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Land & Air & Water



Kentucky Environmental and Public Protection Cabinet

Land Air & Water

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A message from Governor Ernie Fletcher

My fellow Kentuckians:

Firmly believing that a healthy economy goes hand in hand with a healthy environment, our administration is committed to protecting and improving Kentucky's land, air and water.

But state government can't do it alone. It is essential for our citizens – corporate citizens as well as individual Kentuckians – to play an active role.

Through our Excellence in Environmental Leadership program – KY EXCEL, for short – a host of companies, organizations and private citizens have voluntarily committed to undertake projects that will benefit our environment.

KY EXCEL, which is administered by the Division of Compliance Assistance in our Department for Environmental Protection, currently has 76 members. They are carrying out projects in such areas as conservation, education, energy efficiency, mentoring and technical assistance, public health, restoration and waste reduction.

I had the pleasure recently of welcoming a new member, Catlettsburg Refining LLC, a subsidiary of Marathon Petroleum Co., LLC, into the KY EXCEL program. Read about that and learn more about the program in this issue of *Land Air & Water* (See *Catlettsburg Refining honored for environmental commitments* on Page 3).

I also invite you to explore the KY EXCEL program, and consider becoming a member by visiting www.dca.ky.gov/kyexcel. Or you may call the Division of Compliance Assistance at 800-926-8111.

Together, we can protect our environment and grow our economy.



Ernie Fletcher

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Virginia Iris (*Iris virginica*) photographed in Franklin County by Ellis Lauder milk, Kentucky State Nature Preserves Commission.

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Mine safety is no accident

By Linda Potter
Department for Natural Resources

surface mines.

Another role of the division is that of training and certification. Experienced mining specialists conduct professional-level miner training and develop innovative programs leading to certification. An average of 13,000 students receive instruction and/or testing in 800 courses annually. Certification is provided to those miners who master the material.

The following mining courses are provided in each of the six district offices:

- 24-Hour Inexperienced Surface Miner
- 40-Hour Inexperienced Underground Miner
- Underground and Surface Foreman
- Initial MET (mine emergency technician)

- Annual Retraining for Surface and Underground Miner
- CPR
- Electrical
- Shot Firer/Conventional and Solid Blasting

Another critical component in reducing accidents and fatalities is the mine foreman. When the mine foremen perform their jobs in a safe manner, they lead by setting a good example for the miners.

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Dedicated to mine safety, this one-of-a-kind division strives to educate miners on ways to eliminate accidents and fatalities.

Working underground in darkness, surrounded by large, moving mining equipment and often times working in cramped conditions, one careless mistake can be deadly. Even on the surface, a forgotten brake, an inadequate berm, a careless misstep can change a life forever.

The Division of Safety Analysis, Training and Certification assists Kentucky's miners by creating an environment where issues of safety awareness become the backbone of daily work routine.

Operating under the umbrella of the Office of Mine Safety and Licensing (OMSL) and directed by Franklin Reed, it is the only division of its kind in the nation. The agency's safety analysts and trainers strive to ensure that Kentucky miners have the training necessary to do their jobs safely.

The primary responsibility

of a safety analyst is to prevent mine accidents and fatalities by observing and evaluating the work habits of individual miners. Each time a safety analyst enters a mine, he confers with the foreman about mine conditions and work practices of the employees. At the same time, the analyst provides on-the-job counseling to the individual miner and assists in correcting any unsafe or potentially hazardous actions. Studies have shown that performing this type of on-the-job safety analysis significantly reduces accidents and fatalities in underground and

TOP: An electrical worker in an underground mine.

BOTTOM: The mine safety analyst conducts a job safety analysis on each miner and observes the equipment operators through at least one complete cycle. Here miners are operating a double roof bolting machine.

Photographs provided by OMSL



Insect continues to pose threat to hemlocks

By Tim McClure
Division of Forestry



Little, white, cottony tufts on evergreen branches conjure up images of holiday decorations, but unfortunately this is the description of an invasive insect pest in Kentucky's forests. *Adelges tsugae*, more commonly called Hemlock woolly adelgid (HWA), was first discovered in Harlan County, Ky., last spring. Since the initial discovery, it has also been found in Bell and Letcher counties. To date, 11 infestations with multiple sites have been located on private and state forest property, the Cumberland Gap National Park, Pine Mountain State Resort Park and Blanton Forest State Nature Preserve.

This insect was introduced into Virginia in the 1950s and has since spread to 18 states. In Kentucky, it only attacks eastern hemlock. Eastern hemlock is the only shade-tolerant evergreen that grows in the forests of eastern Kentucky. States where HWA has been for more than 10 years are reporting an 80-percent-plus mortality rate of hemlock. Unfortunately, there is not another evergreen in the mountains that can take the place of the hemlock.

Eastern hemlock grows on moist soils and is typically found in the creek drains of south eastern and eastern Kentucky. Hemlock has many ecological associations where it is found. Some beneficial aspects include moderating water temperature in mountain streams, increasing the numbers of stream macro invertebrates, providing wildlife habitat and acidifying the soil in



TOP LEFT: Kentucky Division of Forestry ranger Lem Johnson applies insecticidal soap to hemlocks in Harlan County in 2006.

ABOVE: In February, Marty Bray (left) and Bob Wachs inspect a hemlock during the "insect hunt" where volunteers surveyed targeted areas for HWA.

Photo by Alice Mandt, KSNPC

LEFT: HWA on the underside of a hemlock branch.

Photos provided by the Division of Forestry

which acid-loving wildflowers and plants grow. The loss of hemlock will gradually change the ecology of the eastern Kentucky forests.

"We are very concerned about this pest," said Kentucky Division of Forestry Director Leah MacSwords. "Hemlock trees play an important role for wildlife and ecological diversity."

HWA is a small 1/32-inch-long aphid-like insect that feeds

Continued on Page 16

Catlettsburg Refining honored for environmental commitments

By Lisa Barker

Division of Compliance Assistance

Catlettsburg Refining LLC, a subsidiary of Marathon Petroleum Co., LLC, was honored in January for its commitment to improving the state's environment during a ceremony at the company's facility. Governor Ernie Fletcher presented the company with its certificate as a master member of KY EXCEL, the environmental leadership program established by the Kentucky Department for Environmental Protection. The program offers a nonregulatory approach that allows the department to work cooperatively with Kentucky's citizens to recognize and reward voluntary efforts that improve Kentucky's environment. Members conduct one or more environmental projects each year, depending on the participant's membership level.

"Catlettsburg Refining is to be commended not only for taking extra steps to improve Kentucky's environment but also for serving as a role model for



Governor Fletcher greets Catlettsburg Refining employees during a KY EXCEL membership ceremony at the facility. Photo by Creative Services

KY EXCEL encourages individuals, organizations and businesses to complete voluntary projects that improve Kentucky's environment.

ties with healthy citizens."

Catlettsburg Refining's voluntary projects include a series of ongoing environmental improvements at the facility. It pledged to replace underground piping and equipment to reduce the risk of groundwater contamination, relocate its cumene (a petroleum production by-product) truck-loading area to reduce air emissions and fire risks, and purchase an infrared thermal imaging camera to detect escaping organic vapors that could impact air quality. Its fourth voluntary commitment is to maintain the Savage Branch Wildlife Reserve Corporate Lands for Learning Program. The wildlife reserve, owned by the facility, consists of 350 acres and is used as an outdoor classroom by 16 schools in the Tri-State area of Kentucky, Ohio and West Virginia.

"As a Responsible Care® Co., we work together to continuously improve our health, safety and environmental performance, and to communicate with stakeholders about our refinery products and processes," said Larry Echelberger, Marathon Petroleum Co. LLC senior vice president. "Receiving the KY EXCEL award, which recognizes environmental efforts, is a special honor. The Catlettsburg refinery employees are committed to demonstrating we are worthy of this honor."

To learn more about KY EXCEL, visit www.dca.ky.gov or call 800-926-8111.



other companies," said Governor Fletcher. "The refinery is working to meet our energy needs and is also providing stewardship for our environment. This is one of the ways in which we build strong communi-

New KY EXCEL members as of February 2007

Master members

Toyota Motor Manufacturing Kentucky (TMMK), Georgetown
Ahlstrom Engine Filtration LLC, Madisonville
Toyota Logistics Services, Georgetown
Toyota Motor Sales, USA Inc., Hebron
Marathon Petroleum Co. LLC, Catlettsburg Refining, Catlettsburg
Blue Grass Army Depot, Richmond
Kentucky American Water, Lexington
ISP CHEMICALS Inc., Calvert City
Swedish Match North America Inc., Owensboro
AGC Automotive Americas, Elizabethtown
Lexmark International Inc., Lexington
American Commercial Lines, Louisville

Leader members

The J.M. Smucker Co., Lexington
Westlake Vinyl Corporation, Calvert City
Lexington-Fayette Urban County Government, Lexington
Northern Kentucky Water District, Fort Thomas
Mubea Inc., 6800 Industrial Road, Florence
Mubea Inc., 8252 Dixie Highway, Florence
Mubea Inc., 8212 Dixie Highway, Florence
Mubea Inc., 8224 Dixie Highway, Florence
Johnson Controls Inc. – FoaMech Facility, Georgetown
Delta Air Lines Inc. – CVG Station, Hebron

Partner members

Altuglas International, a Division of Arkema Inc., Louisville
Gallatin Steel Co., Ghent
McCammish Manufacturing, Columbia Division, Columbia
Central Kentucky Fiber Resources LLC, Lexington

Additional KY EXCEL members listed on Page 8

Conservation districts putting tobacco funds on the ground

By Curtis Kirk

Division of Conservation

Kentucky families continue to make the adjustment from tobacco production to investments in other agricultural-based incomes. Through help from their local conservation districts, farmers are finding new ways to recover that lost tobacco revenue and increase their assets, while helping protect the environment.

Conservation districts continue to work side-by-side with the Governor's Office of Agricultural Policy and the 120-county agriculture development councils to deliver Phase I Tobacco Settlement Funds throughout the state. These councils, along with the conservation districts, play a significant role in establishing processes and model programs designed to help farmers—particularly tobacco farmers—diversify and lessen their dependency on tobacco, while incorporating sound conservation practices that protect the water and other natural resources.

In fiscal 2005-06, according to the Governor's Office of Agricultural Policy, conservation districts administered model programs in 87 counties. The programs, which totaled \$4,711,354, addressed specific needs of farmers, while also benefiting the environment. A few examples of county model programs are:

- Forage Improvement and Utilization Program—improves pastures, improves and maintains vegetative covers and riparian areas preventing erosion and minimizes animal waste nutrients, sediment and other pollutants into water supplies.
- Fallen Animal Program—addresses dead animal disposal and associated costs, aesthetics, odors, health risks and possible water pollution.
- Shared Equipment Program—provides conservation and other specialized equipment to help farmers install best management and other conservation practices.
- Other projects include Farm Livestock Fencing Improvement; Cattle Genetics Improvement; Hay, Straw and Commodity Storage; On-farm Water

Enhancement; Agricultural Diversification; Technology; Dairy and Swine Diversification; Cattle Handling Facilities and other county-specific projects.

The General Assembly also established and allocated funding of an Environmental Stewardship Program from the tobacco settlement funds. The Division of Conservation receives millions of dollars in cost-share assistance funds that can be used to help agricultural producers comply with state agricultural water quality laws and other environmental compliance programs.

These funds are allocated through conservation districts, utilizing the Kentucky Soil Erosion and Water Quality Cost Share Program. For more information about the state cost share program visit <http://www.conservation.ky.gov/>.

“Conservation district supervisors are to be commended for cooperating with the Governor's Office of Agricultural Policy, the county agricultural development

councils and Kentucky's farmers,” said Steve Coleman, director of the Division of Conservation. “Thanks to this cooperation and hard work, Phase I funds are being put on the ground where they can do the most good.”



Forage improvement and utilization, and on-farm water enhancement best management practices improve a farmer's ability to manage his pastures and increase production. Farmers can utilize existing water supplies (streams and ponds) by piping water to alternative watering systems, such as the fountain or watering tank (below). By excluding livestock from streams and ponds, a farmer can minimize animal waste nutrients, sediment and other pollutants from entering water supplies.

Division of Conservation photos



Conservation easements

Protecting valuable acres of wildlife habitat and open space

By Mary Jean Eddins
Kentucky Heritage Land Conservation

On Aug. 3, 2006, Congress approved a tremendous expansion of the federal conservation tax incentive for conservation easement donations. On Aug. 17 the president signed into law the Pension Protection Act of 2006. This new law allows for substantial tax benefits if a conservation easement is donated to a qualified organization for conservation purposes between Jan. 1, 2006, and Dec. 31, 2007. The new law:

- Raises the deduction a landowner can take for donating a conservation easement from 30 percent of their income in any year to 50 percent.
- Allows qualifying farmers and ranchers to deduct up to 100 percent of their income.
- Extends the carry-forward period for a donor to take tax deductions for a voluntary conservation agreement from five to 15 years.

Many people aren't familiar with conservation easements. A conservation easement is a legal agreement between a landowner and a nonprofit land trust or government agency that permanently limits uses of the land in order to protect important conservation values. It allows the landowner to continue to own and use the land, as well as sell it or pass it on to heirs.

Under a conservation easement, a landowner gives up some of the rights associated with the land. The provisions under the agreement can vary widely depending on the natural resource or historic feature being protected. An agreement to protect rare wildlife habitat might prohibit any development, while another might allow continued farming and the building of additional agricultural structures.

For example, Ron Scott, land protection specialist with the Kentucky State Nature Preserves Commission, says, "The commission would consider holding an easement but only if it was protecting ecologically significant land."

Tony Wheatley, staff assistant with the Kentucky Department of Fish and Wildlife Resources, says his agency would consider holding an easement as long as the property owner was willing to have the property open to year-round hunting and fishing.



The law:

Pension Protection Act of 2006


What is it?

Extends significant tax benefits to landowners and farmers for the donation of conservation easements.

Qualifying dates:

Jan. 1, 2006, through Dec. 31, 2007

Currently, the Kentucky Department of Parks is actively seeking donated conservation easements along the Pine Mountain Trail State Park in Bell, Harlan, Letcher and Pike counties.

For more information about conservation easements and the Pension Protection Act of 2006, contact the Land Trust Alliance, a national organization that lobbied for these tax changes, at www.lta.org. If you are interested in donating an easement, it is important to remember that an agency will only accept donations if it fits the agency's mission and purposes. In Kentucky, several government agencies willing to hold conservation easements are the Kentucky State Nature Preserves Commission, Department of Parks, Department of Fish and Wildlife Resources and the Wild Rivers program in the Division of Water. Statewide, the Kentucky Chapter of the Nature Conservancy will hold conservation easements as will the Kentucky Natural Lands Trust. For a comprehensive list of state and local land trust entities contact the Land Trust Alliance. 

Globally rare Braun's rockcress (Arabis perstellata), listed as endangered by the U.S. Fish and Wildlife Service, is protected by a perpetual conservation easement covering 112 acres in central Kentucky. The easement was donated by a private landowner to the Kentucky State Nature Preserves Commission. Photograph by Marc Evans, KSNPC

Hundreds of recreational watercraft will be launched on Kentucky's lakes and rivers come the first signs of spring. Know the rules of the water before you drop anchor.

Kentucky's miles of streams and rivers and acres of lakes cover great stretches of the state. They offer many recreational opportunities from fishing to swimming, skiing, parasailing, scuba diving or just gliding through the waters.

While boaters enjoy the freedom from everyday concerns, they don't always think of their watercraft as a source of pollution. However, any watercraft equipped with a toilet produces wastewater containing dangerous bacteria and organic material.

Improper disposal of human waste during boating makes water unsuitable for recreation and can cause severe human health problems.

Federal laws govern the discharge of sewage from



Houseboats, watercraft

consider wastewater discharges during summer fun in the sun

By Maleva Chamberlain
Former Division of Water employee



vessels, and all states are required to be in compliance. Across the nation, bodies of water are designated as either "discharge" waters or "no-discharge" waters. On no-discharge waters it is illegal to discharge wastewater from a watercraft, whether treated or not. On no-discharge waters, watercraft with toilets must have holding tanks that can be pumped out at pumpout stations located at most marinas.

On discharge bodies of water, vessels outfitted with toilets must have marine

LEFT: A family enjoys a day of relaxation on Lake Cumberland. CENTER: Improper disposal of waste can cause waters to be unsuitable for swimming.

BELOW: Lake Cumberland is considered one of the finest fishing and boating areas in the eastern United States.

Photos provided by www.kentuckytourism.com

sanitation devices, commonly called MSDs.

Most houseboats are equipped with MSDs, which consist of a toilet connected to a device that receives, treats, retains or discharges sewage. There are three types of MSDs for houseboats, and all are built and certified to meet Coast Guard standards.

Type I MSDs treat the sewage with disinfectant chemicals and other means before it is discharged. The treated discharge must meet health standards for bacteria content and must not show any visible floating solids.

Type II MSDs are also treatment devices but meet a higher level of sewage treatment than do Type I MSDs. Because Type II is

Continued on Page 18



No-discharge waters in Kentucky:

Barren River Lake, Buckhorn Lake, Carr Fork Lake, Cave Run Lake, Dale Hollow Lake, Dewey Lake, Fishtrap Lake, Grayson Lake, Green River Lake, Lake Beshear, Lake Malone, Laurel River Lake, Nolin River Lake, Rough River Lake, Taylorsville Lake, Paintsville Lake and Yatesville Lake.

Discharge waters:

Navigable rivers, Lake Barkley, Lake Cumberland and Kentucky Lake.



A healthy Kentucky

Free health screenings result from legal action

By Ricki Gardenhire
Office of Communications and Public Outreach

Asthma. Cancer. Diabetes. High blood pressure. HIV. These are some of the diseases and health conditions that thousands of residents of Louisville's west end will be tested for at free health screenings beginning later this year. The initiative may very well save lives.

The health screenings are one of the positive results of a 2005 legal settlement between the Kentucky Environmental and Public Protection Cabinet (EPPC), the U.S. Environmental Protection Agency and the U.S. Department of Justice with the Louisville and Jefferson County Metropolitan Sewer District (MSD) on sewage overflows. The settlement requires MSD to take corrective actions to bring the system into compliance with water quality standards and to perform "supplemental environmental projects" under state supervision.

One project is to provide free health screenings for residents of the "Rubbertown" area of west Louisville, which is adjacent to the city's industrialized area. The settlement agreement calls for \$1.2 million to be available for the program.

"The Rubbertown screening process is a first step toward improving the health of residents in this area," Governor Ernie Fletcher said during a March 7 press briefing in Louisville. "The intent of the screening is to provide early detection, treatment and prevention, and to bring about real results that create a healthy community."

Dr. Adewale Troutman, director of the Louisville Metro Department of Public Health and Wellness, said the health screening process will involve a diverse group of people and organizations interested in promoting detection, treatment and prevention of disease.

"With this initiative, we have a chance to screen for and identify certain chronic illnesses, educate the public about issues of importance to their health, and get them into the health and health-care delivery system if they have no current source of care," said Troutman.

The local health department will be responsible for counseling and

follow-up care through existing resources or associated programs. A resident who does not have a doctor or health insurance will be referred to the Louisville Primary Care Association, which includes the University of Louisville Primary Care Center/University Physicians' Associates, Family Health Centers Inc., Park DuValle Community Health Center Inc. and the Department of Public Health.

Arnita Gadson, executive director of the West Jefferson County Community Task Force, commended MSD, EPPC and the health department for the screening process.

"Even though the health screenings come from unfortunate events, I'm glad that an opportunity has been presented to look at the health issues of residents in the Rubbertown area and develop a baseline for further study. With this project, we can begin to build a foundation for the development of a database for more in-depth study," Gadson said.

Approximately 30,000 residents of Rubbertown, including children, are eligible for the screenings. MSD's plan will eliminate more than 4 billion gallons of storm water runoff and untreated sewage from entering the Ohio River each year.

Mine safety is no accident

Continued from Page 1

This happens only when foremen have been properly trained and insist that safe work habits and procedures are followed. To that end, the division has recently revamped its training for underground mine foremen (MFT). Successful completion of this program will result in more knowledgeable and effective frontline supervisors whose leadership will have a positive effect on those miners under their supervision.

MFT classroom instruction is offered in all district offices and by several private instructors. The course thoroughly covers the following topics: pre-shift examination, substance abuse, Kentucky mining law, gases, proper use of explosives, fires and explosions, electricity, mine ventilation, first aid and CPR, and general mining. In an effort to provide maximum accessibility to this crucial information, the entire course can be downloaded from the OMSL Web site at <http://www.omsl.ky.gov>.

Since mine foremen play such a pivotal role in mine safety, the division has also created the Foreman's Advanced Continuing Education (F.A.C.E.) program. Mine safety analysts conduct this program with the foreman during each visit to a surface or underground mine. Analysts teach, advise and assist the foreman in areas where he appears to be deficient. Questions are asked along the way to determine the foreman's knowledge of mining law.

Director Reed often speaks with miners during OMSL classes and fervently closes with this directive: "Safety – It's not your right to choose the safe way. It's your responsibility."

By conducting on-the-job safety analysis and performing quality miner training, miners will work safer and reduce the chance of debilitating injury. The division will continue its steadfast efforts to protect the coal industry's number one resource—the miner.



Dr. Adewale Troutman (left) and Governor Ernie Fletcher explained the significance of the health screenings as a first step in improving the health of Rubbertown area residents. Creative Services photo

Members **EXCEL** on Earth Day

By Lisa Barker

Division of Compliance Assistance


Earth Day provides each of us with an opportunity to invest time and energy into activities that help preserve and enhance Kentucky's environment. This year several KY EXCEL members were involved in a number of exciting and innovative Earth Day activities. KY EXCEL members can be found doing things to benefit the environment from the business perspective. They participate in community outreach activities that improve the environment and encourage their employees and others to do the same.

The Division of Compliance Assistance (DCA) would like to share some of the Earth Day activities that KY EXCEL members performed.

- Catlettsburg Refining LLC—Catlettsburg Refining and Neal Plant, Marathon Domestic LLC employees and their families participated in a Highway Cleanup Earth Day activity, cleaning four to five miles of roadways along U.S. Hwy. 23 in Kentucky and River Road in West Virginia.
- Kentucky American Water—Kentucky American Water sponsored and participated in Reforest the Bluegrass and Arbor Day at the Arboretum in Lexington. Additionally, they were the title sponsor for Downtown Sweepstakes, an event to pick up litter as part of the Great American Cleanup.
- Lexington-Fayette Urban County Government (LFUCG)—LFUCG gave away free mulch to Fayette County residents at the Lexington Recycling Center, held an electronics recycling event for Fayette residents, offered a free trash disposal day at the Bluegrass Waste Alliance Transfer Station, picked up trash in public areas as part of the Keep America Beautiful Great American Cleanup and planted tree seedlings along stream banks as part of Reforest the Bluegrass at Town Branch Trail.
- Lexmark International—For more than a decade, Lexmark has provided an Earth Day fair for its employees at its Lexington campus. This year's celebration featured recognition for Lexmark's acceptance as a master member in KY EXCEL. The event included hybrid and alternative-fuel cars, performance of the play, "Walden: The Ballad of Thoreau," presentation and raptor show by the Southwestern High School Conservation Club and a 5K run/walk.
- Gallatin Steel Company—This steel manufacturer hosted a scrap recycling day, where residents from surrounding counties could bring miscellaneous metals.
- The Earth Angels and Community Hearth Inc.—This nonprofit hosted a festival at the Garrard County fairgrounds, showcasing fashions created from recycled materials, animals for adoption, vendors with Earth-friendly products and practices, and an environmental education hall with displays on global warming, solar panels and more.
- American Cave Conservation Association—This Hart County member sponsored a cave restoration project, which

focused on the protection of karst resources, especially sensitive habitats and critical water supplies. Volunteers received lunch and tours of Hidden River Cave and the American Cave Museum.

- Eastern Kentucky PRIDE—PRIDE hosted an annual spring cleanup for the 38-county regional area they serve. Volunteers cleaned up illegal dumps, roadsides and waterways.
- Toyota Motor Manufacturer Kentucky (TMMK)—TMMK exhibited an environmental time line that showcased its history of environmental accomplishments, hosted an art day at its on-site childcare center, gave away tree seedlings, planted a tree at a local school and showcased an environmental exhibit at the Louisville Zoo's Earth Day event.
- The Green and Tradewater Rivers Basin Team—The team removed trash and debris from the banks and stream channel of Bacon Creek in Hart County.

If you would like to participate in voluntary activities to improve Kentucky's environment, contact DCA at 800-926-8111. There are a number of ways to get involved, and you may even qualify for membership in KY EXCEL. KY EXCEL is open to any individual, organization, community or business that wishes to improve and protect Kentucky's environment in ways that extend beyond Kentucky's environmental requirements. 

KY EXCEL members *Continued from Page 3*

Advocate members

Kentucky Pollution Prevention Center, Louisville
Bluegrass PRIDE, Lexington
Strodes Creek Conservancy, Winchester
Ahmad H. Malkawi, Lexington
Kenya Stump, Lexington
Deer Park Neighborhood Association, Louisville
Southwestern High School Conservation Club and Raptor Center, Somerset
Associated General Contractors of Kentucky, Frankfort
Eastern Kentucky PRIDE, Somerset
Hyatt Regency Lexington, Lexington
Mountain Association for Community Economic Development Inc., Berea
KinderCare Learning Center #300418, Louisville
Humana Incorporated, Louisville
Engineering Consulting Services Inc., Lexington
Kentucky Solar Living LLC, Richmond
Mount Saint Joseph Conference and Retreat Center, Maple Mount
Tom and Debbie Griswold residence, Nicholasville
ECO-CELL, Louisville
EarthSafe, Mackville
Kentucky Water and Wastewater Operators' Association, Frankfort
Microbac Laboratories Inc., Louisville
The Earth Angels and Community Hearth Inc., Lancaster
American Cave Conservation Association, Horse Cave
Rejeana Thompson, Sadieville
Valley View Arabians, Sadieville
Wyatt, Tarrant & Combs LLP, Lexington
Chestnut Committee of the Kentucky Nut Growers Association, Frankfort
Creekside at Andover Homeowners Association, Lexington



meeting challenges at Lake

By Allison Fleck
Division of Water

Governor Ernie Fletcher has made the Lake Cumberland/Wolf Creek Dam project a priority of his administration and is working to address critical issues of public health and safety, as well as potential economic repercussions related to drastic reductions in the lake's level.

"There is no doubt about the urgency of proceeding with the Wolf Creek Dam repairs," said Governor Fletcher. "We are determined to preserve the great quality of life in the Lake Cumberland region while placing the highest importance on public health and safety. We obviously face some immediate challenges and inconvenience, but the benefits of making this structure safe will be felt for generations to come."

In view of the complexities surrounding these issues, Governor Fletcher appointed an executive director of interagency services for the Lake Cumberland region. Hilda Legg, of Somerset, has a vast background in coordinating projects at the state and federal levels. Her office in Somerset will serve to link citizens and communities of the Lake Cumberland region with state government offices that can provide information and assistance.

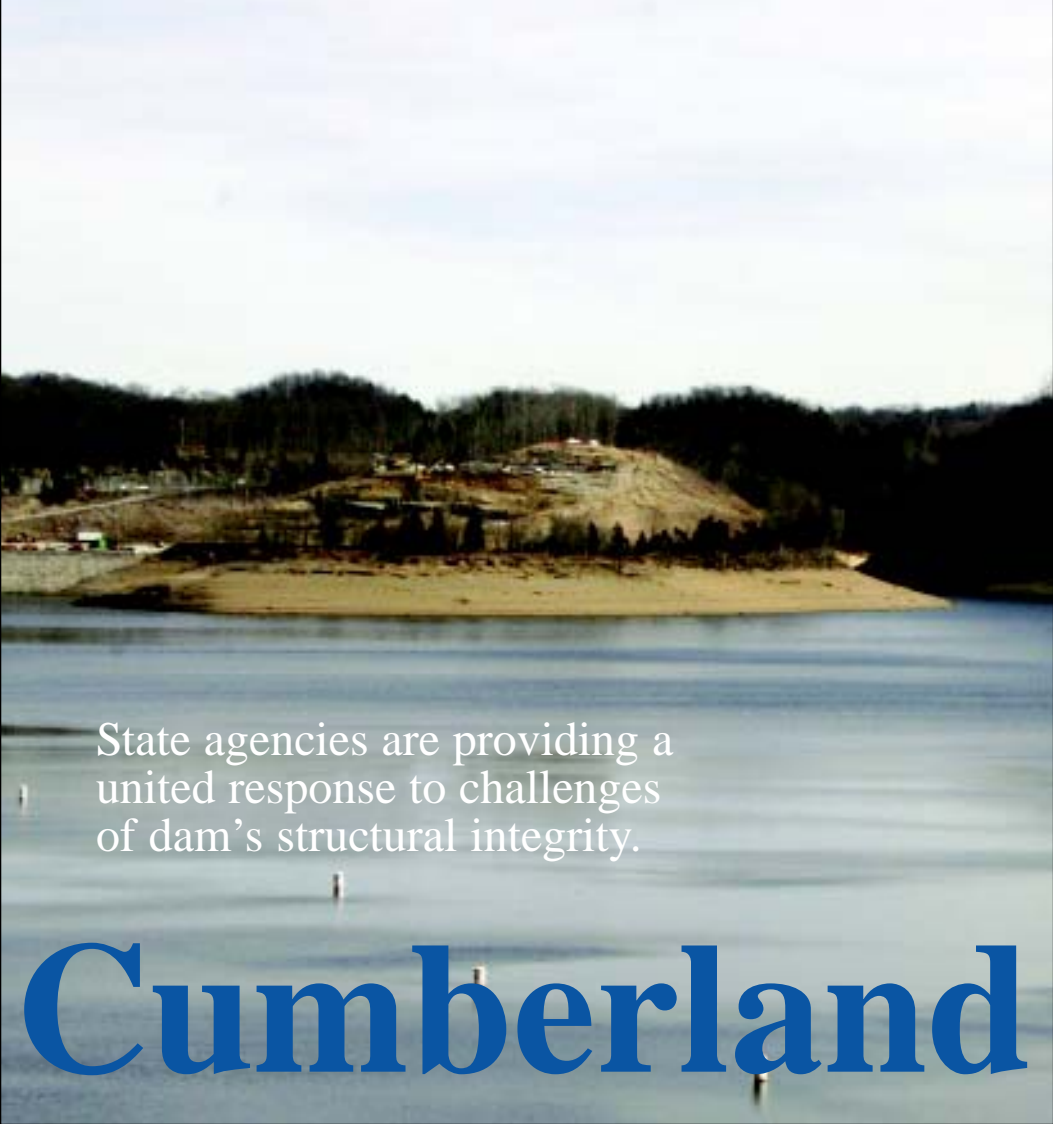
The U.S. Army Corps of Engineers in late January announced plans to lower the water level in Lake Cumberland to reduce

pressure on Wolf Creek Dam, which the agency deemed at high risk of failure. As of Feb. 23, the water level had reached 680 feet above sea level, which is 10 feet below normal winter pool. The Corps of Engineers plans to maintain that lower level through next summer. Normal summer pool level is 723 feet above sea level.

The repair project involves filling the porous limestone with grout, a runny concrete material, and building a thick underground wall inside the dam's earthen embankment to replace a smaller wall built in the 1970s. The new wall will be as much as 75 feet deeper than the original wall.

Built between 1936 and 1952, Wolf Creek Dam and Lake Cumberland have provided flood control, hydropower, water supply and water quality benefits for the Cumberland River system and surrounding region. The lake is also a popular recreation area, drawing about 4.7 million visitors a year. Tourism has a \$150 million economic impact on the four-county area surrounding Lake Cumberland.

With the dam repairs expected to take as long as seven years, many are worried about the viability of the lake as a recreation destination while stakeholders have concerns about their financial futures. Yet even with its reduced surface area, Lake Cumberland



State agencies are providing a united response to challenges of dam's structural integrity.

Cumberland

is the third-largest lake in Kentucky and one of the largest east of the Mississippi River. At 680 feet, say tourism officials, there is plenty of water in this large, deep lake to entice boaters and anglers.

Communities that depend on Lake Cumberland as a water supply source are also concerned. More than 203,000 people depend on Lake Cumberland for drinking water, sanitary sewer and fire protection. With the lake at 680 feet above sea level, the seven water systems producing clean water and the 13 purchasing systems in the lake area are in good shape. With the possibility that the Corps will lower the lake even further, these water systems are taking measures to ensure their water withdrawal capabilities.

“The seven producing water systems are being proactive and are working on alternative plans,” said Dr. David Morgan, director of the Kentucky Division of Water. “One system plans to float barges to pump water back to the plant intake. Another is slowly floating its intake into deeper water. Plant extensions and relocations are also under consideration. We at the division are working with these water systems to expedite permitting and approvals for the modifications.”

Pipe extensions are also being considered at the John

Sherman Cooper Power Station, which provides electricity to 200,000 homes and depends on lake waters for cooling its coal-fired generators.

The Governor’s Office for Local Development is working with local governments and plant operators to identify available funds and prepare funding requests. The Corps of Engineers will use \$2 million in federal money to extend some boat ramps and widen parking areas. The Kentucky Commerce Cabinet is also working with boat ramp and marina owners to keep the lake waters accessible to boaters and fishermen.

Response to the issues at Wolf Creek Dam must include the possibility of dam failure. Engineers with the Division of Water’s Dam Safety program and personnel from Kentucky Emergency Management continue to work with downstream counties to develop emergency action plans and establish membership in the National Flood Insurance Program.



Hilda Legg is executive director of the Governor’s Office of Interagency Services for the Lake Cumberland Region, 807 Monticello St., Somerset, KY 42501. Telephone: 606-677-6125



OPPOSITE PAGE: *The Wolf Creek Dam is undergoing a repair project that will strengthen the floodwall.*

Photos provided by Department of Education

THIS PAGE: *Lake Cumberland’s water level is currently 680 feet above sea level, which is 10 feet below normal winter pool.*

Photos provided by Department of Education and Department of Fish and Wildlife Resources

Water quality report provides tool for tackling pollution

By Allison Fleck
Division of Water

A two-volume report completed in late 2006 by the Division of Water (DOW) on the quality of water in the streams, lakes and reservoirs of all major river basins of the commonwealth will be used to develop strategies to improve those waterways.

The document fulfills Clean Water Act requirements to assess and report current water quality conditions to the U.S. Environmental Protection Agency every two years (Section 305[b]) and report on the number of impaired waters needing development of Total Maximum Daily Loads (Section 303[d]).

The report offers a statewide number of Kentucky waterways that are “impaired,” meaning their water quality does not support the uses for which they are designated. The number of impaired streams is greater than in previous reports because more water was assessed, said Dr. David Morgan, DOW director.

“This should not be interpreted as a declining trend in water quality, but rather as a reflection of increased monitoring,” said Morgan. “Under the watershed approach, increased screening is now occurring in some regions of the state that previously had not been monitored to this degree. For example, the report reflects the first intensive watershed sampling in the Big Sandy River Basin.”

The division initiated a five-year rotating watershed management approach in 1997 to evaluate pollutant sources, problems and solutions. Given the fact that water does not obey political boundaries,

the watershed approach allows the state to manage pollution on a priority basis.

Impaired waters total 5,163 miles on 910 stream segments and more than 98,300 acres on 45 lakes and reservoirs in five basin management units across Kentucky. Primary causes of impairment are sedimentation, bacteria, habitat



alterations and nutrients. The report indicates the majority of issues associated with impairment arise from nonpoint source pollution, which refers to pollution that runs off the land rather than from a specific source, such as a pipe.

“Contaminants such as motor oil, grease, fertilizer and sediment are washed


into our waterways by rain or melting snow rather than from any single identifiable source,” said Tom VanArsdall, manager of the Water Quality Branch, which produced the report. “As Kentucky continues to grow, these and other sources of impairment are likely to increase. This report is an excellent tool for identifying problem areas, developing treatment programs and implementing pollution prevention measures.”

The Division of Water is already in the process of developing a series of calculations for allowable amounts of pollutants for the impaired waters. These calculations are known as Total Maximum Daily Loads (TMDLs). Approximately 1,600 TMDLs are needed for impaired segments.

Several TMDLs are being developed for DOW by outside parties, including the Ohio River Valley Water Sanitation Commission, state universities, consultants and municipalities. The EPA is also assisting the state with TMDL development. (See *TMDLs lead the way in improving Kentucky waters* on Page 19.)

“Under the watershed approach, increased screening is now occurring in some regions of the state that previously had not been monitored to this degree. For example, the report reflects the first intensive watershed sampling in the Big Sandy River Basin.”

Dr. David Morgan

Public comment on Volume 2 of the report (list of impaired waters) ended Feb. 26. 

Danielle Rogers, with the Kentucky Division of Water, measures stream discharge (the amount of water flowing through a plane in the water per unit time) on Hardwick Creek in Powell County. Division of Water photo

EPA authorizes Kentucky's Asbestos-in-Schools Program

By Parker Moore
Division for Air Quality

In January, the U.S. Environmental Protection Agency (EPA) granted authority to the Kentucky Division for Air Quality (DAQ) to oversee compliance with federal asbestos-in-schools requirements. EPA's action is based on the DAQ's demonstration that Kentucky's Asbestos-in-Schools Program is as effective as the federal program administered by EPA.

Asbestos is a naturally occurring mineral fiber that can be added to a variety of building products, such as insulation and fire retardants. In good condition, asbestos materials do not pose any hazards to building occupants. However, in poor condition the materials can release fibers into the air through disturbance or deterioration. Over time, breathing the fibers can cause health hazards such as asbestosis and lung cancer.

In 1986, the federal Asbestos Hazard

Emergency Response Act (AHERA) was signed into law and required all schools to safely manage asbestos materials in school buildings. AHERA called for all kindergarten through 12th-grade public and private schools to have their buildings surveyed for asbestos materials by state-accredited professionals and to have the survey findings described in asbestos management plans. Each school's plan must include a strategy for maintaining or safely removing the identified materials.

The principal guidance of AHERA is to manage asbestos materials safely "in place." This means teaching people to recognize asbestos-containing materials and actively manage them. Removing asbestos is not always necessary if the materials are still intact and in good condition.

"The law requires schools to

document all asbestos materials and to make parents, teachers and building occupants aware of it too," said John Lyons, director of the Division for Air Quality. "The waiver gives Kentucky primary authority to oversee the law and moves the federal agency (EPA) into the background."

The DAQ's role in this process is to review asbestos management plans for Kentucky's 4,000 school buildings, visit the schools to verify the plans' contents and make sure that schools are sticking to their strategies for managing the asbestos materials in a safe manner.

The EPA's approval—called a waiver since the federal agency is waiving its authority and turning authority over to the state to monitor compliance with the asbestos-in-schools requirements—became effective Jan. 23, 2007.



State councils emphasize importance of forestland

By Gwen Holt
Division of Forestry

Kentucky is blessed with 11.9 million acres of forestland. Eighty-nine percent of the forestland is privately owned. Forestland contributes significantly to the local and state economy; it provides thousands of forest products and wildlife habitat as well as an abundance of recreational opportunities. It also helps to ensure a plentiful and safe supply of drinking water.

There are more than 423,000 forest landowners in Kentucky. The majority of them own in excess of 10 acres. Surveys indicate that many of these landowners are unaware of the value and importance of their forestland.

In an effort to broaden their awareness, an initiative driven by the University of Kentucky Cooperative Extension Service, the Kentucky Division of Forestry and the Kentucky Woodland Owners' Association is helping communities establish local forestry councils. These forestry councils are locally driven grassroots organizations that provide a platform for discussing and debating forestry issues. They make forestry issues locally relevant and help provide a voice for the hundreds of thousands of Kentucky landowners.

"Local forestry organizations give woodland owners an opportunity to learn more about their woodlands and the things that can and should be done," said Dr. James T. "Jim" Corum, one of the founders of the Harlan County Forestry Association. "The success of local organizations is a precursor to achieving policy

Members of the Harlan County Forestry Council met recently to discuss local forestry issues.

Photo submitted



changes and priority changes at the governmental level that need to happen. These forestry organizations give landowners the means to bring about these changes when one person could not."

Typical members are landowners, forest industry representatives, local county and city officials and anyone interested in forestry issues. Topics addressed at these meetings include forestland taxation, forest management options, timber value and sales, and the development of local markets.

Several communities have established councils and many others are in the planning stage. Counties with active councils are Fleming, Harlan and Henry. Cumberland, Bell and Whitley counties are in the early stages of council formation.

If you would like to establish a council in your community, contact your local county extension agent or the Kentucky Division of Forestry at 502-564-4496.



Land, Air & Water subscribers might recall that the Kentucky Heritage Land Conservation Fund Board (KHLFCFB) has been contemplating changing the designs of Kentucky nature license plates. Currently, the three choices are the cardinal, bobcat and viceroy butterfly.

During the past nine months, the board has solicited designs and public comment about potential replacements. The board was pleased with the designs and suggestions submitted by the public, although it was difficult to select a favorite.

To help in the decision making process, the Environmental and Public Protection Cabinet set up a state-of-the art voting machine at last summer's Kentucky State Fair so that fairgoers could choose their favorite design. Eight newly proposed designs, as well as the three current ones, were on display. The public could also make their favorite selection over the Internet.



Finally after months of deliberations, board members voted and selected three new designs. Consequently, these designs, which feature a hummingbird, dragonflies and Cumberland Falls, were also the most popular designs at the state fair and through Internet voting. The new "Nature's Finest" plates should be available in January 2008.



The board is excited about the new designs and, over the next several months, will be working with the artists and 3M, the company that manufactures the sheeting that is used to produce the license plates.

"We are hopeful that the new designs will prove popular with Kentucky drivers," said Frank Fitzpatrick, chair of the marketing and awareness subcommittee of the KHLFCFB. "The extra \$10 goes to fund an extremely important land conservation program in Kentucky. I would like to strongly encourage the public to purchase one of these plates."

The board wants to thank everyone who submitted a design or suggestion. The public response was impressive and is indicative of the popularity of the nature license plate program.

The nature license plates cost an extra \$10, and that money is used to purchase and manage selected natural areas and


nature's finest

Three new plates will help protect selected natural areas and wildland habitat across Kentucky. It only costs you an extra \$10.

By Mary Jean Eddins
Kentucky Heritage Land Conservation

wildlife habitats across Kentucky. Approximately \$1 million is generated annually from the sale of nature license plates.

Kentucky loses 130 acres daily to development, and the purchase of a nature license plate ensures that a portion of Kentucky's natural heritage is left intact for future generations to enjoy.

For information about the Kentucky Heritage Land Conservation Fund Board or the nature license plate program, contact Mary Jean Eddins at mary.eddins@ky.gov or 502-573-3080. 



TOP TO BOTTOM: Dragonflies, a hummingbird and Cumberland Falls are featured on the upcoming nature license plates that will be available for purchase in January 2008.

License plate renderings provided by Creative Services

Two old, closed landfills in Leitchfield illustrate the environmental and financial problems that “historic” landfills can present to local officials.

The old Leitchfield Landfill, used from the mid-1950s as an open dump and through the late 1970s as the city landfill, is located on top of caves connected to nearby springs. The second site, the old Leitchfield Landfill at Millwood, was in use from the early 1980s through 1992. The Millwood landfill is in a remote location, and leachate that was being collected and stored could not be pumped to the wastewater collection system in an affordable manner. Consequently, the city had to spend \$16,000 a year to haul and treat leachate off-site. Leachate is water that collects contaminants as it seeps through the landfill.

These two Grayson County landfills were among sites recently upgraded with money from the Kentucky Pride Fund created by the 2002 General Assembly under House Bill 174. Environmental remediation work at old landfills is aimed at protecting human health and the environment—a top priority of the Environmental and Public Protection Cabinet (EPPC) and the Fletcher administration, said EPPC Secretary Teresa J. Hill.

“The city of Leitchfield is extremely grateful and fortunate to receive benefit of HB 174 funding to improve conditions at old landfill sites...without HB 174 resources, the city would be dealing with these waste management and environmental issues without an end in sight,” said Darrell Harrell, Leitchfield’s director of public works.

At the old Leitchfield Landfill, waste was consolidated, the landfill cover was upgraded to limit water contact and a storm drainage control system was constructed. The project cost \$2.9 million.

“Now, a large part of this 100-acre site can be considered for beneficial use by the city and potentially by the state. Where waste used to be, we can now consider a city park, a roadway or simply green space. This HB 174 process with the Division of Waste Management (DWM) has had a tremendously positive impact on our community that will be enjoyed by all future generations,” said Harrell.

A new leachate treatment system was



Old landfills get upgrades

By Eva Smith-Carroll
Division of Waste Management

constructed at Millwood, including a holding lagoon and constructed wetlands to treat leachate. The landfill improvements cost \$650,000. The city is constructing a small arms firing range at this site for additional benefit to the community.

Other current projects under the Kentucky Pride Program are:

- Old Floyd County Landfill—more than \$3 million in environmental remediation work was done including a barrier-type cap that prevents the entry of rainwater and minimizes leachate, surface water drainage, a leachate collection and pumping system and a sewer line to the city of Martin wastewater treatment plant.

- Old Cynthiana Landfill/Harrison County—a \$1.2-million system to treat leachate on-site was constructed. Previously the city paid \$60,000 a year to have leachate hauled off-site and treated.

- Old Manchester Landfill/Clay County—construction of a wetland to treat leachate should be finished this summer at an estimated cost of \$5 million. In addition, waste was consolidated so it covers a smaller area and drainage improvements were made.

- Old Perry County Landfill—work totaling \$3.7 million should be completed by summer including regrading the landfill cap, barrier upgrade of the east area cap, some waste relocation, drainage features and a leachate drain and pumping system.

- Old Harlan County Landfill—around \$3.2 million in environmental remediation work was done including overall site stormwater and erosion control improvements, slope stabilization, construction of a barrier-type cap and a leachate collection and treatment system including a lagoon and wetland cells.

- Scott County landfills—more than \$2.3 million in work was completed under a memorandum of agreement between the EPPC and the city of Georgetown with the state providing \$1.86 million. Improvements include consolidating waste and installing a leachate collection system connected to a wastewater treatment plant. Construction was completed at Briar Hill Landfill last year. The city contracted out \$1.2 million in cleanup activities and landfill capping work.

- Old Campbellsville Landfill/Taylor County—the \$9-million project included relocating waste found off-site, winter cover placement, constructing a drain to divert spring water away from the landfill and a leachate collection and pumping system. Construction on the next phase will begin this spring, and completion is expected in October including construction of a barrier-type cap, soil cover, landfill gas headers and vents, groundwater monitoring wells, wildlife pond, access roads and final seeding and installation of a security fence.

For more information, contact the DWM’s Solid Waste Branch at 502-564-6716.



This aerial photo of Leitchfield Landfill shows the constructed wetland treatment cells in the center of the photo. Division of Waste Management photo

Task force sets sights on funding to “conserve Kentucky”

By Mary Jean Eddins
Kentucky Heritage Land Conservation

“We need to be aggressive about conserving and protecting these natural resources, not only for their economic values but because we should be good stewards of these lands and wildlife that are a part of our natural heritage and that contribute to the quality of life that is Kentucky.”

William H. Martin

It is estimated that Kentucky loses 130 acres of land to development each day. That type of loss is not sustainable and directly impacts the quality of life for all Kentuckians. In comparison to the seven surrounding states, Kentucky has protected the smallest percentage of its land.

With those thoughts in mind, the Land Stewardship and Conservation Task Force met for the first time in January. Created during the 2006 legislative session, the task force was directed to study the commonwealth’s strategy for the protection of natural areas, farmlands, habitats and forests, and produce recommendations for a comprehensive land stewardship and conservation program, to be called the ‘Conserve Kentucky’ program.

“Kentucky is such a wonderful place to live, work and visit because of the various landscapes of forests and fields,” said Dr.

William H. Martin, chair of the Kentucky Heritage Land Conservation Fund Board and task force member. “These natural, productive features translate into billions of dollars that support our valuable agricultural and forest economies while providing for high-quality recreation and tourism.”

At the meeting, reports were presented by the Kentucky Conservation Committee, the Kentucky Department of Fish and Wildlife Resources, the Kentucky Division of Forestry, the Kentucky Heritage Land Conservation Fund, the Kentucky PACE (Purchase of Agricultural Conservation Easements) Program and the Kentucky State Nature Preserves Commission.

The general consensus was the challenge in securing sufficient long-term funding to meet the missions of each program, which compete with other health and human service programs for a finite number of

dollars. Often, conservation programs are on the losing end of the equation. However, it is important to remember that conservation programs do have tangible, measurable benefits. Air and water quality are directly impacted by land conservation practices.

“We need to be aggressive about conserving and protecting these natural resources, not only for their economic values but because we should be good stewards of these lands and wildlife that are a part of our natural heritage and that contribute to the quality of life that is Kentucky,” said Martin.


There are also key economic factors that need to be considered. Jon Gassett, commissioner of the Kentucky Department of Fish and Wildlife Resources, and J.T. Miller, commissioner of the Kentucky Department of Parks, noted the importance of conserving Kentucky’s unique landscape because of the tourism impact.

Eric Gracey, with the Division of Forestry, said that Kentucky ranks third in the nation in hardwood production, and the forest industry has an \$8.7 billion impact to the state’s economy and accounts for one out of nine manufacturing jobs.

“We are losing roughly 70,000 acres of forestland every year. We can’t continue down this path without economic, environmental and social impacts,” Gracey said.

Unfortunately over the past decade, Kentucky has lost 700,000 forested acres. Steve Coleman, in discussing the PACE program, said farmland provides more than 70 percent of the habitat for America’s wildlife, and the loss of farmland puts biological diversity at great risk.

“Among the considerations of the task force will be identification of substantial, sustained support and funding for programs that will assure that this stewardship is maintained for current and future generations,” said Martin.

It will take innovative thinking, but hopefully long-term funding sources for conservation can be identified. The task force has until June 30, 2007, to issue a report, along with recommendations and any proposed legislation to the Legislative Research Commission (LRC). For more information contact Hank Marks or Katie Carney at the LRC at 502-564-8100. 



Online license renewal available

By Lisa Butler

Division of Compliance Assistance

The Division of Compliance Assistance (DCA) is now offering a new service to more than 3,000 certified wastewater and drinking water operators throughout the commonwealth. In February, the Operator Certification Program began offering online renewal of operator certificates with payment by credit or debit card. This online license renewal is a pilot project to test the viability of credit card payments to the Department for Environmental Protection. The goal is to achieve successful credit and debit card payments online so that this service can be expanded to other programs within the department.

The online renewal service uses the department's e-Search Web portal. Operators may review information regarding their license on this site. If a licensee has completed the required continuing education hours, they will be given the option to renew their license and pay for the renewal by credit or debit card.

DCA believes this program is a win-win situation for operators and the Operator Certification Program. This system will provide operators with greater convenience in renewing their license every two years. It will not sacrifice the program's regulatory requirement that wastewater and drinking water operators complete continuing education hours prior to license renewal.

Operators will not have to submit renewal forms. Wallet cards will be mailed to operators, and program records will be updated electronically. The service is expected to substantially reduce the work hours currently spent by division staff in processing renewal applications and payments.

For more information regarding this program contact Lisa Butler, Operator Certification Program, Division of Compliance Assistance at 800-926-8111.



Insect continues to pose threat to hemlocks

Continued from Page 2

by removing tree sap. It is the starch content of the sap that the HWA wants. This loss of starch minimizes or negates tree growth over a period of years until the tree dies. This is one of a very few insects that is active in the winter. The best time to survey for HWA is in the winter when the white cottony masses are visible on the undersides of the branches.

Since HWA infestation was recently found in Blanton Forest and five other state nature preserves in Bell, Letcher and Harlan counties, the Kentucky State Nature Preserves Commission held an 'insect hunt' in February, where volunteers surveyed three drainages in the Watts Creek watershed.

The volunteers were given a short training session on the survey process and how to locate infested branches. The day resulted in two of the three drainages turning up positive for HWA. The third drainage is a more isolated area of Blanton Forest. Blanton Forest State Nature Preserve protects the largest old-growth forest in Kentucky and is one of the largest in the eastern United States.

"Though it is unfortunate that the adelgid was found in Blanton Forest, now that stewards know, further steps may be taken to protect the unique forest," said Luke Dodd of the University of Kentucky

Department of Entomology and volunteer for the day.

HWA has two generations per year, which leads to rapid population buildup. Infested trees may die in four to 10 years after initial infestation if left untreated. There are chemical treatments available, but the most effective treatment using imidacloprid is expensive. The cost of this chemical alone is about 70 cents per diameter inch of tree. Besides the cost, treating the trees is a logistical problem as hemlock is usually found on the steep slopes of the eastern forests.

Biocontrol is thought to be the best, long-term solution to managing HWA. Presently, three species of predator beetles have been released in other states and are showing promise. However, they cannot stem the rapid advancement of HWA, which is usually transported by birds. Initial infestations must be treated with chemicals until the pest population is high enough to sustain a predator beetle population.

Once released, predator beetles take several years to build up sufficient numbers to keep HWA in check. The goal of biocontrol is not to eliminate HWA but to keep the population below harmful levels.

During the winter months of 2006-07,

the Kentucky Division of Forestry surveyed almost 20,000 acres of state forest property in Kentucky Ridge and Kentenia state forests, both located within the HWA-infested area. Survey results indicate a light-to-moderate infestation on east-facing slopes that receive morning sun. Chemical treatments are planned and will be carried out where logistically practical early this year.

Stopping the spread of HWA is not a practical goal; however, continued monitoring of the spread and chemical treatment will be conducted until HWA populations reach levels when predator beetles can be introduced.

Keep in mind that all treatments and potential beetle releases will be on publicly owned land, and it is hoped that the hemlock mortality rate can be kept below the 80 percent level. Unfortunately, there are no treatments planned on privately held land due to the cost. Without fiscal incentives to private landowners the mortality rate on private land will exceed 80 percent.

The future of eastern hemlock as a component of the eastern Kentucky forests is in doubt. It is possible that one of the richest and most biologically diverse forests on Earth could suffer a great defeat.



AML fee program reauthorized at last

By Linda Potter
Department for Natural Resources

The fall of 2004 was filled with uncertainty for the Division of Abandoned Mine Lands (AML). The authority to collect reclamation fees from coal operators was set to expire on Sept. 30, 2004, after being in effect for 25 years. The future of the AML program was definitely in jeopardy. Finally, on Dec. 9, 2006, the U.S. Congress passed comprehensive legislation reauthorizing the AML program under the Surface Mining Control and Reclamation Act of 1977, and President Bush signed the bill into law on Dec. 20, 2006.

The AML program is vital to citizens residing in Kentucky's coalfields, since it is the only program that offers relief from the health and safety dangers created by coal mining operations prior to 1982. High-priority reclamation problems addressed by AML funding include unreclaimed and unstable highwalls, landslides, open mine portals, stream pollution and flooding due to streams choked with sediment and mine refuse.

The new legislation extends federal AML fee collection authority to 2021. With Kentucky's \$325 million in high-priority reclamation projects in the federal inventory, this is good news indeed. Once implemented, the new changes in federal law will substantially increase AML funding to states and Native American tribes so that they can continue their focus on projects that benefit public health and safety. Kentucky expects to receive approximately \$30 million the first year of the new legislation. The increased funding should be available by July 2008, and that amount should increase in future years.

Notable changes made by the 2006 amendments include:

- Over the next 15 years, coal companies will continue to pay reclamation fees, but these fees will be reduced 10 percent for fiscal years 2008 through 2012. This new structure assesses 13.5 cents per ton for underground mined coal

and 31.5 cents per ton on surface mined coal. Fees drop an additional 10 percent for the remaining 10 years until 2021.

- Unappropriated state share balances accumulated prior to the 2006 legislation will be paid out to states and tribes over a period of several years on top of the increased regular grant funding. In the past, Congress failed to appropriate all the funds collected by the AML fee, resulting in an unappropriated balance of \$1.6 billion in the AML Trust Fund. Kentucky's share of that balance is roughly \$120 million. These balances will be returned to the states for AML projects.

- Distribution of AML funds will occur annually outside the congressional appropriation process. Funds collected in one fiscal year will be automatically distributed the following year.

- The Acid Mine Drainage Abatement Set-Aside allotment has been increased from 10 percent to 30 percent of the grant, which will allow Kentucky AML to work on crucial water quality projects.

- The 30 percent cap on water supply projects was lifted. Previously, a state could devote no more than 30 percent of

its annual grant to water supply projects in areas where past mining contaminated groundwater wells. Kentucky AML has always used its maximum allotment to run water lines to provide an alternative water source for citizens affected by water contamination. This translates into more waterlines for communities in remote regions of the state.

- The AML priority system, used for project selection, is redefined by eliminating low-priority designations and expenditures for the "general welfare." The definition of a high-priority AML site (presenting extreme danger to public health and safety) is also expanded to include former low-priority areas adjacent to a high-priority site. This will increase the scope of projects and benefit the environment surrounding a high-priority site.

After much congressional testimony and several years of relentless efforts to obtain reauthorization, the Kentucky AML Program is happy with the outcome.

"I am very pleased; this is as good as we could have done," said Steve Hohmann, the AML program director.

The changes will result in dramatic and far-reaching effects to the AML program. The AML states, tribes and federal Office of Surface Mining are working cooperatively to ensure a smooth implementation of the 2006 amendments in a way that benefits the citizens of the nation's coalfields.



The AML built retaining walls (upper right) to protect surrounding homes and the Belfry High School (lower left) from a landslide.
AML photo



New DOW section helps public water systems reach full capacity

By Allison Fleck
Division of Water

Few things are more important than safe drinking water. That's why the Drinking Water Branch of the Division of Water (DOW) has added a new section to help public water systems operate in the most efficient manner possible.

The Capacity Development Section was created to help the division meet requirements of the Safe Drinking Water Act (SDWA) as reauthorized by Congress in 1996. One provision establishes a Drinking Water State Revolving Fund to finance infrastructure improvements of public water systems.

In order to receive the full benefit of the fund, states are required to establish capacity development programs that assure public water systems have the technical, managerial and financial ability to meet state and federal requirements. While the Drinking Water Branch has provided capacity overview since 1996, the new section will allow DOW to consistently evaluate the technical and managerial components required under SDWA for existing as well as new public water systems, said Donna Marlin, manager of the Drinking Water Branch.

"Basically the federal government wants assurance that these water systems operate in the most efficient manner possible with the resources they have," said Marlin.

The section, staffed by seven, will monitor approximately 580 public water systems currently operating in the state. Some of the data for their evaluations come from the sanitary surveys performed every three years as required by federal law. Other sources include compliance data, engineering reports, enforcement history, water availability, Public Service Commission reports and operator certifications. The section also oversees sanction reviews, federal environmental reviews and prioritization and evaluation of the Drinking Water State Revolving Fund loan projects and U.S. Environmental Protection Agency

A marker designates the site of a new water tank in Letcher County that will be built with monies from the Drinking Water State Revolving Fund.

Division of Water photo



(EPA) congressional grants.

Failure to adequately assess capacity development of public water systems could result in withholding of funds by EPA.

"The EPA will withhold funds from any state unless that state is developing and implementing a strategy to assist public water systems with this issue," said Marlin. "The amount of a state's allotment that can be withheld is 20 percent for each fiscal year. This amount can be significant."

For example, based on revolving fund allotments in Kentucky for fiscal year 2005, EPA would have withheld

\$2,017,760. Add to this the growing demand for treated water, and the need for the new Capacity Development Section becomes crystal clear, said Leslie Carr, chief of the Capacity Development Section.

"Every community water system has to meet the same water quality standards using approved treatment processes and chemicals, regardless of size or age of the plant or the number of customers served," said Carr. "This section will allow us to take a more proactive approach to helping water systems stay within their capacities while complying with state and federal requirements." ❖

Houseboats, watercraft consider wastewater discharges during summer fun in the sun

Continued from Page 6

larger than Type I and generally has higher-power requirements, Type IIs are usually installed in larger recreational boats.

Type III MSDs are certified to a no-discharge standard. These devices include recirculators, incinerators and holding tanks. Holding tanks are by far the most common kind of Type III MSD found on recreational boats. Sewage is stored until it can be pumped out at a facility on shore. It is cheaper to operate and best for the environment.

A new type of houseboat known as a "floating home" is beginning to find its way to some Kentucky lakes. These structures occupy a permanent berth and have no means of self-propulsion, though they can be moved to another area by a tug boat. The floating foundation platforms are engineered to allow construction to meet local building codes.

They are also connected through a floating bridge to all utilities and services, including water, sewage, electricity, gas, telephone and cable television. Floating home marinas are privately owned and usually charge homeowners monthly berthage fees. ❖

How is the health of your lake or stream? Clean enough for swimming? Wading? Should you stay in the boat? Should you drink the water or eat the fish? If the water is impaired, what's the reason?

Staff at the Kentucky Division of Water (DOW), puzzle over such questions every day.

The Clean Water Act requires Kentucky and other states to submit a list of surface waters—rivers, lakes and streams—that fail to meet state water quality standards for designated uses, such as recreation, drinking water, fish consumption and aquatic life, that require a TMDL.

TMDL—short for Total Maximum Daily Load—refers to the maximum amount of a pollutant, regardless of the source, that a lake or stream can assimilate to meet water quality standards for its “designated uses.”

The goal of the TMDL program is to provide technical and scientific documentation that identifies the causes of impairment and a strategy for restoring the health of those waters.

Bodies of water frequently have multiple uses but sometimes have limited suitability. The local creek, for example, might be suitable for boating but not for swimming.

Once an impaired water has been identified, the state is usually required to establish a TMDL for each pollutant. (TMDLs are not required for pollution or permit noncompliance issues.) The TMDL addresses reductions of a pollutant that are needed to meet water quality standards and allocates those reductions among the watershed’s “point sources”—readily identifiable sources such as waste treat-

TMDLs lead the way in improving Kentucky waters

By Andrea Fredenburg
Division of Water



Jessica Schuster (left) and Andrea Fredenburg, of the Division of Water, measure and record stream velocity on Elkhorn Creek in Fayette County. Stream velocity is the speed at which the water is passing a certain point per unit time. Division of Water photo

ment facilities and discharge pipes—and the more nebulous “nonpoint sources” such as runoff from farm land, city streets and lawns.

The TMDL Section or a designated agency ultimately disseminates findings in a report that must undergo a public comment period and be approved by the Environmental Protection Agency. Once approved, the report evolves into an implementation strategy including public involvement, activities suggested to reduce pollution, timeliness for actions taken, funding resources and designation of responsibilities. The required schedule for completion of a TMDL is 13 to 15 years from initial listing.

DOW has committed to monitoring 100 waterbody/

pollutant combinations per year through 2010, at which time resources will be re-evaluated. It is an ambitious goal that can only be accomplished with the help of other public and private agencies and generous volunteers.

Local universities, under memorandum of agreement with the DOW, will monitor streams and develop TMDL reports. Murray State University will collect stream data in the Clarks River Watershed in the Tennessee River Basin; Western Kentucky University will work in the Panther Creek and Long Falls Creek watersheds in the Green River Basin; the University of Kentucky will work in the Elkhorn Creek and Eagle Creek watersheds in the Kentucky River Basin; and

Eastern Kentucky University will collect data only in the Right Fork of Beaver Creek in the Big Sandy Basin.

The Division of Water also is grateful for the assistance provided by local governments, citizen groups and other state and federal agencies that collect data under the approved Quality Assurance Project Plan.

“We have to work together to reach the goal of returning Kentucky’s impaired streams and lakes to full support of their designated uses,” said Tom VanArsdall, manager of the Water Quality Branch. “The TMDL process provides an effective mechanism for planning, collaboration and dedication of resources toward that critical goal.”

Awards

Martin receives Biological Diversity Protection Award

By Don Dott

Kentucky State Nature Preserves Commission

In recognition of a lifetime of achievements, Dr. William "Bill" Martin was presented with the 2006 Biological Diversity Protection Award by the Kentucky State Nature Preserves Commission in December.

Dr. William H. Martin III has devoted his professional career and a great deal of his personal life to protecting biological diversity and natural lands. While we have been fortunate that most of his work has taken place in Kentucky, he has been involved in biodiversity protection throughout the southeastern United States, extending even to the Jiangsu Province of China.

Since 1969 he has been a professor of biology at Eastern Kentucky University (EKU). By the time he retired from EKU in 2005 he was director of the Division of Natural Areas Program. He was instrumental in the protection of Lilley Cornett Woods, serving as its research coordinator

from 1977-2005. His research and teaching interests have been comprised of forests and grasslands of the southern Appalachians and Midwest. He has taught and mentored countless students in his 36-year tenure at EKU and published at least 21 edited or refereed books and papers.

Martin took temporary leave from EKU to serve as the commissioner of the Department for Natural Resources from 1992 to 1998. He was co-chair of the 1995 Kentucky Biodiversity Task Force, leading a team that developed and successfully worked to pass the 1998 Kentucky Forest Conservation Act.

In 2005 Martin served as chair of the Kentucky Conservation Committee, which began a project to persuade the Kentucky General Assembly to increase the amount of funding dedicated to conservation of land, particularly natural areas and



farmland conservation. Those efforts are still underway. Martin currently serves as chair of the Kentucky Heritage Land Conservation Fund Board and has been serving in that capacity since its inception in 1994. During his tenure, more than \$31 million has been awarded to purchase more than 27,000 acres statewide. Martin has described this position as one of the most rewarding he has ever held. ✦

Volunteer steward is Harold Kelley

By Lane Linnenkohl

Kentucky State Nature Preserves Commission

The Kentucky State Nature Preserves Commission (KSNPC) presented Harold Kelley, of Glasgow, with the 2006 Volunteer Steward Award in December.

Since 2000, Harold has been the volunteer preserve monitor at Brigadoon State Nature Preserve. His job duties include roaming the ridges and hollows of Brigadoon, walking the trails and monitoring the historic buildings, and reporting conditions he observes. He is an avid photographer, and Brigadoon has become the subject of many stunning photographs. One of Harold's photographs forms the background of the preserve's entrance sign.

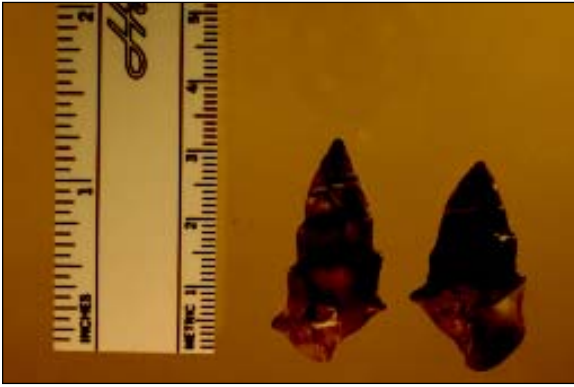
Harold has embraced Brigadoon State Nature Preserve, watching it and tending it as if it were his own. Harold has reported on trail conditions, illegal horseback riding and ATV activity, and illegal hunting and deer feeders. He keeps the stewardship staff updated on public use, and the condition of the historic Renfro buildings and surrounding yard. As if this weren't enough, Harold continues to keep watch for that perfect flower, tree, spider web, water flow or combination of colors and textures with which to make his next award-winning photograph. Harold's

feelings for Brigadoon run so deep that he decided to make it the setting for his wedding last year.

Volunteers are an integral part to the monitoring and management of KSNPC's nature preserves system. With so many nature preserves throughout the state and so few staff to tend them, KSNPC is forced to rely on and trust volunteers for assistance. Since Harold's first day, he has been there - ready on short notice to respond or assist in any way that is needed. Harold has earned the KSNPC's trust over and over again, which is why he is the recipient of this award. ✦



In the spotlight: Kentucky's rare species and communities



Armored Rocksnail (*Lithasia armigera*)

Kentucky State Nature Preserves Commission Status: Special concern

U.S. Fish and Wildlife Service Status: None

General Description: A thick-shelled species with prominent knobs on the shell, about 1.25 inches in height.

Habitat: Medium to large rivers on rocky substrates.

Range: Ohio River system.

Reason for Protection Status: Although not currently under federal protection, loss of populations due to habitat degradation and loss are of mounting concern to resource managers.



Northern harrier (*Circus cyaneus*)

Kentucky State Nature Preserves Commission Status: Threatened

U.S. Fish and Wildlife Service Status: None

General Description: A medium-sized hawk with long wings and tail; white rump; male gray above and white below with black wing tips; female and young brownish.

Habitat: Year-round in open grasslands and agricultural land; nests on the ground. Prior to European settlement, occurred on native prairies; today occurs most frequently in open grassy fields and other habitats that mimic native grasslands.

Range: Circumboreal; occurring throughout much of North America.

Reason for Protection Status: Species is at the southern limit of its breeding range in Kentucky; native habitat is all but gone, but this raptor nests in limited numbers in extensive artificial grassland areas that mimic the native prairie.



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