forest resource issues and government policies throughout the southeastern United States and provides an information source for landowners, outdoor enthusiasts, forest industry, developers, communities and numerous other parties.

MacSwords has been the director of the Kentucky Division of Forestry since 2001. She holds a Bachelor of Science

with a biology major and chemistry minor from Murray State University. She graduated magna cum laude in 1975 and taught middle-school life and earth sciences in Todd County. She began her state government career in 1985 in the Department for Environmental Protection before transferring to the Department for Natural Resources, where she served as deputy commissioner from 1997-2003. MacSwords lives in Frankfort.

In addition to her duties as chairman, MacSwords will serve on the executive committee of the National Association of State Foresters, a nonprofit organization that represents the directors of the forestry agencies from all 50 states, eight U.S. territories and the District of Columbia. ✦

Safe Drinking Water Act marks 30 years *Continued from Page 4*

called “primacy,” for implementation of the SDWA since 1977. As a condition of primacy, the DOW develops regulations for applying any new or amended federal rules to Kentucky systems.

Public health protection has been, and remains, the national drinking water program’s most important focus. During 2001-2002, a total of 31 outbreaks of disease (19 during 2001 and 12 during 2002) associated with drinking water were reported by 19 states, compared with 39 outbreaks during 1999-2000, according to a report by the Centers for Disease Control (CDC) in October.

This is a far cry from the waterborne illnesses that occurred before drinking water was treated.

We still have much to learn about the health effects of drinking water contaminants, testing and treatment technologies. As the EPA continues to develop standards for drinking water contaminants, increased attention will focus on source water protection and preventing contaminants, such as pharmaceuticals,

Visit these Web sites for more information about drinking water and its history:

Safe Drinking Water Act (SDWA): <http://www.water.ky.gov/dw/techdoc/SDWA.htm>

This site includes SDWA milestones, highlights from the 1996 amendments to the SDWA and additional Internet resources about drinking water.

Contaminants and their potential health effects: <http://www.epa.gov/safewater/consumer/mcl.pdf>

The CDC report: Surveillance for Waterborne—Disease Outbreaks Associated with Drinking Water—United States, 2001-2002 <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5308a4.htm>

from getting into drinking water. These standards will require a great deal of research to determine if pharmaceutical contaminants constitute a threat to treated drinking water. One thing we can all do now to prevent pharmaceuticals from getting into our drinking water is to stop flushing medicines down the toilet.

We forget that our drinking water does not just come from a tap, but that

the original source is from rivers, lakes and underground aquifers.

Consumers’ actions affect the quality of source water and the level of treatment that is required to provide safe drinking water. To keep drinking water safe and to keep treatment costs down, we all need to be aware of what we do to the land that affects our—or others’—drinking water sources. ✦

Know it before you grow it

By Chuck Wolfe
Office of Communications
and Public Outreach

An army of invasive plants has elbowed its way into Kentucky, slowly but inexorably crowding out or overwhelming many native plants. Kentucky's landscape is being subtly transformed in the process.

To a layman, the change is virtually imperceptible. "An explosion in slow motion," says Joyce Bender of the Kentucky State Nature Preserves Commission.

"Invasives" are hardly confined to Kentucky. Their spread has become a global issue.

Problems can erupt wherever plants get transported beyond their native environment – and the natural conditions and predators that held them in check. In new surroundings, they can run amok.

Kudzu, a vine native to Asia, was innocently introduced in the United States in the 1870s as an ornamental. It later was promoted for erosion control and livestock forage.

Freed of the insects that fed on it in Japan and China, and finding the southeastern climate ideal, kudzu took off. Now it is a veritable symbol of the South, a green blanket that covers millions of acres and can grow over everything in its path.

Bender said invasive plants similar to kudzu lurk nearby. Tropical soda apple, a prickly plant native to South America, infests an estimated 500,000 acres of pastures and pine lands in Florida. Capable of reaching 7 feet in height, it is being transported north through the movement of cattle, hay and sod.

Tearthumb weed, a spiny vine also called mile-a-minute weed, is heading



toward Kentucky from Maryland, Pennsylvania and West Virginia. "It's the same situation as kudzu," Bender said. "It will just overwhelm the vegetation."

Controlling invasives is made increasingly difficult by the ease of interstate and intercontinental travel and, in cases of pathogens, the ability to sail—literally—on the winds.

In November, a soybean rust fungus that ravaged crops in South

America was found in Louisiana. Researchers speculated that its spores rode into the country on hurricane winds.

The news almost immediately sent soybean futures prices higher. Spread of the fungus could have implications for soybean-rich western Kentucky.

KENTUCKY'S LEAST WANTED PLANT 2004

Promoting alternatives to invasive landscape plants

To heighten awareness of invasive plants that threaten Kentucky's native biodiversity, a **Least Wanted** plant will be featured in the Spring of each year with suggested alternatives.

LEAST WANTED!

Burning Bush *Euonymus alatus*

Burning Bush's bright red fall foliage and hardy nature have made it a very popular landscaping shrub. Unfortunately, this shrub's broad habitat tolerance and dispersal by birds make the species a threat to Kentucky's natural areas. Once Burning Bush becomes established into a natural area, it rapidly dominates the understory, outcompeting the native vegetation.



ABOVE: *Bernheim Arboretum and Research Forest publishes an annual "Least Wanted" poster featuring a pest plant.*

BELOW: *Chinese Silver Grass (Miscanthus sinensis) is easily spread and poses a severe threat in the Commonwealth.* Photo by the USDA Forest Service

Rampaging invaders: Kentucky's more damaging invasive plants

We're familiar with kudzu, the plant that ate the South. Here are some other invaders the Kentucky Exotic Pest Plant Council has rated as posing a severe threat in the Commonwealth. All spread easily and displace native vegetation:

- Bush honeysuckle
- Garlic mustard
- Oriental bittersweet
- Chinese yam
- Winter creeper
- Sericea lespedeza
- Privet
- White sweet clover/yellow sweet clover
- Japanese grass
- Chinese silver grass



LEFT: *Purple loosestrife (Lythrum salicaria)* is a known invader that property owners should avoid planting. Photo by Pat Haragan
BELOW: *English ivy (Hedera helix)*, another invasive to avoid, can be purchased by mail order or at most garden centers. Photo by the USDA Forest Service

in rhododendron and mountain laurel – two of the host plants that carry and spread the pathogen, called an oomycete. The scenario evokes memories of the blight that wiped out American chestnuts.

If sudden oak death reaches Kentucky, “it could potentially change our landscape again, like the chestnut blight did in the ‘30s,” Bender said.

Closer to the ground, those who tend to Kentucky’s 47 state nature preserves are doing battle with an array of pernicious

plants.

At Floracliff State Nature Preserve in Fayette County, Carey Ruff estimated she has killed 120,000 bush honeysuckle in five years, “and that’s not even putting a dent in the population,” she said.

Bush honeysuckle, introduced years ago as a landscaping plant, crowds out native underbrush and wildflowers that nurture birds and small animals. Ruff said it is nearly pervasive at Floracliff, which covers 300 acres along the Kentucky River, its palisades and a tributary, Elk Lick Creek.

“It will grow pretty much anywhere,” Ruff said. “I’ve seen it grow in just a skimming of soil on a rock.”

The plant’s small red berries are attractive to birds but offer little nutrition. As a result, birds have to work harder to keep themselves fed. “I’ve told kids it’s like eating french fries,” Ruff said. “They look yummy, but they’re not going to give you what you need.”

Naturalists are trying to educate the public about invasive species. The Bernheim Arboretum and Research Forest in Bullitt County annually publishes a “least wanted” poster (see opposite page) featuring a pest plant and listing Kentucky native plants as suggested alternatives.



Farther west, scientists are girding up against another killer—a fungus-like pathogen that causes sudden oak death. The disease kills oak trees by ringing them with “bleeding cankers.” First reported in 1995 in central California, sudden oak death had spread to southwestern Oregon by 2002 and to Washington state by 2003.

A number of bushes commonly sold in nurseries play host to the fungus, prompting Kentucky agriculture officials earlier this year to attempt to ban California nursery plants from entering the state. The nursery industry in California went to court to block the attempted ban.

Kentucky officials had reason for concern. Not only are the state’s forests dominated by oaks. They also are plentiful

What you can do to guard against invasive plants

- If you don’t know it, don’t grow it. Avoid buying or growing known invaders, such as purple loosestrife, English ivy and Oriental bittersweet.
- Be wary when buying plants and seeds by mail or over the Internet. Some companies—but not all—label high-risk species. Lists of known invaders can be obtained from state and federal agencies and from nonprofit groups, such as The Nature Conservancy, state native plant societies and various exotic pest plant councils.
- Avoid buying and planting mixtures of seeds, especially those labeled “wildflowers.”
- Landscape and garden with plants native to your area.
- Be a good neighbor. Never dispose of unwanted plants or lawn and garden clippings in parks or natural areas.

Tips courtesy of the
 Union of Concerned Scientists

The 2004 Least Wanted: burning bush, a hardy shrub whose bright red fall foliage made it a favorite of landscapers. It is easily dispersed by birds and can quickly dominate a natural area in which it becomes established. Suggested alternatives: native strawberry bush, spicebush or winterberry holly.

Ruff said few people recognize the pitfalls of invasive plants, many of which can still be found for sale in nurseries. In the case of bush honeysuckle, Ruff said: “They’ve got beautiful red berries. They’re green all year. They’re low maintenance. That’s what you bought them for.”

Visit these Web sites for additional information about invasives:

California Oak Mortality Task Force—www.suddenoakdeath.org; Southeast Exotic Pest Plant Council—www.se-eppc.org; Union of Concerned Scientists—www.ucsusa.org; and Bernheim Research Forest and Arboretum—www.bernheim.org



Protecting the Environment, Prospering the Economy

By Jennifer Parks
Office of Communications and Public Outreach
Photography by Creative Services

The 28th Governor's Conference on the Environment spotlighted the importance of a clean environment to a healthy and vibrant state economy. Governor Ernie Fletcher summed it up. "We say, welcome to Kentucky. We are open for business," the governor told the conferees. "But let us also say our business depends on a clean environment."

That point was emphasized by one of the conference's featured speakers—Larry Selzer, president of The Conservation Fund, who said Americans want "smarter" approaches to environmental protection and economic development—"a new approach that balances economic and environmental objectives, that recognizes the critical link between the state's natural, cultural and historic resources and job creation."

Selzer called the conference, held Oct. 27-28 in Lexington, "a groundbreaking event, focusing on a new relationship between economic development and environmental protection." That was evidenced by the conference's lineup of sponsors. The Environmental and Public Protection Cabinet teamed up with the two agencies most identified with business and job creation—the Commerce Cabinet and the Cabinet for Economic Development. The conference theme was "Protecting the Environment, Prospering the Economy."

LaJuana S. Wilcher, secretary of the Environmental and Public Protection Cabinet, said the theme "keeps us on the path set by Governor Fletcher to promote Kentucky's economic growth and development in an environmentally sensitive and sustainable fashion. A healthy environment fosters a healthy economy."

Economic Development Secretary Gene Strong, whose agency takes the lead in recruiting businesses and industry, said corporate surveys show that crime rate and the environmental issues related to quality of life are key factors for a company deciding where to locate.

"It will be the cities and towns that have had the foresight to revitalize brownfields (see *Louisville brownfield project wins national award* on Page 2), modernize their sewer systems and reduce the particulate matter amounts in their air quality that shall



Commerce Cabinet Secretary James Host and Environmental and Public Protection Cabinet Secretary LaJuana S. Wilcher listen as Governor Ernie Fletcher spoke during the Secretaries' Reception about the importance of making Kentucky business friendly while protecting the environment. Photograph by Creative Services


have the competitive edge over their rivals when companies are looking for future site selection," Strong said.

"One of my primary objectives is to boost our economy, to ensure that outside investors see Kentucky as business friendly and to create a balance between propelling the economy and protecting the environment," the governor said.

The conference drew a distinguished lineup of speakers and panelists. Holly Koeppel, executive vice president of AEP Utilities-East, gave the opening address. Benjamin H. Grumbles, the U.S. Environmental Protection Agency's assistant administrator for water, took part in a forum with Tom FitzGerald of the Kentucky Resources Council, Natural Resources Commissioner Susan Bush, Environmental Protection Commissioner Lloyd Cress and Brian Patton, general manager of operations for International Coal Group Hazard.

Other speakers included Commerce Secretary Jim Host; Don Bowles, president of Charolais Corp.; Melissa Howell, executive director of the Kentucky Clean Fuels Coalition; Robert Gardes, president of Gardes Energy Services Inc.; Ken Humphries, director of Batelle's public energy sector, and Dr. Ari Geertsma, director of the Center for Applied Energy Research.

Issues included new fuel and clean coal technology, which means cleaner energy, cleaner air and a new market for coal because of a technology—fluidized bed combustion—that utilizes waste coal.

In conjunction with this year's conference, innovative exhibits from both industry and the government sector were displayed to show off new technologies that someday might create solutions to environmental problems (See *Gadgets and gismos* on facing page). 

RIGHT: (left to right) Brent Carman and Maurice Dunn of the Center for Strategic Alliance, demonstrate their product to Secretary LaJuana S. Wilcher and Governor Ernie Fletcher.

Gadgets and gizmos

By Linda Potter
Department for Natural Resources

The 2004 Governor's Conference on the Environment saw exhibits of new technologies that promise to alter the world in the next few years. "Green" tires, hybrid cars, clean fuels and forestry products share the common theme of "prospering our economy while protecting our environment."

Two particularly intriguing exhibits were the H₂O 2000 gas generator machine, a revolutionary welding and cutting device, and also a newly developed process of recycling polystyrene caught the eye of many conference attendees.

The generator is a little 160-pound gizmo on wheels that is powerful indeed. In the words of The Center for Strategic Alliance Inc., "we can now make fire from water." The Center for Strategic Alliance Inc. is a small consulting business with offices in Hickman, Ky.

This technology, with more than five years in research and development at Hydrogen Technology Applications Inc. (HTA), illustrates that the solutions to our energy and environmental woes may be in the common elements that surround us. The patented process safely generates a molecularly stable hybrid hydrogen/oxygen gas (Klein/HHO) on demand from water. The gas is extremely environmentally friendly in that it has no polluting subgases when burned and produces only pure water in vapor form. It is currently being used to cut, weld, solder and fuse such materials as metal, plastics, ceramics and glass in commercial as well as artistic applications.

Unlike pure hydrogen gas, HHO gas remains highly stable, reducing the fear of



explosions that often accompany pure hydrogen systems.

The generator is highly mobile and has been used in coalfields to fuse critical pipelines carrying coal slurry. Storage and transport of highly combustible materials, such as propane, natural gas and acetylene, can be eliminated.

HTA Inc. has donated several Klein/HHO gas generators to Kentucky universities and technical training centers during its introduction program. Its goal is to partner with Kentucky in the artistic and technical training necessary to take advantage of this technology. A manufacturing facility in Kentucky is a high priority. As fossil fuels become diminished and increasingly costly, HHO gas offers a viable alternative. Its potential to move us forward in the realm of energy independence and environmental health makes this an exciting innovation.

For more information visit The Center for Strategic Alliance Web site <http://www.centerforstrategicalliance.com/>



Densified Solutions is a Kentucky-based company in Elizabethtown that is very near the production stage of recycling expanded polystyrene (EPS).

Company President Jack Rickett developed a unique recycling process of combining food-grade acid and emulsifiers to "dissolve" polystyrene products, such as styrofoam, and turn it into reusable pliable resin or polymer crystal "chips" that can be marketed for use in other products. Food-grade acid can be recycled up to nine times before it dissipates.

"With growing concerns about the impact EPS has on our landfills by affecting compaction rates and never decomposing, we can effectively change this dynamic by taking millions of tons of EPS and putting it back into the economy in other useful products," said Rickett. "Our motto and philosophy is saving the world one cup at a time, because tomorrow depends on today."

Rickett's process is patented, but his product is not yet available. Densified Solutions is in the midst of opening its first plant, and its production line of recycling industrial waste (styrofoam) should be up and running in about three months.

For additional information call Jack Rickett at (502) 664-9595 or e-mail jackrickett@msn.com



Jack Rickett (center) talks with Governor Fletcher and Secretary Wilcher about recycling polystyrene. Photo courtesy of Jeff Farmer, Canaan Development Group Inc.

Funding uncertainty haunts AML program; reauthorization is only through June 30

By Linda Potter
Department for Natural Resources

Twenty five years ago, coal mining in the mountains of Kentucky, West Virginia and other coal regions produced a multitude of health, safety and environmental problems, such as landslides, stream pollution and dangerous highwalls. These problems now are being corrected, thanks to the Abandoned Mine Lands Program (AML).



and safety dangers created by past coal mining. OSM estimates that more than 400,000 Kentuckians live within a mile of an abandoned coal mine hazard.

Kentucky currently has more than \$330 million in unfunded, high-priority reclamation problems listed in the National AML Inventory. That includes 32,000 feet of unreclaimed highwall, 1,500



BEFORE & AFTER: *Spewing Camp Branch, once a coal mining wasteland, was reclaimed using AML funds from fees paid by coal operators.*
Photos by the Department for Natural Resources

Since its inception, the Kentucky AML program has reclaimed more than 1,800 open mine portals, 2,000 acres of landslides and 43 miles of polluted streams. It has reclaimed 33,000 feet of unstable highwall and 300 acres of mine fires. All together, the program has completed more than 745 projects to correct hazards created by old mines. Over the same period, the federal Office of Surface Mining (OSM) has conducted more than 1,200 emergency reclamation projects totaling \$130 million in Kentucky.

AML funding comes from fees paid by coal operators based on production. Fee collection authority was granted 25 years ago with enactment of the Surface Mining Control and Reclamation Act (SMCRA). The authority was due to expire in September, but 17 governors jointly appealed to Congress for a one-year extension. Lawmakers ultimately settled on a new deadline of June 30, 2005. Reauthorization was stymied by lack of agreement on a comprehensive overhaul of the national AML program. There were at least three versions of an AML reauthorization proposal in the House and two in the Senate. All differed on how to extend fee collections, increase AML funding to states with histories of coal problems and reduce the financial burden on western states.

The AML program is vital to those who live in Kentucky's coalfields. It is the only program that offers relief from the health

and safety dangers created by past coal mining. OSM estimates that more than 400,000 Kentuckians live within a mile of an abandoned coal mine hazard.

acres of landslides, 1,500 open mine portals and 9,000 acres subject to flooding from streams choked with sediment and mine refuse. Even though the Kentucky AML program has eliminated thousands of mine hazards, the list of unfunded problems grows longer each year.

The Kentucky Division of AML received 831 complaints in 2003 from coalfield residents and elected officials about suspected hazards from abandoned mines. Division Director Steve Hohmann said history would indicate that roughly half are actually attributable to abandoned mining. In the last fiscal year, the Kentucky AML program abated 161 hazards that posed a direct risk to 975 people. Hazards included 19 landslides, two unstable highwalls, 117 mine openings and shafts and 10 impoundments. In the same period, Kentucky AML restored four miles of streams and completed seven water line projects that extended water service to 1,262 households and businesses.

The AML water line program is a shining example of AML success in Kentucky. The Kentucky AML program spends 30 percent of each annual grant—the legal maximum—to run water lines into areas where past mining has rendered ground water unfit for consumption.

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Berea College's Lincoln Hall is first LEED building in Kentucky

By Lola Lyle
Division of Energy

Lincoln Hall, Berea College's administration building, recently became the first building in Kentucky to be awarded the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification.

LEED is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings, and was created to promote integrated whole-building design practices. To date, there are 151 LEED certified buildings in the United States.

Certification at one of four levels—certified, silver, gold or platinum—is awarded based on a point system that evaluates projects on more than 70 stringent criteria with some of the general categories being sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Lincoln Hall received certification at the silver level.

Completed in 1887, Lincoln Hall is the second-oldest permanent structure on Berea's campus and has been Berea's administration building since 1914.

The first interracial and coeducational institution in the South, Berea College has always been one step ahead of its time. Berea's original mission in the 18th century was to serve the poorest and least privileged members of its Kentucky



community: African-Americans freed by the Civil War and the low-income residents of central and southern Appalachia. Today, Berea has committed itself to another leading position—embracing sustainability in its construction and building practices.

According to Larry Shinn, president of Berea College, "Berea College's mission includes a long-standing commitment that we engage in good stewardship of our natural, human and material resources. To that end, we are moving aggressively to transform our college into a sustainable campus that meets its educational and community goals without degrading the ecological, social and economic systems on which our region and all of our futures depend."

ABOVE: *The three-story atrium opens up the interior, while bringing daylight into the heart of the building.*

LEFT: *Lincoln Hall's exterior following renovation.* Photos provided by Julie Sowell, Berea College

Lincoln Hall underwent an 18-month, \$5.5 million green renovation due to the collapse of its central interior in May 2001. The building reopened in the fall of 2003.

While the building's exterior remains virtually unchanged, the interior of Lincoln Hall incorporates elements from its past with features consistent with the needs of a modern work place, as well as Berea's commitment to sustainability. A three-story central atrium opens up the interior and makes a dramatic architectural

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Green building techniques and features incorporated into Lincoln Hall's renovation include:

- Reuse of 75 percent of the building's structure and shell in the renovation, including flooring and woodwork;
- Diversion of more than 50 percent of construction and demolition debris from landfill disposal to recycled or salvaged materials;
- An expected 35 percent reduction in energy costs achieved through automatic mechanical system shut-down allowing occupants to bring "comfortable" outside temperature and humidity conditions inside by opening windows;
- An interior lighting system that uses sensors that automatically turn lights on when the room is occupied and off when unoccupied;
- Carbon dioxide sensors that mechanically control the introduction of outside air into the room for occupant comfort and well-being;
- Reduction of indoor air contaminants through the use of low volatile organic compound paints and carpets;
- Use of water reduction devices such as dual-flush control toilets that allow a 30 percent reduction in potable water consumption by occupant; and
- Use of indigenous, drought tolerant landscaping to reduce the need for watering.

Three Kentucky communities receive Firewise grants

By Gwen Holt
Division of Forestry

Each year, thousands of homes in Kentucky are threatened by wildfires. The Kentucky Firewise Communities Program helps people pay close attention to details in their environment that might easily start or encourage the spread of wildfire that could destroy their property. The program also provides grant funding to help identify and reduce fire risks in areas where urban development meets wildlands.

The Division of Forestry recently awarded three such grants.

- The Knifley Area Volunteer Fire Department (KAVFD) in Adair County was awarded \$44,500. It will use the funding to develop a community emergency action plan that includes hiring a consultant to conduct a community assessment and hiring a community Firewise educator. It will also be forming a community Firewise board. The KAVFD will send out a questionnaire to all deed holders asking them to identify their fire hazards.

- The Estill County Fiscal Court was awarded \$28,000 to complete a community wildfire assessment that includes Geographic Information Systems (GIS) mapping and the development of an

emergency action plan. The plan will identify at-risk communities, determine what major vulnerabilities exist and determine how best to plan and act with consideration to the risks and vulnerabilities identified. The use of GIS and Global Positioning System (GPS) technology will help identify and map high-risk areas and assist with the identification of evacuation routes and other planning needs. GIS will also help locate defensible space that can be used by firefighters, identify water sources (especially fire hydrants), natural fuel breaks and sites where fuel breaks should be installed.

- The Jackson County Empowerment Zone received a Firewise grant for \$5,000 to hire a consultant to complete a community wildfire hazard assessment. It plans to have at least one firefighter from each county's volunteer fire departments receive training or other technical assistance that will allow it to conduct wildfire hazard assessments in the area. It will also form a Firewise council to oversee the completion of the wildfire hazard assessment and develop a plan of action to address the findings of the assessment.



“These communities are commended for taking a proactive approach to make their communities safer and less vulnerable to wildfire damage and destruction,” said Leah MacSwords, director of the Division of Forestry.

Additional grant opportunities will be available this year in January and May, and communities are encouraged to apply for this funding. Division staff, along with a Firewise technical specialist provided by the Kentucky Division of Conservation, are available to assist communities with these grants and to provide information about the Kentucky Firewise Communities Program.

For information about the grants, contact Jennifer Turner at (502) 564-4496 or Cindy Bennett at (502) 839-5667 or visit the division's Firewise Web site at www.firewise.ky.com.



Task force will create energy policy for the state

Continued from Page 1

Resources, the University of Kentucky's College of Forestry and the mining industry to promote reforestation on coal-mined lands.

More than 1 million trees have been planted on more than 1,500 acres throughout the Kentucky coalfields. The initiative is evaluating the ability of mined lands to grow high-value commercial forests and the capacity of the sites to sequester carbon through forest growth.

The task force toured the Starfire mine site in Breathitt County to view experimental planting plots. The plots clearly demonstrated a healthy hardwood forest can be grown on mine sites more cost effectively if the reclaimed area is not compacted.

While at Starfire the task force saw first-hand the successful reintroduction of elk into eastern Kentucky. Two different herds of elk were seen grazing on the reclaimed areas.

“The reintroduction of elk and this reforestation research clearly demonstrates that there is a balance between the responsible development of our energy resources and environmental enhancement,” said Host. “I expect our final report to the governor will reflect this.”



Annual report now available

By Mary Jean Eddins
Department for Natural Resources

The Kentucky Heritage Land Conservation Fund Board recently published its ninth annual report for the period July 1, 2003, to June 30, 2004.

During this fiscal year, 13 projects in 14 counties were approved by the board. Since the first grant awards were made in October 1995, the board has approved 128 projects in 60 counties.

Nearly 2,800 acres of natural areas and wildlife habitat were purchased or protected with Heritage Land funds during this fiscal year. Purchases were made on 10 projects, including more than 200 acres of the Upper Green River Biological Preserve in Hart County and 393 acres of a site called Griffith Woods in Harrison County. The Hart County acquisition by Western Kentucky University will help protect significant freshwater mussel habitat. Griffith Woods is considered to be the best remaining remnant of the original savanna-woodland that characterized the presettlement vegetation of the Inner Bluegrass Region of central Kentucky. Restoration of this land to approximate its original condition will be a major effort of the new landowner, the University of Kentucky.

Popularity of the viceroy butterfly nature license plate has also surpassed expectations. Sales of all three nature license plates exceeded \$1 million for the first time. The nature plates remain the best selling specialty plates in Kentucky.


For more details about projects that were approved during the fiscal year and activities of the Kentucky Heritage Land Conservation Fund Board, a copy of the report can be found at www.kyheritageland.org. Questions about the fund or nature license plates can be directed to Mary Jean Eddins at (502) 564-2184 or mary.eddins@ky.gov.

Berea College's Lincoln Hall is first LEED building in Kentucky

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statement. The atrium also brings daylight into the heart of the building and, through an increased use of glass in interior walls, ensures outdoor views to almost all areas of the building.

The Berea campus already includes a green built residential facility that is complete with passive solar housing units, an environmental education center and permaculture landscaping. The Berea College Ecovillage is an ecologically and socially sustainable residential and learning complex primarily for student families. The townhouse apartments are designed to use 75 percent less energy and water than conventional housing, and a greenhouse-based system provides on-site wastewater treatment.

For more information about LEED certification visit www.usgbc.org or visit www.energy.ky.gov for resources concerning energy efficiency. 

Coleman receives honorary degree

The Environmental and Public Protection Cabinet's Conservation Director Steve Coleman received the Honorary American FFA degree during the National FFA Convention last fall.

The award is given to those who advance agricultural education and FFA activities through outstanding personal commitment. Coleman coordinated volunteers who helped by serving as contest judges, setting up the competitions and grading tests during the two-day National FFA Environmental/Natural Resources Career Development Event.

FFA is a national youth organization of 464,267 student members preparing for leadership and careers in the science, business and technology of agriculture. 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 about the organization. 

Funding uncertainty haunts AML program; reauthorization is only through June 30

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Ground water is the primary drinking source for 250,000 coalfield residents. To date, Kentucky AML waterline projects provide clean, potable water to more than 9,800 Kentucky households and businesses.

People served by these water lines are generally in remote areas. Because local water districts cannot afford to serve them the AML water line program has been their only hope. Kentucky currently has a \$19 million backlog of water line projects.

Over the life of the AML program, Kentucky coal operators have paid more than \$875 million into the AML Trust Fund. Half that amount, \$437.6 million, is assigned to Kentucky's state share.

To date, Kentucky has received \$317 million from its state share through annual grants, leaving a balance of more than \$120 million. This unappropriated balance is part of the larger AML Trust Fund balance of \$1.5 billion, which is meted out to coal mining states in varying amounts.

Return of the unappropriated state share balances has been one of the most contentious issues in the debate over AML reauthorization. Implicit in SMCRA is the promise that states would receive at least 50 percent of reclamation fees collected from within their borders. More sites in Kentucky could have been reclaimed with a full return of state share money.

The AML program has had many successes in Kentucky and throughout the nation, but as OSM has stated, "The job is not yet finished." In order to protect the present and future safety of coalfield residents, Kentucky must pursue reauthorization of the AML fee for at least 12 years. That may require several temporary extensions until the U.S. House and Senate can agree on the new reauthorization for the AML program. 

A Kentucky small business gets a helping hand from KBEAP

By Rose Marie Wilmoth
Division of Compliance Assistance

When brothers Greg and David Graf wanted to get into the wood flooring business, they knew they needed more than lumber. Like anyone else involved in a business startup, the Grafs had to confront the challenges of financing, supplies, labor, insurance and physical plant, to name but a few. In addition, a wood products company can count on having to deal with a host of air-quality issues.

So, the Grafs called KBEAP – the Kentucky Business Environmental Assistance Program. It provides technical assistance to help small businesses comply with requirements of the federal Clean Air Act. Its team of air quality technical experts is located on the University of Kentucky campus in Lexington.

Today, Graf Brothers Flooring is a bustling business, located near the Ohio River at South Shore in Greenup County. The company specializes in cutting rift- and quarter-sawn boards up to 20 feet wide for use in quality flooring.

Rift and quartering is a unique way of sawing that maximizes the yield of lumber with vertical grain – the preferred grain for flooring because of its excellent technical properties and the wood’s structural integrity. Lumber sawed by this method expands evenly and vertically.

The Grafs wanted to use the most up-to-date wood drying equipment on the market. They knew from previous experience that it would entail issues of air quality. Since the company had fewer than 100 employees, a representative of the Cabinet for Economic Development recommended that the brothers call KBEAP, which is funded by the Division for Air Quality in the Department for Environmental Protection.

Eric Byrd, a specialist in air quality issues associated with wood products, began working with Graf Brothers Flooring about 18 months ago. The company also received assistance from Rick Seelhorst in the Division for Air Quality regional office at Ashland.

David and Greg Graff stand in front of their business, Graf Brothers Flooring located in South Shore, Ky. The new business owners received assistance with their air quality permit applications from the Kentucky Business Environmental Assistance Program. Photo by Millinda Rumble, KBEAP



As a startup business, the company faced a range of environmental issues. Dry kilns had to be properly vented. Boilers create emissions. There had to be an energy system for recycling sawdust. Even the company’s haul road raised an air-quality issue—dust.

Graf Brothers Flooring was able to rely on KBEAP for appropriate permit applications and options for compliance. Byrd’s expertise proved to be invaluable. “I brag on Eric and all the help we received from

KBEAP whenever I have an opportunity,” Greg Graf said.

Similar air quality compliance assistance is available to Kentucky small businesses by calling Greg Copley, KBEAP director, at (800) 562-2327. Information is available online at <http://www.kbeap.org>. If located in Jefferson County, call (502) 574-5164.



Return of the majestic Great blue

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the late 1970s saw the return of nesting Great blue herons, and the 1980s saw a pronounced expansion commence in the far western part of the state.

The cooperative inventory of heronries in 1994 documented the presence of about 1,750 pairs at 24 sites. A similar survey in 1999 found at least 2,235 pairs present at 48 sites.

This year’s survey continued to show a skyrocketing population, with more than 5,150 pairs present at just over 70 sites now spread as far east as Bell and Menifee counties. A part of this survey’s increase in numbers is the result of better surveys, but the greater numbers are certainly explained only in part by that factor.

Along with increased numbers of Great blues has been a slower, more gradual increase in the occurrence of other nesting herons and egrets. Great egrets, the smaller, white-colored cousin of the Great blue, also have returned from local extinction since the DDT era. Although their numbers have not attained pre-DDT era status, numbers do continue to increase.

In fact, this year saw the reappearance of a large colony of Great egrets at the north end of Reelfoot Lake in southwestern Fulton County, where more than 100 pairs of these majestic birds were found nesting for the first time since the early 1950s.

These avian success stories are indeed heartening.



Expo focuses on energy solutions

By Lola Lyle
Division of Energy

The first Bluegrass Energy Expo was held in October at the Lexington Convention Center. With more than 69 exhibitors, 15 different workshops and numerous attractions, the two-day event offered something for everyone.

The goal of the expo was to bring together business, education, government and nonprofit sectors to educate Kentuckians about proven energy solutions and connect consumers with marketers of energy-saving products and services.

Lexington Mayor Teresa Isaac opened the event by underlining the need for public knowledge of energy conservation.

"Here in central Kentucky we have some of the lowest energy rates in the country. However, there is still the need to be efficient and knowledgeable about the industry we all depend on. This expo was a tremendous opportunity for citizens,

We wanted to use the event to connect with and educate people who would not generally be interested in energy efficiency or renewable energy. Namely, the ordinary citizens that use most of the energy in our state, as well as the companies that build and design their houses and sell them their equipment and supplies.

Ben Perry
ASPI Executive Director
Bluegrass Energy Expo coordinator

businesses and local governments to learn of ways to conserve energy, reduce the cost of energy, and keep the environment safe."

There is no better time than now to focus on energy efficiency and renewable energy. Energy prices are reaching all time highs, and the United States is importing more oil from foreign sources than ever before.

According to the U.S. Department of Energy, the United States is importing 54 percent of the nation's oil and the agency

forecasts that by 2025 we will be importing more than 70 percent. Also, by 2025 the agency predicts that Americans will consume 40 percent more energy than in 2002. While this trend is unlikely to end, it can be slowed through efficiency and renewable energy.

According to Ben Perry, ASPI executive director and Bluegrass Energy Expo coordinator, "We wanted to use the event to connect with and educate people who would not generally be interested in energy efficiency or renewable energy. Namely, the ordinary citizens that use most of the energy in our state, as well as the companies that build and design their houses and sell them their equipment and supplies."

About 900 people attended the event. Topics included proven energy solutions, energy-saving products and renewable energy technologies, as well as financing.

Participants attended workshops, exhibits and demonstrations and saw new films related to energy use. A children's energy expo included hands-on renewable energy explorations, workshops for building solar ovens and art activities involving recycled materials.

The Kentucky Division of Energy provided initial funding for the Bluegrass Energy Expo, but major sponsors also included Lexmark, Sylvania and Insignia. The expo is planned as an annual event.

For more information about the Bluegrass Energy Expo, contact the Appalachia-Science in the Public Interest at (606) 256-0677 or visit www.bluegrassenergyexpo.org



A student feels the difference in the pedaling power it takes to fuel an energy-efficient light bulb versus an inefficient one. Photo by Lola Lyle



Covell receives biological diversity protection award

By Ellis Lauder milk
Kentucky State Nature Preserves Commission

The Kentucky State Nature Preserves Commission (KSNPC) has presented its 2004 Biological Diversity Protection Award to Dr. Charles Covell. The award is given each year to recognize and encourage an individual who has made a significant contribution to the protection of Kentucky's outstanding biological resources.

Covell came to Kentucky in 1964 to accept a faculty position of entomologist at the University of Louisville, where he immediately began to inventory the state's butterfly and moth fauna. At the time, the university's insect collection contained 28,000 specimens. During his tenure, he built the collection to approximately 250,000 specimens, with Lepidoptera comprising about 50 percent.

His love and enthusiasm for moths was contagious, and in 1974 he and a small group of insect lovers in the state formed The Society of Kentucky Lepidopterists.

In 1984, years of work culminated with one of his crowning achievements—the publication of a Peterson Field Guide entitled *Eastern Moths*. This book is still the standard used by everyone interested in moths, both amateurs and professionals.

After 35 years of inventory in Kentucky, Covell published *The Butterflies and Moths of Kentucky: An Annotated Checklist*, which documented nearly 2,400 species from the state.

Yet Covell's work has reached well beyond academia and scientific journals. His passion for winged creatures has

driven his tireless public outreach efforts, and he has encouraged many young children and adults to become interested in butterflies and moths.

His role as adviser to graduate students has resulted in a network of professionals in the field.

Earlier this year, Covell retired from the faculty of the University of Louisville after 40 years of service to become the curator of macromoths at the new McGuire Center for Lepidoptera Research in Gainesville, Fla.

The commission's award was presented to Covell in November when he was in Lexington. The award is a framed reprint of a James Archambeault photo of Bad Branch Falls.



(left to right) Deputy Secretary Erwin Roberts congratulates David Barbee, owner of Ag Spray Equipment. Christy Adams, environmental manager of Ag Spray Equipment, and Jon Trout, chair of the Small Business Air Quality Compliance Advisory Panel, also took part in the ceremony. Photo by Millinda Rumble, KBEAP

Hopkinsville company receives air quality award

By Rose Marie Wilmoth
Division of Compliance Assistance

On Nov. 16, Environmental and Public Protection Cabinet Deputy Secretary Erwin Roberts presented the 2004 Small Business Air Quality Stewardship Award to Ag Spray Equipment of Hopkinsville, Ky.

"We're here today because the good people of Ag Spray Equipment made a conscious decision that their company would be a good steward of something that is too often taken for granted—the quality of the air we breathe," Roberts said.

Ag Spray Equipment owner David Barbee recently installed a powder coating system to replace the company's existing wet painting operations. The system is expected to significantly reduce air emissions, worker exposure to solvents and provide a more durable coating than the traditional wet finish.

The Air Quality Small Business Compliance Advisory Panel established the award in 1997 to recognize small businesses that have gone beyond regulatory requirements to reduce the impact of their operations on air quality.



Fields receives volunteer steward award

By Joyce Bender
Kentucky State Nature Preserves Commission

Greenup County resident Sonja Fields has been volunteering for the Kentucky State Nature Preserves Commission (KSNPC) at Jesse Stuart State Nature Preserve (SNP) in Greenup County since 1994. It all started when Fields asked if she could donate paint supplies and her time to help fix up Op's Cabin. The small ridgetop cottage is said to be where Jesse Stuart would go for inspiration to do his writing. The building was in bad shape from weather and vandals and needed a facelift.

While working with Fields on this first project, KSNPC staff were impressed with her generosity and good cheer. She was then asked to become a preserve monitor.

During her tenure at Jesse Stuart SNP, Fields has done it all—trail inspection and maintenance, signs and building maintenance, litter cleanup, boundary patrol and providing information to preserve visitors. Preserve monitors are the right arms of the commission's stewardship staff, and Fields is one of the best. She has always been there to let the commission know about storm damage blocking trails, illegal use of all-terrain vehicles, vandalism and dumping. However, she normally has the dump cleaned up before telling the commission about it.

Fields has saved staff many hours of work and driving time by assessing situations and advising on the immediacy of need. The preserve is three hours from Frankfort, and her proximity enables the commission to evaluate the true level of urgency when an "emergency" call comes in.

Fields is an exceptional individual—her selflessness and generosity show in all aspects of her life. When asked what she hoped to gain from her volunteer experience, she said, "The good feeling of knowing that I'm helping preserve something beautiful for future generations to enjoy."

The world needs more people who are willing to help out just for the good feelings that are engendered in doing something positive for the future.



Sonja Fields holds a framed print of a James Archambeault photo of Bad Branch Falls. Photo by KSNPC



Dr. Charles Covell accepts the Biological Diversity Protection Award from Commissioner Gayle Horn. Photo by Ellis Laudermilk

Superfund Branch transitions to electronic submittals

The state Superfund Branch in the Division of Waste Management is making a transition from paper document submittals to electronic submittals.

This change will expedite the review process and reduce costs. Recently, a notice about the transition was sent to consultants and others who submit technical documents to the branch.

The Superfund Branch is responsible for ensuring that contaminated sites are evaluated and cleaned up to reduce risks to human health and the environment.

For more information visit <http://www.waste.ky.gov/programs/sf/> or contact Fazi Sherkat, the Superfund Branch manager, at (502) 564-6716 or e-mail Fazi.Sherkat@ky.gov



Tiny Kentucky predator rediscovered

By Martina Hines

Kentucky State Nature Preserves Commission

While most plants are rather docile, a few are actually quite predatory. Sundews (*Drosera spp.*) are carnivorous plants that survive by catching and digesting small insects that get stuck on sticky hairs that cover their leaf surfaces. They are small, annual plants and their seeds are dispersed by water. Sundews require bare, wet ground, such as the edges of ponds and swamps. They can also be found in road ruts and along animal trails.

This past field season, the spoon-leaved sundew (*Drosera intermedia*) was rediscovered in Russell County. This species had not been seen in Kentucky for well over 100 years. It is one of two species of sundew currently known from Kentucky. The other is dwarf sundew (*Drosera brevifolia*). Unlike some tropical carnivorous plants that can reach a height of eight feet, this sundew, at its best, extends about two inches above ground, exhibiting tiny, pale flowers. Usually, its small, reddish green leaves nearly touch the ground and blend in very nicely with its surroundings, thus making it difficult to spot. Biologists have intensely searched many acres of suitable habitat without finding sundews.

Continuous grazing, draining of wetlands and competition from exotic plant species (see *Know it before you grow it on*



The spoon-leaved sundew has been rediscovered in Russell County. Its reddish green leaves almost touch the ground making it blend with its surroundings. Photo provided by the Kentucky State Nature Preserves Commission

Pages 9-10) are probably the main factors affecting sundews. While not rare nationwide, both species of sundew in Kentucky are each known from only one population, many miles from the nearest known population outside of the state. The one population of dwarf sundew, which grows in old tire ruts in Pulaski County, has been protected by The Nature Conservancy. Thanks to the enthusiastic cooperation of the owner of the newly discovered sundew population, this site also will be managed and protected.



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