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List appointed secretary of NREPC

By Mark York
Office of the Secretary

Henry Clay "Hank" List was named secretary of the Natural Resources and Environmental Protection Cabinet by Gov. Paul Patton following the death of James E. Bickford.

List is no stranger to the cabinet, serving as deputy secretary under Bickford and spending several terms in the state House of Representatives.

"I feel very honored to have Gov. Patton appoint me to this position," List said. "I want to continue the initiatives started by Jim Bickford and Gov. Patton, including illegal dumps, straight pipes, implementation of House Bill 174 and voluntary environmental remediation regulations and the cleanup of the Paducah Gaseous Diffusion Plant."

List also said the cabinet will continue its partnership with the eastern Kentucky and Bluegrass PRIDE (Personal Responsibility In a Desirable Environment) programs.

List, appointed deputy secretary of the cabinet in June 2001, has been the cabinet's lead person for the voluntary environmental remediation (brownfields) regulations and has been representing the cabinet on the Kentucky State Board on Electrical Generation and Transmission Siting.

List served as the state representative from the 79th District from 1978-84 and as a governmental affairs representative for Kentucky Utilities Company and Louisville Gas and Electric. In 1999, he was named director of public affairs for Kentucky Utilities/Louisville Gas and Electric.

List holds a bachelor of public administration degree from the University of Mississippi.

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Bickford leaves legacy

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Houston Creek runs through Paris, Kentucky in Bourbon County. During winter months, the creek creates a serene landscape with beautiful snow-covered oak trees. Photograph provided by Merle Wasson, Division of Waste Management.

A highly distinguished career in the U.S. Army may have been surpassed by the impact the late James E. Bickford left on Kentucky's environment following his seven years as secretary of the Natural Resources and Environmental Protection Cabinet.

Secretary Bickford leaves legacy of public service

By Mark York
Office of the Secretary

James Bickford passed away on Oct. 25, 2002, following a fight with cancer.

A retired brigadier general, Bickford was appointed secretary by Gov. Paul Patton in 1995 and immediately focused his attention on cleaning up Kentucky. Under his leadership, the cabinet began tackling illegal dumps, waste tire piles, straight sewer pipes, large, confined animal feeding operations and brownfields.

Bickford also issued a ruling during his tenure prohibiting surface mining near the Pine Mountain Settlement School in Harlan County and worked with Patton to secure mineral and timber rights near the peak of Black Mountain, also in Harlan County.

"Secretary Bickford has been one of the most successful cabinet secretaries in the history of the Natural Resources and Environmental Protection Cabinet," Patton said. "He provided leadership to one of the most controversial cabinets in state government."

Bickford may best be known for his partnership with U.S. Rep. Hal Rogers, R-Somerset, in creating the PRIDE program. PRIDE (Personal Responsibility In a Desirable Environment) targets straight sewer pipes, illegal dumps and environmental education initiatives in a 40-county area of eastern Kentucky.

"This program would not have become the success that it is without General Bickford's personal commitment of time, energy and vision," said Rogers. "Although General Bickford is no longer with us, his spirit will live on whenever we look out upon the beautiful hills, lakes, and rivers that make up Kentucky."

The eastern Kentucky PRIDE program proved so successful that U.S. Rep. Ernie Fletcher, R-Lexington, established a Bluegrass PRIDE program for his central Kentucky district, again partnering with Bickford and the cabinet.

> *We always looked forward to Secretary Bickford's office visits because it gave everyone a chance to informally meet with, and address individual concerns with, the secretary in comfortable surroundings.*
>
> Tim Kelly
> Middlesboro regional office supervisor

Born in West Virginia, Bickford was raised in Harlan County, Kentucky, and graduated from the Tennessee Military Institute. His father, Estill Bickford, ran a coal company store in Harlan County while his mother, Alma Bickford, was a schoolteacher.

Bickford obtained his bachelor's degree and a commission as second lieutenant in the Army from Eastern Kentucky University. Bickford also received a master's degree from the Florida Institute of Technology.

His Army career took Bickford to posts in England, Germany, France, Korea and Vietnam. During the Persian Gulf War he commanded the Defense Fuel Supply Center, which bought, distributed and stored all of the fuel worldwide for the Army, Navy, Air Force and Marines. His unit was awarded the Joint Meritorious Unit Award for its performance in the war.

Bickford received numerous decorations during his 32-year career in the Army, including the Defense Distinguished Service Medal, the Army Distinguished Service Medal, the Legion of Merit, the Bronze Star with Oak Leaf Cluster, the Defense Meritorious Service Medal, the Army Meritorious Service Medal with Oak Leaf Cluster and the Army Commendation Medal with Oak Leaf Cluster.

After retiring from the Army, Bickford accepted a post with the U.S. Department of Energy in Washington, D.C., as director of Emergency Operations and Plans. Bickford was responsible for plans and reaction to disruption of energy sources during disasters in the United States.

Bickford returned to Kentucky to begin a consulting business, but was tapped by Patton to head the Natural Resources and Environmental Protection Cabinet.

He made it clear that as cabinet secretary he wanted to strike a balance between a clean environment and jobs.

Bickford brought several management tools with him from the Army:

- A "top 10" list—a list of the ten most important issues facing the cabinet;
- Customer service training for all cabinet employees;
- A "skunk works" group to eliminate a backlog of several thousand underground storage tank cases.

Bickford was also concerned about field office staff, whom he called the cabinet's front-line troops. He began attempting to visit each of the 23 field offices at least once each year. There were many times that first year when field staff told him that he was the first cabinet secretary to ever visit that office.

"We always looked forward to Secretary Bickford's office visits because it gave everyone a chance to informally meet with, and address individual concerns with, the secretary in comfortable surroundings," said Tim Kelly, regional office supervisor for the Department of Surface Mining's office in Middlesboro. "It's not very often, over the 25 years of my state service, that I have been afforded that opportunity."

"The thing that always impressed me personally the most about Secretary Bickford was the fact that he was so personable," Kelly said. "He never failed to find some common ground with each member of my staff to carry on a sincere conversation."

If the field staff had any problems, he wanted not only to hear them, but also would actually try to solve them.

"In his commitment to the field he always ensured that the field offices had the necessary equipment needed to perform their jobs," said Kerry McDaniel, field operations branch manager for the Division of Waste Management's Columbia office.

"He obtained the reclassification of all field office inspectors, approved paid vehicle liability insurance, the filling of vacancies for inspectors and the reclassification of field office secretaries to administrative specialists," McDaniel said. "Without his support and influence the reclassification for the field office inspectors and secretaries would never have been accomplished."

Without fail, Bickford always mentioned cleaning up illegal dumps when he met with field office staff.

Bickford began to lead an assault on the thousands of illegal dumps marring Kentucky's landscape. Cabinet investigators were sent to active dumpsites dressed

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OPPOSITE PAGE: (top left) ***James Bickford dedicated 32 years to the military, receiving numerous decorations for his leadership and performance.*** **(left)** ***In December 1995 Bickford was officially sworn in as the leader of the Natural Resources and Environmental Protection Cabinet.***
THIS PAGE: (far left) ***Bickford helps clean up an illegal dump.*** **(above left)** ***Bickford and Rep. Hal Rogers attend a PRIDE cleanup event.*** **(left)** ***Bickford talks with Gene Blair from the Division of Water's Frankfort field office.***

Division of Creative Services and cabinet photographs

Ecotourism opportunities discussed at round table

By Leslie Cole
Environmental Quality Commission

Ewell Balltrip, director of the Kentucky Appalachian Commission, led a discussion among the 60 people gathered to discuss ecotourism opportunities in the Pine Mountain region.
Photo by EQC

Breathtaking views, early homesteads, old stone walls built by Civil War soldiers, upland bog areas, unique geological formations, wild turkey, white-tailed deer, unusual wildflowers and other plants are among the many attractions offered in the Pine Mountain region of southeastern Kentucky. It is these types of attractions that place the region in a prime position to target nature tourists.

The Kentucky Environmental Quality Commission (EQC) and the Pine Mountain Settlement School convened a half-day, by-invitation-only round table in Harlan County on Nov. 8 to bring together state, local and community leaders to generate ideas about how to move nature tourism forward in the region in a manner that will:

- strengthen and diversify local economies,
- bring in new jobs and businesses,
- increase tax revenues, while
- building community pride, protecting fragile resources and improving the quality of life for residents.

Growing Nature Tourism in the Pine Mountain Region

Trends reveal that nature tourism is growing. From the early 1980s to 2001 a national survey reveals an increase in nature tourists from 21 million to 70 million.

Mary Jeanne Packer, a consultant with the national nature tourism firm of Fermata, told round table participants that there is a strong interest in the outdoors among Americans. For example a Ducks Unlimited survey revealed that 44 percent of Americans participated in some level of birding, and 55 percent view wildlife while away from home.

"Nature-based tourism is booming," said Ann Latta, secretary of the Kentucky Tourism Development Cabinet. Latta noted that the tourism industry expenditures in Harlan County were recently $13 million compared to $5 million in 1996.

Harlan County offers many unique tourism adventures vested in the region's heritage, biodiversity, environment, culture and aesthetics, including the Pine Mountain Settlement School, Blanton Forest, Kentucky Coal Mining Museum, Little Shepherd Trail and Pine Mountain State Resort Park. Thanks to the recent passage of a bill during the 2002 legislative session, a 120-mile-long Pine Mountain Trail State Park will be created, which will further lure tourists to the area. These attractions place the Pine Mountain region in a prime position to pursue nature tourists, especially given the fact that ecotourism is among the types of tourism expected to grow in the future.

Building A Strong Nature Tourism Initiative

A number of programs and initiatives to support tourism development in the Pine Mountain region were reviewed at the round table. Several communities in the region have created tourism commissions and developed tourism plans. The Southern and Eastern Kentucky Tourism Initiative was established in 2000 to provide a tourism development blueprint for the area, and the PRIDE (Personal Responsibility in a Desirable Environment) program has also strengthened efforts to address environmental problems such as open dumping and wastewater treatment.

Participants expressed strong support for a strategic plan to explore nature

Continued on page 8

Nature Tourism Facts and Figures

- Tourism and travel generate $541 billion in direct expenditures in the United States, generating 7.8 million jobs.
- Tourism and travel is Kentucky's third largest revenue-producing industry, contributing $8.8 billion to the economy in 2001 and providing 168,500 jobs.
- 62 percent of all adults took a trip to a small town or village in the United States within the past three years.
- Nature travel is estimated to be increasing at an annual rate between 10 and 30 percent a year.
- Nature activities such as birding, watching wildlife, and viewing scenery and natural vegetation are among the most rapidly growing types of adventure travel.
- 76 percent of U.S. travelers would like to visit someplace they have never been before, and 48 percent are interested in a destination that is remote and untouched.

Sources: Ky. Tourism Development Cabinet; Travel Industry Assn. of America; Fermata Inc.

Kentucky schools are learning to be smart about energy

By Karen W. Landry
Division of Energy

Energy is a major budget item for all of America's schools—with spending totaling more than $6 billion per year. The U.S. Department of Energy (DOE) estimates America's schools could save 25 percent of that money—$1.5 billion every year—through better building design, widely available energy-efficient and renewable energy technologies, energy education for students and staff, and improvements to operations and maintenance. Energy costs are generally the second largest budget item in most school districts, second only to salaries. Many schools are wasting a huge percentage of their annual budgets through outdated and inefficient equipment.

Kentucky schools are not exempt from high energy expenditures. In fact, Kentucky schools spend nearly $1 billion every 10 years on energy costs. According to preliminary estimates, Kentucky's total electric bill per student is 11 percent higher than the national median, and electric consumption per student is 59 percent higher.

To assist the nation's kindergarten-12 schools in reducing these energy costs, the U.S. DOE launched the Energy Smart Schools program in 1998. Energy Smart Schools' partners include nonprofit organizations, government agencies, trade associations, businesses and community groups.

In 2002, the Kentucky Division of Energy became a partner in the national Energy Smart Schools program. The Kentucky Energy Smart Schools program focuses on marketing to school administrators, facilities managers and educators the availability of a broad spectrum of energy programs that address both school facilities and school curricula.

The Kentucky Energy Smart Schools program addresses:

- building energy efficiency improvements through retrofits financed through energy savings performance contracts (ESPCs) and improved new construction,
- school transportation practices,
- education programs,
- procurement practices, and
- linkages between school facilities and activities within the surrounding community.

Successful building retrofit, operation and maintenance, procurement and other building efficiency program elements are also being marketed to the broader building community, including municipalities, universities, hospitals and commercial buildings. Principal partners in the program include the Kentucky Division of Energy, National Energy Education Development (NEED), Energy Services Coalition, Union Light, Heat and Power and the Kentucky Department of Education.

The goals of the program are to:

- improve learning and teaching environments,
- reduce energy consumption and costs, and
- provide instructional material to teach students about the importance of energy conservation and efficiency through hands-on lessons.

The benefits of the program are far reaching. When less money is spent on energy, more dollars are available for students. In addition to dollar savings, Energy Smart schools are more comfortable and better places in which to learn than traditional school buildings. Studies show a direct relationship between the physical characteristics of a school building and improved standardized test scores. One recent study of school districts in California, Washington and Colorado shows a correlation between increased daylighting and improved student performance.

Indoor air quality is an important part of the Energy Smart school process. There are any number of factors that can influence the air quality inside our school buildings. An Energy Smart school provides better indoor air quality by providing adequate ventilation and preventing moisture accumulation. Energy Smart schools are healthier and they sustain tax revenue by lowering student absenteeism.

An Energy Smart school utilizes building efficiency to reduce the cost of running the school building while, at the same time, making the building healthier, more comfortable and a better place in which to learn and teach. Schools that are smart about energy provide more money for the classroom, a better learning environment and increased energy awareness.

The program also enhances a school's curriculum and increases students' awareness of energy. Energy learning activities ensure that students get hands-on educational opportunities, learn about energy and the environment and become future consumers and leaders who understand the value of being smart about energy. The KyNEED project supplies grade-appropriate instructional units aligned with the Kentucky Program of Studies for the Energy Smart Schools program.

Energy Smart schools is part of the U.S. DOE's Rebuild America program, a network of hundreds of community-based partnerships across the nation that are dedicated to saving energy, improving building performance, easing air pollution through reduced energy demand and enhancing the quality of life through energy efficiency and renewable energy technologies.

Rebuild America offers school districts, free of charge, resources and technical assistance to help save energy in schools. Many schools are leveraging their energy savings to pay for needed improvements.

This McCreary County Firewise Council exhibit provided information about the council's accomplishments, wildfire survival and arson prevention.
Division of Forestry photo

Kentucky takes action against wildland arson

By Gwen Holt
Division of Forestry

During the fall of 2001, Kentucky residents in the eastern and southeastern part of the state were battling the worst forest fire season since 1987. Most of the fires were intentionally set by arsonists, burning more than 140,000 acres.

The epidemic of wildland arson fires that have plagued that region for the last several years prompted the Kentucky Division of Forestry to ask for Gov. Paul Patton's assistance in dealing with this costly and dangerous crime. Gov. Patton agreed and proclaimed the week of Oct. 6-12 as "Take Action Against Wildland Arson Week."

As a result, the Governor's Summit on Wildland Fire and Arson: Putting our Communities at Risk was held at Jenny Wiley State Resort Park. The summit brought together local, state and federal agencies and citizens to encourage them to take an active role in their communities to stop wildland arson.

The goal was to increase awareness about the severity of this issue, educate the public and local officials about the total cost of wildland arson and ask for solutions.

The day-and-a-half summit brought to light just how serious wildland arson is in Kentucky. Various speakers provided information about the impact of wildland arson to industry, tourism, health, private landowners, schools, roads, citizen and firefighter safety and the degradation of Kentucky's forestland.

In his welcoming statement to summit attendees, Sen. Johnny Ray Turner, D-Drift, offered his help in preventing this crime and said he was shocked at the wildland fire statistics in the region. He said that not all legislators are fully aware of the seriousness of this crime, and he encouraged citizens to talk with their legislators to increase their awareness of wildland arson and to ask for their help.

Ann Latta, secretary of the Tourism Development Cabinet, discussed wildland arson's impact on tourism. Kentucky's state parks and campgrounds are used less when wildland fires occur. "Potential visitors choose other places to visit when Kentucky's forests are burning," she said. The fall's dramatic change in leaf color makes October the highest tourism month outside of summer months. Unfortunately, October is also when the state's fall fire season begins.

The intense smoke from wildland fires impacts a community in several ways. First, and most obvious, is the health impact. Kathy Rubado, director of marketing and public relations at Highlands Regional Medical Center in Prestonsburg, reported that incidences of respiratory illnesses are greatly accelerated during fire season. Many of the local residents are elderly and vulnerable to developing respiratory illnesses due to heavy smoke. Since many of the patients treated are on Medicare or Medicaid, the added costs of treating these patients are passed on to everyone.

Another way a community is impacted is through high absenteeism at work and school. Schools are often forced to close because of smoke or the direct threat of a fire. The Pike County Board of Education reported that schools were closed for five days in 2001 due to wildland fires.

Low visibility occasionally causes road closures, impacting local businesses and preventing citizens from reporting to work.

Summit attendees heard a personal account of the devastating costs one family has dealt with as a result of wildland arson in Kentucky. Special guests, Patricia Evans and her son, Krs, spoke about the devastating impact wildland arson is having on their lives.

Krs is now permanently disabled and confined to a wheelchair due to an accident fighting Kentucky wildland fires. Once a world champion snowboarder, Krs is now trying to put his life back together. "Something can be done about wildland arson in Kentucky, but it will take time, and you will run into speed bumps," Evans said. He told summit attendees not to be discouraged, but to think of the speed bumps he now deals with daily.

Finding solutions was a goal of the summit. Participants offered a number of suggestions—the most frequently being community education.

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Natural areas protected with new approach

By Ron Scott
Kentucky State Nature Preserves Commission

The use of conservation easements for protecting significant natural areas from development and encroachment has been increasing throughout the country in recent years. Essentially, when a landowner donates or sells a conservation easement on all or a portion of his property to a government agency or qualified private land trust, he is conveying his right to develop or otherwise adversely impact the natural quality of the land.

In October 2002, two Franklin County residents generously donated conservation easements to the Kentucky State Nature Preserves Commission in order to permanently protect and preserve their ecologically significant properties.

Donald Gates donated a conservation easement to the commission covering 112 acres of forested land along the Kentucky River in order to help preserve Braun's rockcress *(Arabis perstellata)*, listed as an endangered species by the U.S. Fish and Wildlife Service since 1995. Braun's rockcress is found only in Franklin, Owen and Henry counties in Kentucky and in one county in Tennessee. Although there are several private landowners whose property contains populations of this rare plant who have enrolled in the commission's voluntary Natural Areas Registry program, the Gates' property is the first permanently protected site in Kentucky. In addition to the donation of the conservation easement, the site was also officially dedicated as the River Cliff State Nature Preserve.

The commission also received a donated conservation easement on another very important natural area owned by the Julian family of Frankfort. Jennie Julian, along with her daughter, Jane, and son, William, conveyed an easement covering 42.5 acres of land containing one of the few remaining examples of a Bluegrass savanna ecosystem. This type of ecosystem once covered large portions of central Kentucky and is characterized by grasslands interspersed with large, open-grown trees such as Blue Ash, Chinquapin Oak, Bur Oak and Kentucky Coffee. This property was dedicated as the Julian Savanna State Nature Preserve—the Commonwealth's 44th state nature preserve.

The commission will monitor and uphold the terms of the conservation easements and manage both sites as state nature preserves. Because the landowners retain ownership of their respective properties, neither location will be open to the general public. However, the Kentucky State Nature Preserves Commission is fortunate to have this opportunity to partner with private landowners to further its goal of protecting Kentucky's biodiversity.

For more information about conservation easements and other land protection options available to private landowners, contact Ron Scott, land protection specialist, at (502) 573-2886 or by e-mail at Ron.Scott@mail.state.ky.us.

TOP: ***A tree on the Julian Savanna State Nature Preserve property.*** **ABOVE:** ***Braun's rockcress is found only in Franklin, Owen and Henry counties in Kentucky.***
Kentucky State Nature Preserves Commission photos

Kentucky suffers mild drought during fall months

By Gwen Holt, Division of Forestry
Maleva Chamberlain, Division of Water
Martin Bess, Division of Conservation

The summer of 2002 experienced a short-term drought that started in June with a shift in weather patterns. On Sept. 6, the Division of Water issued a water shortage advisory for the Bluegrass climatic region. A water shortage watch indicates that conditions are more favorable than usual for water shortages to occur. The watch is called for when water supply data, such as amount of rainfall, reservoir levels, streamflow and the Palmer Drought Index, indicate the potential for water shortages.

The Bluegrass, East and West climatic divisions were in a moderate drought at that time, with the Bluegrass area approaching severe drought, according to the Palmer Drought Index. The Central climatic division was in mild drought, approaching moderate drought.

However, in late September another shift in weather patterns brought tropical storms that put an end to dry conditions. Wave after wave of moist tropical air collided with cold fronts over the state, bringing rains to refill streams and reservoirs, and the water shortage advisory was lifted. October 2002 was one of the wettest months in 30 years.

Last summer's drought conditions had forestry officials concerned about the severity of the upcoming fall forest fire hazard season. Luckily, the record rainfall in September and October and the periodic rainfall in November made the fall of 2002 one of the most uneventful forest fire seasons in a long time. In the last three years a record number of wildland fires charred nearly 400,000 acres. This year, as of Nov. 15, only 23,400 acres had burned.

The areas hardest hit by the drought saw a reduction in crop yields, increased stress on livestock, lower levels of water in ponds, increased irrigation of tobacco crops and reduced income to farmers.

Kentucky takes action against wildland arson

Continued from page 5

Expanding the current wildland fire prevention educational efforts beyond schools to include churches, local government, associations, civic clubs, chambers of commerce and many other outlets will provide an outreach to adults as well as children.

Another recommendation was to increase the number of wildland fire arson investigators and work more closely with local judges and prosecutors to increase the prosecution success rate. Stronger cases will provide for increased prosecution of arsonists thus creating a deterrent to set fires.

> ***We want to empower communities to stop wildland arson in their areas by stepping forward and reporting suspicious activity and information that may be vital in protecting their homes and lives.***
>
> Leah MacSwords
> Division of Forestry director

During the summit, a Division of Forestry employee portrayed an anonymous arsonist behind a curtain. As part of the written skit, he thanked Kentuckians for not turning him in to the authorities and lit a match as he walked away.
Photo provided by Gwen Holt

Some arson fires have been traced to individuals on all-terrain vehicles or ATVs. One suggested solution to reducing fires started by ATV riders is to require the vehicles to be registered and licensed. This action may also manage the unauthorized use of vehicles trespassing on private lands.

One of the major issues addressed at the summit was how to make a community care about this problem. Wildland arson is a local issue, and research shows that it is someone who lives within the community that is starting the fires.

The majority of wildland arson fires occur in eastern and southeastern Kentucky. The PRIDE (Personal Responsibility in a Desirable Environment) program has experienced great successes with the reduction of illegal dumping and straight pipe usage in these areas. It was suggested that tying wildland arson prevention efforts to the PRIDE program would provide a large volunteer network of local people to help educate their community about this issue.

"We want to empower communities to stop wildland arson in their areas by stepping forward and reporting suspicious activity and information that may be vital in protecting their homes and lives," said Leah MacSwords, director of the Division of Forestry. "We also encourage citizens to take steps to protect their homes by creating defensible space around their property. Talk with your local officials about organizing a Firewise Council in your community," MacSwords said. These councils work with local businesses and property owners to reduce the wildland fire risk to their communities.

For more information about creating defensible space around your home and establishing a Firewise Council, contact the Division of Forestry at (800) 866-0555 or visit the division's Web site at **www.forestry.ky.gov**

Getting back to normal in Junction City

By Matt Hackathorn
Division of Waste Management

More than eight months have passed since the Kentucky Department for Environmental Protection (DEP) learned about an environmental problem in Boyle County caused by the chips of old automobile battery casings that had been scattered throughout the soil of a new neighborhood development. A thorough investigation of the area last spring determined that the chips caused extensive lead contamination to the area. The DEP quickly requested and received assistance from the U.S. Environmental Protection Agency (EPA) to help clean up the potentially harmful contamination.

To date, the cleanup of the two contaminated yards that posed a threat to human health is 95 percent complete. The White and Caldwell families living along Jones Lane in Junction City are now back in their homes after being uprooted and sent to a local motel for about two months while construction workers used heavy equipment to excavate the tainted soil and replace it with clean topsoil.

Lead contamination can cause mental and physical impairments, particularly in children ages six and under. Both the Whites and the Caldwells have children under the age of six. The two families moved into their new homes in October 2001.

"The DEP appreciates the timely response we received from the EPA," said Rob Daniell, director of the Kentucky Division of Waste Management (DWM). "Sometimes cleanups of this nature can take much longer. Since human health was at risk, we were able to remove the threat of lead contamination to area residents relatively quickly."

The EPA's environmental contractors experienced unseasonably wet weather in October, which delayed the completion of the last landscaping requirement. A concrete remediation treatment pad that was constructed behind the White property has now been removed, but the area still needs to be graded and reseeded. The contractors used the pad to mix the contaminated soil with triple phosphate and render the material nonhazardous.

"The unfinished remediation pad area will likely be completed in the spring," said Bill Burger, manager of the DWM Field Operations Branch. "Aside from that, the landscaping of those two yards is much better now. The construction team meticulously graded the properties with river bottom soil and improved drainage by sloping the yards away from the houses so water won't pool. All new grass was sewn, and the properties look really nice."

Also in the spring the EPA and DEP will turn their attention to an approximately one-acre area of undeveloped land across from the White and Caldwell properties where samples showed concentrated levels of lead reaching 90,000 parts per million (ppm). Naturally occurring lead in Kentucky is generally measured at around 50 ppm or less.

"We've significantly decreased the potential for human exposure to lead in the area across the street," said Burger.

The topsoil in the yards of both the White (left) and Caldwell properties was dug up and replaced after the Kentucky Department for Environmental Protection found that the properties contained elevated levels of lead. The concentrated levels were identified following the discovery of plastic automobile battery casings buried throughout the new neighborhood development. Photos by the Division of Waste Management

"Through extensive sampling we were able to define the extent of contamination and put a fence around the area of concern. The construction crew excavated the highest concentrations, mixed it with triple phosphate and placed the nonhazardous material in an on-site trench. The material is currently covered in plastic until the construction crew can get back out there to finish the remediation."

The DEP's standard for cleanup of lead contamination is 50 ppm or less for unrestricted residential use. All contaminated soil is being transported to the Tri-K Landfill in Lincoln County after being rendered nonhazardous.

Ecotourism opportunities discussed at round table

Continued from page 3

tourism opportunities in the region based on:

- Authentic experiences
- Theme-based trails and nature attractions
- Ecological classrooms
- Sustainable products
- Variety of related markets
- Heritage/beauty of the area

"We need to inventory our assets and better understand how counties can grow tourism in our communities," Harlan County Judge-Executive Joe Grieshop told the group.

It was suggested that the Pine Mountain Trail State Park serve as a centerpiece for a regional ecotourism strategy with a variety of complimentary recreation and other activities along the corridor. The opportunity for the region to serve as an ecological classroom was also mentioned as a huge potential market for attracting scientists, naturalists and others to Pine Mountain.

EQC will work with the round table participants to develop recommendations to move nature tourism forward in the region.

For more information visit EQC's Web site at **www.kyeqc.net** or the Southern and Eastern Kentucky Tourism Development Association Web site at **www.tourseky.net.**

AML permanently fills and marks mine shaft

By Christina Rice
Department for Surface Mining Reclamation and Enforcement

ABOVE: ***Roofing tin and bricks once covered the hole that opened up in Estelle Edwards yard.*** **LEFT:** ***A new concrete monument now marks the area where the mine shaft was located.*** Photos by Don Laffoon and Ken Mattox, Department for Surface Mining, AML

When Estelle Edwards discovered a four-foot-diameter hole opening up in her yard, she placed roofing tin over it because she was concerned that neighborhood children might fall into the hole. Afterwards, Edwards of West Louisville, a small Daviess County community, contacted the Department for Surface Mining Reclamation and Enforcement (DSMRE). Upon inspection, Division of Abandoned Mine Lands (AML) personnel determined that the 28-foot-deep hole, located within 60 feet of Edward's home, was an abandoned deep mine ventilation shaft.

Existing mine maps showed an inactive underground mine located southeast of the property, and Edwards remembers her deceased husband, who worked in the mine, saying that there was probably an air shaft nearby. Openings such as these are extremely dangerous and must be sealed for public safety.

Coal extraction in Kentucky is accomplished through both surface and underground mining techniques. Historically, coal extraction occurred primarily through underground mining. Three underground mining methods are used to access the coal seam—adits, slopes and shafts. Adits are horizontal mine entrances created to access the coal seam from an outcrop. Slopes are used to enter mines at locations other than an outcrop or as an entrance to a below-drainage mine. Vertical shafts have many purposes including mineral extraction, entry and exit from the mine, emergency escape, ventilation and dewatering.

It is unknown how many shafts exist in the state of Kentucky. Those indicated on U.S. Geological Survey topographic maps represent only a fraction of the shaft totals.

Before governmental regulations, mine operators were not required to reclaim mine shafts. Those that were reclaimed may be prone to failure due to substandard techniques or materials, consequently posing a threat to public safety. Since the passage of the federal Surface Mining Control and Reclamation Act in 1977, mine shafts are required to be sealed in an approved manner.

The shaft that opened in Edward's yard is only one of many open shafts reported in Kentucky every year. The AML program conducts shaft-closure projects annually, typically closing those shafts that have been reported by concerned citizens.

Until now, no protocol existed for permanently marking abandoned shafts or for recording the location and related information about the method of closure. To make this information more accessible, and in the interest of public safety, DSMRE Commissioner Carl Campbell initiated a project to develop and maintain a geographic information system (GIS) of known or reported vertical mine shaft locations in the Commonwealth. The GIS will include data from reclamation projects, permitting activities and historical data including shafts identified on topographic maps, geologic quadrangle maps and underground mine maps filed with the Department of Mines and Minerals.

This data will be housed in the Surface Mining Information System database. This database, accessible to the public through the Internet, will include information about the latitude and longitude of the sealed shaft opening, a shaft identification number, dimensions and type of shaft, closure information and information about the mine.

During the summer of 2001, a wide range of historic documents was examined to identify mine shaft sites. An inspection of state topographic and geologic maps yielded approximately 675 shaft locations, while another 175 shafts were identified from AML reclamation and inventory reports. As locations were pinpointed on the maps, they were digitized and stored in GIS. From these efforts, approximately 850 sites were located—799 in the west Kentucky coalfield and another 51 in the east Kentucky coalfield.

Other state and federal agencies have also helped identify mine shaft sites. The Department of Mines and Minerals provided mylar overlays of mined areas for every coal seam in the state, along with an index of mine shafts. It also provided topographic maps obtained from coal companies and private residents, which identified approximately 450 shafts.

Continued on next page

Floyd County AML site to be cleaned up

By Mark York
Office of the Secretary

Reclamation will reduce local flooding and improve aquatic life in nearby streams.

Hank List, secretary
Natural Resources and Environmental Protection Cabinet

One of the worst abandoned mine sites in eastern Kentucky will be reclaimed under a $3.6 million contract announced in November by the Natural Resources and Environmental Protection Cabinet. The abandoned mine site in Floyd County has been polluting the area for years.

The project will reclaim the Spewing Camp Branch refuse site, a 60-acre area containing approximately seven million cubic yards of coal refuse. The refuse was placed on the site by the Island Creek Coal Co., which mined the site from 1952-81.

In 1989 Enerpro Inc. received a permit to reprocess the refuse, but stopped operations in 1993.

"Water run-off from this site is very high in iron, turning the creek red and has been depositing sediment in nearby streams," said Hank List, secretary of the Natural Resources and Environmental Protection Cabinet. "Reclamation will reduce local flooding and improve aquatic life in nearby streams."

Hawkeye Construction, LLC of Robinson Creek, Kentucky, was awarded the contract to clean up the site, which is expected to take two years to complete.

The refuse pile will be shaped and covered with soil from two other sites in the area and with soil adjacent to the site. Approximately two feet of soil will be placed over the area and silt control will be added to control run-off during construction.

Funding for the reclamation will come from the bond posted by Enerpro, state Abandoned Mine Land funds, Appalachian Clean Streams funds and the state's Supplemental Bond Forfeiture Reclamation Fund.

Spewing Camp Branch refuse site has been polluting the area for years. Cabinet photo

AML permanently fills and marks mine shaft

Continued from previous page

A query of the federal Office of Surface Mining's Abandoned Mine Lands Information System database revealed another 114 vertical shafts. Altogether, an additional 565 shaft locations were discovered and added to the GIS through intergovernmental cooperation.

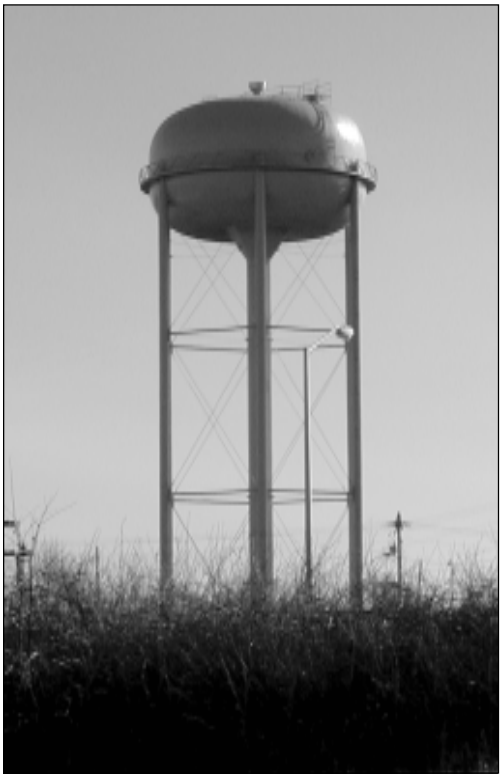
Currently more than 2,000 maps have been examined for information leading to the location of mine shafts. The information resides on the GIS database and also has been placed on the Internet for easy access by the public, private industry and other state agencies in the hope of preventing future mine shaft incidents. As more shafts are discovered, mechanisms will be provided to facilitate inclusion of this information into the GIS.

Once an abandoned shaft is reclaimed by AML, a concrete monument is placed above the sealed opening, and a permanent marker displaying the shaft identification number alerts the public to the potential hazard.

Newly sealed shafts will be located in the field utilizing GPS technology and/or conventional surveying techniques, and their coordinates will be entered into the GIS database. Once this information is placed on the Internet, interested citizens, industry and governmental agencies will be able to view shaft locations and obtain needed information on these potentially dangerous mining features.

The shaft that opened in Edward's yard was filled by AML in October 2002, and a permanent concrete monument was placed on the site. To date, six abandoned mine shafts have been reclaimed and marked in this manner.

Visit the Department for Surface Mining Reclamation and Enforcement Web site at **http://www.surfacemining.ky.gov/gis/shapefiles.htm** to download a copy of the current mine shaft data.



Public water systems face challenges into 2005

By Jeff Grubbs
Division of Water

Every year, the average American household uses about 476,000 gallons of fresh water, drinking an average of 1 billion glasses of tap water per day. Kentuckians get their drinking water from one of 595 public water systems across the state.

Over the next few years, these public water systems must adhere to stricter drinking water requirements. The Safe Drinking Water Act (SDWA) Amendments of 1996 improve public health protection from contaminants that may occur in drinking water.

Three of the amendments, or rules, remove contaminants by controlling microbes (bacteria and viruses), lowering the maximum turbidity level (cloudiness of the water), removal of total organic carbon and reduction of disinfection byproducts. This reduces the risk of acquiring a waterborne disease or other contaminant from a glass of tap water.

The Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1-DBPR) and Interim Enhanced Surface Water Treatment Rule (IESWTR) became the first of a set of rules under the 1996 SDWA amendments that improve public health protection. The Stage 1-DBPR works to reduce exposure to chemical disinfectant byproducts. These byproducts are formed when disinfectants, like chlorine, are added to the water that react with organic carbon. Total organic carbon is the total amount of substances in water that come from animal or plant sources.

The IESWTR works to remove microbes from tap water, particularly one microbe called *Cryptosporidium*. Physical removal is required to control *Cryptosporidium* because it is highly resistant to standard disinfection practices.

Large public water systems that serve a population greater than 10,000 with a surface water source began complying with these two rules last January. Surface water comes from lakes, rivers and streams.

Smaller public water systems (serving less than 10,000) that use surface water or groundwater face challenges to meet the Stage1-DBPR requirements by Jan. 4, 2004. Groundwater is water that comes from below the ground from underground aquifers. According to the Division of Water's Drinking Water Branch data (as of Nov. 1, 2002), the Stage 1-DBPR will affect 208 groundwater systems in Kentucky and 103 small surface water systems out of the total 590 small surface water systems in the state.

A third rule titled the **Long Term 1 Enhanced Surface Water Treatment Rule (LT1)** requires small systems to remove microbes, similar to the IESWTR for large water systems. There are 103 small surface water systems in Kentucky, each serving a population less than 10,000, that face challenges to meet the requirements of LT1. The LT1 rule becomes effective for all small water systems that use surface water as the water source on Jan. 14, 2005.

While these rules reduce the risk of waterborne disease, water systems face the challenge of the cost to upgrade their treatment. On a national level, the U.S. Environmental Protection Agency (EPA) estimates the annual cost of the LT1 will be $39.5 million. Approximately 84 percent ($33.1 million) of the total annual costs are imposed on public water systems. States incur the remaining 16 percent ($6.4 million annually). The turbidity provisions, which include treatment changes, monitoring and reporting, account for the largest portion of the total rule, costing $37.7 million annually. Water systems will incur most of the turbidity-provision costs. As a result of these costs, a water system must take a critical look at its technical, managerial and financial abilities to meet these new requirements, a process referred to as capacity development.

The Capacity Development Report recently prepared by the Drinking Water Branch, (see *Division of Water sends report to governor* on the next page) discusses the strategy for public water systems to improve their capacity. The report also identifies technical assistance and infrastructure funding available to water systems.

Water systems are encouraged to contact Drinking Water Branch compliance officers, technical assistance or state revolving fund staff at (502) 564-3410 if they have questions about any of the new rules or need help with loan-funding guidance. A list of Drinking Water Branch employees can be found at **http://water.nr.state.ky.us/dw/employees.htm.**

Technical information on the 1996 SDWA amendments is available on the U.S. EPA SafeWater Web site, **http://www.epa.gov/safewater/** or the Safe Drinking Water Hotline, (800) 426-4791, **http://www.epa.gov/safewater/drinklink. html.**

Information is also available from the Kentucky Drinking Water Branch Web site **http://water.nr.state.ky.us/dw/**, which provides links to many of U.S. EPA's fact sheets, publications and technical references.

Division of Water sends report to the governor

Jeff Grubbs
Division of Water

Public drinking water systems provide drinking water to 90 percent of Americans. These systems are regulated by the Kentucky Division of Water, while the U.S. Environmental Protection Agency (EPA) provides oversight to the state for implementing and enforcing certain drinking water standards that protect public health.

In accordance with the Safe Drinking Water Act (SDWA), a national law safeguarding tap water in America, Kentucky is required to establish a strategy that helps its 595 public water systems improve capacity. The act also supports improved public health protection through the water systems' production and distribution of clean, safe drinking water. "Capacity" is a public water system's technical, managerial and financial ability to meet state and federal requirements.

"The cabinet adopted a capacity development strategy to ensure that we receive the full benefit of the monies available from the Drinking Water State Revolving Fund, but more importantly, to assist public water systems in doing the best possible job of delivering safe, clean water to Kentucky's citizens," said Natural Resources and Environmental Protection Cabinet Secretary Hank List.

Each strategy must contain two elements: 1) the legal authority to demonstrate that all new public water systems have the ability to meet state and federal capacity requirements, and 2) a strategy to assist existing water systems in improving their capacity.

Two years ago, the Division of Water adopted and sent to the U.S. EPA its strategy to help existing water systems improve capacity. According to SDWA requirements, two years after adoption of the strategy, the Division of Water was then to submit to the governor a report on the effectiveness of the strategy and the progress made toward improving technical, managerial and financial capacity of water systems in Kentucky.

Last September, the Division of Water's Drinking Water Branch satisfied that requirement by providing Gov. Patton with Kentucky's Capacity Development Report. The SDWA also requires that a similar report be submitted every three years in the future.

The report contains five items to be included in the strategy. Those items are:

1) The methods or criteria that the cabinet will use to identify and prioritize the public water systems most in need of improving technical, managerial and financial capacity.

2) A description of the institutional, regulatory, financial, tax or legal factors at the federal, state or local level that encourage or impair capacity development.

3) A description of how the cabinet will use the authority and resources of the SDWA to assist public water systems in complying with drinking water regulations; encourage the development of partnerships between public water systems to enhance the technical, managerial and financial capacity of the systems; and assist public water systems in the training and certification of operators.

4) A description of how the cabinet will establish a baseline and measure improvements in capacity to comply with drinking water law and regulations.

5) An identification of the persons that have an interest in and are involved in the development and implementation of the capacity development strategy (including all appropriate agencies of federal, state and local governments, private and nonprofit public water systems and public water system customers).

Since the adoption of the initial strategy two years ago, the Division of Water has seen public water systems improve regional infrastructure and capacity through mergers and consolidations. Success of the strategy's effectiveness is evident through continued mergers and consolidations of water systems and also in the reduction of the total number of public water systems. Additionally, there has been a reduction in the number of persistent water system violators. In August 2000, there were 698 public water systems and 41 persistent violators. These numbers have been reduced to 595 public water systems and 20 persistent violators.

The 14-page Capacity Development Report is available on the Drinking Water State Revolving Fund Web site at **http://water.nr.state.ky.us/dw/DWSRF/DWSRF.htm**. For more information on the compliance of public water systems in the state, see the latest annual compliance report from the Drinking Water Branch at **http://water.nr.state.ky.us/dw/ACR/2001ACR.htm**.

Report on water quality in Kentucky released

The 2002 Report to Congress on Water Quality in Kentucky is now available on the World Wide Web at **http://water.nr.state.ky.us/dow/2002-305b.htm**

The report satisfies requirements of the Clean Water Act for each state to submit a biennial report to Congress evaluating the quality of its streams, rivers and lakes. The Clean Water Act seeks to make the nation's waters "fishable and swimmable."

Training the monitors

Kentucky DEP regulators receive vital hands-on training

By Matt Hackathorn
Division of Waste Management

The majority of pollutants that are accidentally or intentionally released onto the ground eventually end up in the waters of the Commonwealth, either by washing into surface waterways or absorbing through the soil and eventually into groundwater. Over 35 percent of all Kentuckians (about a million and a half people) rely on groundwater from public supply systems, private wells and springs. Therefore, the Kentucky Department for Environmental Protection (DEP) monitors groundwater at landfills and other industrial sites with known or suspected pollution problems in an effort to keep groundwater contamination in check.

In October, 38 regulators from various branches of the Division of Waste Management and the Groundwater Branch of the Division of Water attended a two-day seminar on the proper installation and abandonment of groundwater monitoring wells. The purpose of the workshop was to refresh their knowledge and skills regarding this vital component of protecting Kentucky's environment.

Three employees from the Region IV U.S. Environmental Protection Agency (EPA) Science and Ecosystem Support Division in Atlanta, Ga., came to Kentucky and presented the short course, featuring one day of classroom instruction followed by a full day of hands-on experience.

"The regulation of groundwater monitoring wells is an area where DEP experiences some overlapping authority between branches," said Ron Gruzesky, manager of the Solid Waste Branch. "The Groundwater Branch certifies well drillers (environmental contractors who work in private industry) and determines well construction standards, but regulators from the Solid Waste, Hazardous Waste, Underground Storage Tanks and Superfund branches regulate the construction of wells at these facilities and whether the wells are functioning properly. So it's important for our folks to know what they're looking at when they conduct site visits."

A properly constructed monitoring well can indicate to a solid waste regulator, for example, how well a waste disposal construction system is performing. It can also provide data regarding how badly contaminated a site may be. Conversely, if a well is not properly constructed, the samples collected may provide inaccurate data.

"This training provided DEP staff with an opportunity to observe the various aspects of monitoring well construction in the classroom and in the field," said Peter Goodmann, groundwater branch manager in the Division of Water. "This was a great learning opportunity, especially for the younger staff, and it provided a forum for resolving issues as the DEP seeks to complete a consolidated approach to monitoring well construction."

Christopher Luffy of the Underground Storage Tanks Branch prepared a split spoon sampler tube to be used during construction of a groundwater monitoring well at a hands-on training event in October. The tube fits inside a hollow-stem auger drill bit and takes soil samples as it bores through the earth. Division of Waste Management photo

Nature plates change

By Mary Jean Eddins
Department for Natural Resources

Kentucky drivers are reminded that beginning in 2003 the Kentucky Warbler nature license plate will be replaced with a new design featuring the Viceroy butterfly, which is Kentucky's state butterfly.

Other minor changes will also show up on the Cardinal nature license plate and the bobcat nature license plate. Nature license plates cost an additional $10, and that money is used to purchase and preserve selected natural areas across Kentucky (see *Broke Leg Falls purchased with HLCF grant* on page 18).

Nature license plates are the best-selling specialty plates in Kentucky, and the Kentucky Heritage Land Conservation Fund Board, which oversees the nature license plate program, hopes Kentucky drivers will like the new changes.

To purchase a nature license plate, see your county clerk. If you would like more information about the Kentucky nature license plate program or the Kentucky Heritage Land Conservation Fund Board, contact Mary Jean Eddins at (502) 564-2184, e-mail mary.eddins@mail.state.ky.us or **www.nr.state.ky.us/nrepc/dnr/heritage/dnrhlcf.htm**

Large Franklin County tire dump cleaned up

By Matt Hackathorn
Division of Waste Management

The dump contained anywhere from 3,000 to 4,000 waste tires, which posed an environmental threat in the event of a fire and offered an ideal breeding ground for mosquitoes, snakes and other vermin.

A Kentucky company guilty of violating environmental regulations in three separate counties has helped make amends by cleaning up an historic tire dump as partial punishment.

Norwood Construction Inc. of Lexington completed a Supplementary Environmental Project (SEP) in October to avoid paying $21,500 in additional fines to the Natural Resources and Environmental Protection Cabinet. The company was cited for multiple environmental violations in Fayette, Franklin and Garrard counties. The company's violations included illegal disposal of solid waste and operating a transfer station without a permit.

The cabinet negotiated the cleanup of the illegal dump, which contained thousands of tires, through an agreed order with the company. Norwood Construction completed the SEP by the stipulated deadline of Oct. 15, 2002.

In addition to performing the community service, the company also paid $8,500 in fines. The cabinet sometimes offers violators of environmental laws the opportunity to perform SEPs to offset monetary penalties and to improve the quality of the environment.

"This sort of arrangement can work out very well for all parties," said Jeff Cummins, solid waste supervisor of the Waste Management Enforcement Branch. "The cabinet would not likely have been able to contract to have that historic dump cleaned up for less than $21,500, and Norwood already had the equipment needed to perform the work."

Cummins estimated that the dump contained anywhere from 3,000 to 4,000 waste tires. Large tire piles pose an environmental threat in the event of a fire, and they offer an ideal breeding ground for disease-carrying mosquitoes, snakes and other vermin.

According to Cummins, for several years Division of Waste Management personnel from the Frankfort Regional Office sought ways to get the dump cleaned up. "We are all very pleased to see this long-standing environmental problem resolved," he said. "The neighbors of the site are the real winners."

Norwood Construction was responsible for removing the waste tires and providing proof that the tires were properly disposed of at a permitted solid waste disposal facility.

ABOVE: ***Before: A Norwood Construction Company worker used a track hoe to remove waste tires from an illegal dump in October. Cabinet officials estimate that 3,000 to 4,000 tires were removed from the dump located along McCann Road in Franklin County.***

RIGHT: ***After: Neighbors living along McCann Road off of Highway 421 in Franklin County no longer have to deal with the mosquitoes, snakes and other vermin associated with a huge tire dump.***

Photos provided by the Division of Waste Management

Department completes strategic management plan

By Aaron Keatley
Department for Environmental Protection

For many months, the Department for Environmental Protection's senior managers have worked jointly to set a proposed agenda for Kentucky's environmental future. During November, the department finalized its 2002-03 Management Plan, which defines the department's mission, vision and principles. More importantly, it outlines the department's priorities for the next few years and sets specific deadlines for necessary environmental accomplishments.

Department for Environmental Protection Commissioner Robert Logan is pleased with the efforts in developing the plan and the document's potential to shape Kentucky's environmental future. "This management plan states the department's intensions to look beyond its existing programs and to focus on Kentucky's environmental resource needs," said Logan. "We have made considerable progress addressing many environmental concerns Kentucky has faced over the last decade, but in times of dwindling resources the agency must be certain that we have a coordinated and efficient approach for solving Kentucky's environmental problems. This plan is a necessary tool that allows the agency to proactively define our priorities, ensures that all of our program actions are aligned with these priorities and tracks our progress in accomplishing them."

> **"By keeping a focus on the environmental resources we are mandated to protect, our plan challenges the agency to think beyond its current activities and requires us to find ways where the many department programs can work together to achieve more."**
>
> Robert Logan, commissioner
> Department for Environmental Protection

The department's priorities, referred to as outcomes, are organized into two categories—environmental outcomes and behavioral outcomes.

The environmental outcomes list contains accomplishments that the agency would like to achieve in order to specifically improve Kentucky's air, water and land resources. For instance, one environmental outcome is to restore 25 percent of the miles of streams and acres of lakes that did not meet water quality standards in 1998 (as reported on the 303(d) and 305 (b) lists) back to water quality standards by Dec. 31, 2006, and to restore 45 percent of those streams by 2010 and 100 percent by 2018.

The behavioral outcomes include targets for pollution management, growth and development, compliance and environmental citizenship. A behavioral outcome listed in the plan is to reduce the amount of solid waste disposed in Kentucky by Dec. 31, 2007, by 20 percent from 2001 levels.

The department realizes how challenging it will be to achieve the outcomes listed in the management plan. "We didn't design our plan so that we would be able to achieve every outcome without having to evaluate the way we currently do business," explained Logan. "By keeping a focus on the environmental resources we are mandated to protect, our plan challenges the agency to think beyond its current activities and requires us to find ways where the many department programs can work together to achieve more."

Routine evaluation will be critical for achieving maximum success. Each year the department will document the progress that is being made toward each of the outcomes. This evaluation will permit the agency to adjust program focus as necessary to ensure that agency efforts are producing the expected benefit to Kentucky's environment and its citizens.

The management plan will be updated every two years. "This is a living document, and it will need to be modified as Kentucky's environmental needs change. It also is a vehicle to allow targeted discussion between the agency, public, regulated community and other government entities to ensure that the department's priorities are indeed correct for Kentucky. As needed, we will modify this plan to ensure that the agency is providing the best service to Kentucky that it possibly can," said Logan.

Questions related to the management plan should be submitted to Aaron Keatley at the Kentucky Department for Environmental Protection, 14 Reilly Road, Frankfort, KY 40601 or e-mailed to Aaron.Keatley@mail.state.ky.us

> **The Department for Environmental Protection's management plan is available electronically on the department's Web site at** http://www.dep.ky.gov.

Boone, Campbell and Kenton counties are designated attainment for federal standard

By Lona Brewer
Division for Air Quality

After several attempts, on Aug. 30, 2002, the U.S. Environmental Protection Agency (EPA) designated the northern Kentucky counties of Boone, Campbell, and Kenton to attainment for the federal 1-hour ozone standard.

The 1-hour ozone standard is set by the U.S. EPA and is one of several National Ambient Air Quality Standards set to protect public health and the environment. Compliance with the standard is based on a rolling three-year period. Up to three exceedances are allowed in a three-year period. If an air quality monitor records more than three exceedances, the area is considered in violation of the standard.

Ozone is a colorless gas that forms in the atmosphere from a photochemical reaction between volatile organic compounds (VOCs) and nitrogen oxides (NOx) in the presence of sunlight. Ozone can irritate and damage the respiratory system and may produce long-term or chronic illnesses. People who have underlying health problems such as asthma, bronchitis and emphysema, the very young and the elderly, or people who work outdoors a great deal of time, are more susceptible to the harmful effects of ozone.

The northern Kentucky area, which is regionally linked with greater Cincinnati, had been nonattainment for the 1-hour ozone standard since designations under the Clean Air Act began. The U.S. EPA had originally designated the entire region as attainment of the 1-hour ozone standard in July 2000. However, in August 2000, the Wild Rivers/Sierra Club challenged the U.S. EPA's decision to designate the area as attainment. In September 2001, due to administrative/procedural issues in Ohio, the 6th Circuit Court ruled in favor of the petitioners, forcing the U.S. EPA to revoke the redesignation of the entire area.

Knowing that it was a procedural problem in Ohio, not violations of the air quality standard that led to the revocation of the attainment status for northern Kentucky, the Division for Air Quality petitioned the U.S. EPA Region 4 to reinstate the designation of attainment in the three northern Kentucky counties. The U.S. EPA agreed and the action, which was published in the July 31, 2002, Federal Register, became effective on Aug. 30, 2002.

Number of exceedances 8-hour ozone standard

Boone County	**15**
Campbell County	**24**
Kenton County	**19**

Although exceedances of the 1-hour standard occurred in the Cincinnati area earlier this year, no violations of the standard occurred. Facing the region now is the implementation of the new, more stringent 8-hour ozone standard. If designations of areas not meeting the 8-hour standard were made today, northern Kentucky would again be listed as an area not meeting that more stringent standard.

Adopted by the U.S. EPA in July 1997, the 8-hour ozone standard has faced numerous court challenges but has been upheld. The 8-hour standard is also based on three years of monitoring data. The fourth highest 8-hour reading for each year is averaged for the most recent three years. If that average is .084 or below, the area is considered "in attainment" with the standard. If that average is .085 or greater, the area would be in violation, or "nonattainment" for the standard.

It appears that the U.S. EPA will request that states again submit area recommendations sometime in early 2003. These recommendations would be based on monitoring from 2000-2002. However, final designations by the U.S. EPA are not expected until 2004.

In 2002, northern Kentucky monitors recorded 58 exceedances of the 8-hour standard. Monitoring data shows that at this time, all three counties have averages above the federal limits. Many other areas of Kentucky, and the nation, saw an increase in the number of exceedances of the 8-hour ozone standard this year. Between April-October 2002, 237 exceedances of the 8-hour ozone standard occurred on monitors operated by the Division for Air Quality.

Comparatively, 54 exceedances were recorded in the state in 2001 and 77 were monitored in 2000. However, it is important to remember that the level of the exceedances is also an important part of the equation in determining areas in or out of compliance with the new standard.

Nominations sought

Do you know someone who is doing his/her part to protect the environment? Nominate them for an Environmental Quality Commission (EQC) Earth Day Award.

To nominate a person, group, government official, business or school group, send their name and address, phone number and a one-page summary describing their efforts by March 20 2003, to the Environmental Quality Commission, 14 Reilly Rd., Frankfort, KY 40601, or you may submit the summary via EQC's Web site at www.kyeqc.net.

The name, phone number and address of the person submitting the nomination should also be included.

EQC will celebrate the 33rd anniversary of Earth Day on April 14, 2002, at the Governor's Mansion in Frankfort.

Managers provide views on Small Business Air Quality Assistance Program

By Rose Marie Wilmoth
Air Quality Representative

To increase public awareness of the Small Business Air Quality Assistance Program, interviews with the Division for Air Quality (DAQ) managers were conducted. During the interviews, Division Director John Lyons and Assistant Director Diana Andrews provided insightful information that will help publicize the program and also let small businesses know the division's views on compliance issues.

Backgrounds

Lyons and Andrews bring different perspectives to these interviews. Lyons is completing his first year as division director. Before he was appointed DAQ director, he spent most of his time as a supervisor and manager in the enforcement branches of the Divisions of Water and Air Quality. He also represented DAQ on a department project to develop and implement an electronic permitting process, which was part of Gov. Patton's EMPOWER program to improve government efficiency.

Andrews has worked in the division for more than 35 years. The majority of those years were spent developing the air quality monitoring system. She has served as assistant director for nine years and as a charter member of the Small Business Air Quality Compliance Advisory Panel for eight years.

Regulating big business vs. small business

"Small businesses quite often face the challenge of not being environmentally aware due to the lack of resources," Lyons said. "A big business has the personnel, provides the necessary training and can obtain the financing for equipment purchases. The largest companies have full-time employees that are responsible for environmental compliance."

> **"Small businesses quite often face the challenge of not being environmentally aware due to the lack of resources,"**
> **John Lyons**
> **Division for Air Quality director**

Lyons admits dealing with smaller businesses who don't have the resources is more difficult. "These companies have as much legal responsibility to comply with environmental laws as big companies," he explained. Lack of knowledge is not an excuse. "In the enforcement process, the severity of the violation is one of the determining factors in assessing the penalty," Lyons commented.

Free compliance assistance available

The DAQ has been proactive in providing small businesses with compliance assistance through the Kentucky Business Environmental Assistance Program (KBEAP). The Clean Air Act Amendments of 1990 require each state to offer these programs.

Andrews added, "It was the 1990 Amendments of the Clean Air Act that significantly increased the number and type of small businesses subject to the air quality program."

More than 50 percent of the referrals to KBEAP during the FY 2000-2001 were from the division. For information about the free, confidential assistance available from this program call Greg Copley, director of KBEAP, at (800) 562-2327.

Message to small businesses

In closing, Andrews' message to small businesses is "compliance will become more complex in the future due to regulations affecting small businesses, integrated data management systems and the move toward electronic permits."

She adds, "The Department for Environmental Protection as a whole has a history of providing technical assistance through its field offices and permit review programs. These services, along with those of KBEAP, are available to assist small businesses in complying with air quality regulations."

Lyons encourages people to use the division's resources to improve Kentucky's air quality. Additional information about DAQ is available on the Web site **http://www.air.ky.gov** or by calling (502) 573-3382.

Diana Andrews and John Lyons encourage small businesses to use KBEAP and other resources available to help them comply with environmental regulations and to help improve Kentucky's air quality.
Division for Air Quality photo

Broke Leg Falls purchased with HLCF grant

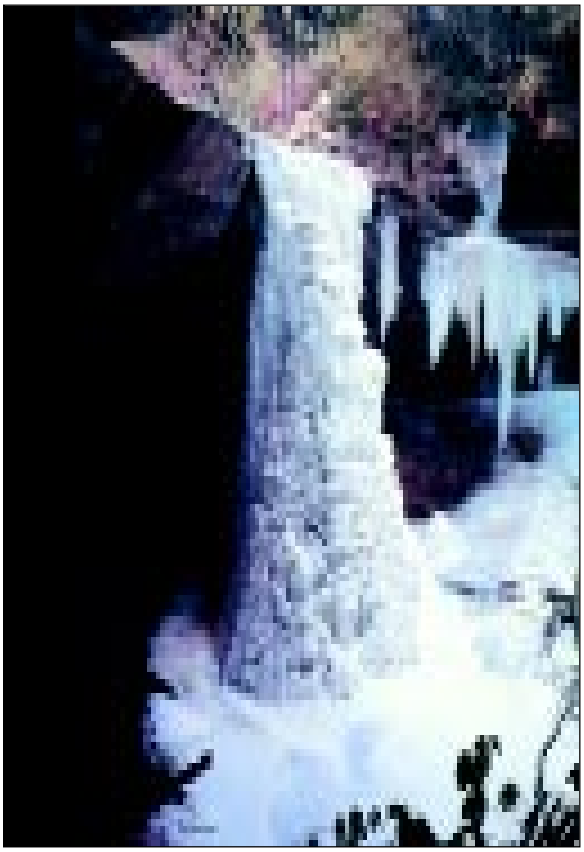
By Mary Jean Eddins
Department for Natural Resources

Recently Menifee County, using Kentucky Heritage Land Conservation Funds (KHLCF), closed on the Broke Leg Falls project. This 15-acre parcel was once a well-known roadside park along U.S. 460. Privately developed in the 1930s and 1940s, the property once housed a restaurant, cabins and other amenities. The property remained very popular with tourists until the 1960s, when the Mountain Parkway was completed and traffic was diverted from the old highway. Eventually, the Broke Leg Falls roadside park was abandoned.

However, long-time Menifee County resident Hershell Sexton did not forget the beauty of the 100-foot falls and surrounding wooded gorge. As the current county judge-executive, Sexton became aware of the possibility of securing funds to purchase the property with a grant from the KHLCF. Believing the property could once again be a viable tourist attraction and asset to Menifee County, Sexton submitted an application for grant funds to the KHLCF Board. In January 2002, the county was awarded $120,000 to purchase and manage the property.

According to Dr. William H. Martin, chair of the KHLCF Board, "Broke Leg Falls is a very beautiful place with towering hemlocks and magnolias, and an unusual collection of mosses and liverworts. Menifee County and Judge Sexton are to be commended for wanting to preserve and protect this excellent natural area."

Menifee County has already started to repair and restore parking areas, trails, bridges and to remove non-native plants. Sexton is hopeful that all repairs can be completed by the end of the 2002. According to Sexton, "We are very excited about purchasing and preserving the property for the long-term benefit of Menifee County residents and all Kentuckians."



The 100-foot falls becomes a towering pillar of ice during winter months. Photo submitted

If you would like more information about the KHLCF Board, contact Mary Jean Eddins at (502) 564-2184 or e-mail mary.eddins@mail.state.ky.us. If you would like more information about Broke Leg Falls, contact the Menifee County Judge-Executive's Office at (606) 768-3482.

Information from this article provided by the Kentucky Encyclopedia and The Kentucky Explorer, March 1989.

Meade named a certified clean county

By Kerry Holt
Office of the Secretary

As snowflakes fell from overhead, Gov. Paul Patton officially dedicated Meade County one of Kentucky's five certified clean counties. During the November ceremony, Patton was joined by Natural Resources and Environmental Protection Cabinet Secretary Hank List, Rep. Jim Thompson, D-Battletown, and Meade County Judge-Executive Mark Brown for the unveiling of a road sign that will be placed on select state roads that border the county line.

"Kentucky was once a place so rural that we could discard our waste as we wished and not harm the environment," Patton explained. "However, today we have a new Kentucky, and we can't dump waste without hurting the environment and the health of our fellow citizens. Congratulations to you for taking pride in your county and creating a positive image for yourselves."

Secretary List also highlighted the legacy left for future generations. "The Certified Clean County program is a product of the leadership of Gov. Patton and Secretary James Bickford. However, their leadership would be meaningless without folks on the local level taking charge," List said.

Meade County identified and removed 81 illegal dumps at an estimated cost of $253,432. To be certified, counties must have mandatory garbage collection. In return, the state pays for 75 percent of the cost to clean up illegal dumps. Counties must clean up all illegal dumps, continue to monitor the sites and employ a solid waste coordinator with enforcement powers. Eligible counties will establish a local Clean County Committee comprised of representatives of business, education, agriculture and other concerned citizens to increase awareness of the need to keep the county clean. Grant, Knott, Menifee and Washington counties have also received their Clean County certification.

Patton created the Certified Clean County program to encourage counties to address the problem of illegal dumps.

Secretary Bickford leaves legacy of public service

Continued from page 2

Dr. Lindell Ormsbee, director of UK's Tracy Farmer Center for the Environment, presents Secretary Bickford with the Outstanding Contribution to the Environment Award in September. Photo by Tim Collins

in camouflage and hid in the underbrush in an effort to catch dumpers. Hidden surveillance cameras later replaced these investigators.

Field inspectors were directed to locate illegal dumps and sift through the garbage in an effort to find evidence of the person responsible. Notices of Violation (NOVs) were issued to dumpers, resulting in fines, an order to pick up garbage at the dump and a requirement to sign up for home garbage collection service.

Since 1997, more than 6,300 dumps have been investigated, and more than 3,700 NOVs have been issued by cabinet staff. Nearly 2,900 dumps and more than 47,000 tons of trash have been cleaned up as a result of the effort.

Like illegal dumps, waste tire piles were also posing environmental and health problems when Bickford took office.

Bickford ordered the Division of Waste Management to begin using monies from the Waste Tire Trust Fund to pay contractors to clean up the tire dumps. The cabinet also initiated a three-year waste tire amnesty program in every county in Kentucky.

As a result of these efforts, the cabinet has cleaned up more than 11 million waste tires.

Bickford also quickly responded to citizen complaints.

When large, concentrated animal feeding operations (CAFOs) began appearing in Kentucky, Gov. Patton ordered a freeze on the processing of permits until the cabinet could produce emergency waste regulations. For the next several years, Bickford led the cabinet's effort to establish setbacks and waste-handling requirements for these agricultural operations.

In 1997 Bickford met with the Greasy Creek Steering Committee in Hopkins County, a group concerned about water pollution from run-off from an abandoned mine site. Bickford directed the Department for Surface Mining Reclamation and Enforcement to target the 250-acre area for cleanup. Using $4 million from the Abandoned Mine Land fund, the department was able to reclaim the site, which was known to locals as "Ketchup Lake," due to the rust-colored water coming from the site.

Under Bickford's directive, waste tire piles were cleaned up, and a three-year waste tire amnesty program was initiated in every county in Kentucky. As a result, the cabinet cleaned up 11 million waste tires.

The project received the federal Office of Surface Mining's National Reclamation Award in 2000.

Bringing the cabinet into the 21st century technologically was also a target of Bickford's.

Taking advantage of technological improvements and Gov. Patton's EM-POWER Kentucky initiative, the cabinet's Department for Surface Mining Reclamation and Enforcement can now accept permit applications electronically.

The cabinet's Department for Environmental Protection is now tracking environmental complaints electronically and is also moving to electronic permitting. An electronic complaints system allows multiple employees to review status reports and can provide immediate information to a citizen requesting an update.

During his tenure Bickford also tackled issues such as the Martin County Coal slurry spill, the regionalization of water and sewer plants, forestry legislation, permits for power plants and the Paducah Gaseous Diffusion Plant.

Bickford received numerous awards and honors after returning to Kentucky. He was selected Outstanding Alumnus for Eastern Kentucky University (EKU) in 1989. He served as president of the EKU National Alumni Association from 1999-2000.

In 1998 Bickford was inducted into the U.S. Army Quartermaster Hall of Fame, and in 2001 was inducted into the Defense Logistics Agency Hall of Fame.

In 2000 Bickford was selected as one of the 20 most influential citizens of Harlan County during the last millennium.

In September 2002 Bickford received the Harry M. Caudill Lifetime Environmental Achievement Award from the Cumberland Chapter, Sierra Club. Later that month, the University of Kentucky's Tracy Farmer Center for the Environment presented Bickford with the Outstanding Contribution to the Environment Award.

Kentucky is a much cleaner state today than it was when Bickford became secretary in 1995, although more work remains to be done.

One of the last entries made in a daily journal he kept, Bickford wrote: "Continue to march on all our initiatives."

Fitting words from a general to his troops.

Top Ops win championship

By Maleva Chamberlain
Division of Water

Top Ops (left to right) Coach Andy Gentry, Kelly Neal, Ed Fortner, Robin Strader and Top Ops Tournament Director Joe Habraken. Division of Water photo

Team Kentucky, a group of Kentucky's top water treatment plant operators, won the International American Water Works Association Top Ops Championship.

The competition is a battle of wits in which teams of three contestants must answer technical water treatment questions using a ***Jeopardy*** format. Team Kentucky, which placed second in last year's competition, qualified for the finals by winning the Kentucky-Tennessee sectionals in Lexington last September. They will defend their title this year in Anaheim, Calif.

Team members included Ed Fortner of Bardstown, Robin Strader of Leitchfield Utilities and Kelly Neal of Beech Fork Water Commission. They were coached by the Division of Water's Andy Gentry. Henry P. Thompson helped to sponsor the team.

Historic flag waves over Pineville office

By Gwen Holt
Division of Forestry

The Kentucky Division of Forestry's southeastern district office in Pineville was recently presented with an American flag that flew over the nation's Capitol on Sept. 11, 2002, in memory of those who lost their lives as a result of the terrorist attacks on Sept. 11, 2001.

Earlier this year, and at the request of district office staff, Sen. Mitch McConnell raised a flag over the Capitol honoring all those who died.

Members of the Middlesboro American Legion Dewey Guy Post No. 14 assisted with the flag-raising ceremony on Nov. 1, 2002, at the Bert T. Combs Building in Pineville.

Flag-raising ceremony at the southeastern district office in Pineville. Division of Forestry photo

"Branching Across America"

Frankfort commemorates 10-millionth tree planting

By Kerry Holt
Office of the Secretary

Natural Resources and Environmental Protection Cabinet Secretary Hank List and Frankfort Mayor Bill May, along with representatives from the Kentucky Division of Forestry, the Lexington Department of Parks and Recreation and the Frankfort Department of Parks and Recreation, planted a tulip poplar to commemorate the National Tree Trust's 10-millionth tree planting. The November ceremony, held at Frankfort's Cold Spring Park and Nature Preserve, was part of the National Tree Trust's initiative to "Branch Across America" in an attempt to plant the state tree in each capital city across the United States.

Established in 1990, National Tree Trust is a national leader in programs supporting local and regional community tree planting and education projects. The mission of this nonprofit agency is to serve as a catalyst for local volunteer groups in the planting, growing and maintenance of trees in urban and rural communities and along the nation's highways.

"Kentucky is proud to be able to assist the National Tree Trust with reaching its milestone. We're honored to stand with the citizens of the Commonwealth and plant our tulip poplar as Kentucky's celebration of the 10 million trees that have been planted nationwide," said Secretary List.

For more information about this event and other National Tree Trust projects visit **www.nationaltreetrust.org.**

Event teaches career development

By Martin Bess
Division of Conservation

Youths from across the United States met for the 75th consecutive year to participate in the national FFA convention in October. As a way of connecting classroom learning to future careers, an Environmental/Natural Resources Career Development Event (CDE) was held that added a bit of competitive fun among the young adults.

This year 32 teams made up of 144 high-school students participated in activities that included national/global issues interviews, press release writing, environmental/natural resource problem solving, soil testing and profiling, air/water quality analysis, GPS location exercises, waste management issues, and identification and ecological succession.

Kentucky was represented by the Jackson County FFA Team. The team included David Wilson (silver medalist), Candrea Bingham (bronze medalist), Daniel Clemmons (bronze medalist) and Casey Hays (silver medalist), making them an overall silver-emblem team.

The top 11 individuals and the national winning team members received scholarships to further their education at a post-secondary institution of their choice. The team from Yanceyville, N.C., took first in the National FFA Environmental/ Natural Resources Career Development Event, competing against 32 other teams. Second place went to Georgia, third place to Maryland and fourth place to Pennsylvania.

The Ford Division, Michelin Ag. Tires and Mississippi Chemical Corp., provided funds for plaques, medals and scholarships for winning teams and high-scoring individuals.

Student members are being instructed on the use of GPS hand-held equipment. Photo provided by the Division of Conservation

The Kentucky Division of Conservation, conservation districts, Natural Resource Conservation Service, University of Kentucky Cooperative Extension Service, Kentucky Division of Water, Kentucky Department of Fish and Wildlife Resources, Kentucky Farm Bureau Federation, Farm Service Agency and the Kentucky Division of Forestry staff served as officials and contest judges during the two-day event in Louisville and Lebanon Junction, Kentucky.

FFA is a national youth organization of 461,043 students preparing for leadership and careers in the science, business and technology of agriculture. It has 7,308 local chapters in all 50 states, Puerto Rico and the Virgin Islands.

FFA strives to make a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education. Visit **www.ffa.org** for more information.

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