It is the mission of the Kentucky State Nature Preserves Commission (KSNPC) to protect Kentucky’s natural heritage by: (1) identifying, acquiring and managing natural areas that represent the best-known occurrences of rare native species, natural communities and significant natural features in a statewide nature preserves system; (2) working with others to protect biological diversity; and (3) educating Kentuckians as to the value and purpose of nature preserves and biodiversity.

Pine Mountain - An Impressive Work of Mother Nature
by Marc Evans, Senior Ecologist

In all my travels across Kentucky, and of all the many beautiful places I’ve seen, one place stands out above them all. In extreme southeastern Kentucky lies one of our state’s most unique biological, ecological and geological — as well as beautiful — natural resources. Forming an almost solid wall over 120 miles long and rising from 1,000 to 1,500 feet above the valley floors, Pine Mountain is an impressive work of Mother Nature. The mountain, which is technically considered a long, even-topped, erosion fault scarp, forms the northwestern border of the Cumberland Mountains ecoregion, a rugged, heavily forested region that also contains Kentucky’s tallest mountains and some of its most scenic vistas. The mountain ridge runs from near Jellico, Tenn., northeastward to Elkhorn City, Ky., cutting through Whitley, Bell, Harlan, Letcher and Pike counties. The mountain contains approximately 151,167 acres, of which 40,364 are in Virginia. Elevation of the mountain ranges from less than 2,200 feet on the southwestern end to greater than 3,200 feet in the vicinity of Bad Branch in Letcher County.

Over 200 million years ago during the late Paleozoic period, the bedrock in this corner of Kentucky, where it meets Tennessee and Virginia, was uplifted and turned skyward along one edge, forming the long, linear ridge we now call Pine Mountain. Millions of years of subsequent rain, snow, ice and wind have eroded and sculpted the ridge into the striking image we see today. The steep northwestern face of the mountain is crowned with massive sandstone cliffs up to 200 feet in height. The southeastern slope of the mountain is overall much gentler, but deep canyons carved by streams alternate with prominent ridges along its flank. Massive sandstone cliffs and waterfalls are not uncommon along these mountain streams. Pine Mountain gets its name from the large stands of pine trees scattered across much of its southeastern slope; a prevalence of thin, sandy soils is responsible for the abundance of pines. In great contrast, surrounding mountains have little pine, in large part due to a different geologic past and their deeper soils.

Scientists have long recognized Pine Mountain as biologically and ecologically important. Although few surveys have been conducted, we already know that the mountain is home to more than 250 occurrences of 94 species of rare plants and animals. This includes at least three federally listed species and four species of cave invertebrates that are considered to be endemic (known from nowhere else in the world). In addition, at least 24 occurrences of eight unique and rare natural communities also have been identified from the mountain.

Large blocks of forest cover most of Pine Mountain’s slopes, ridges and hollows. These extensive areas of forest are important to a myriad of plants and animals that require well-developed interior forest conditions for all or part of their life cycles. Also, because of the extent of contiguous forest, the mountain serves as a refugium for plants and animals as well as a migratory (continued on page 7)
Born and raised in Ohio, John MacGregor came to the University of Kentucky in the early 1970s to study under the late Roger W. Barbour, who fanned the flames of John's intense interest in amphibians and reptiles. John had always marveled at the great variety of Kentucky's herpetofauna, and his college years reinforced his desire to live here. He has called Kentucky home ever since.

John graduated from UK with a master's degree in 1973; his thesis was entitled *Observations on the natural history of two species of water snakes, Natrix sipedon and Regina septemvittata, along Jessamine Creek*. After graduation, John taught high school biology for several years in Lexington. He then worked as a biologist with the Kentucky Transportation Cabinet's Division of Environmental Analysis during the late 1970s.

When the Kentucky Department of Fish and Wildlife Resources (KDFWR) created its Nongame Wildlife Program in 1981, John was the obvious choice to run the program. He managed KDFWR's nongame program until mid-1990, when he took over as Daniel Boone National Forest's (DBNF) Threatened and Endangered Species Biologist. He held this position until late in 1999 when he began a two-year leave of absence to work on a book on Kentucky's amphibians and reptiles. At DBNF, John has been instrumental in moving protection efforts forward on several federally listed plant and animal species for the forest.

John MacGregor's areas of expertise include fungi, orchids, land snails, amphibians, reptiles and mammals, especially bats. He has written and/or contributed to dozens of papers and oral presentations on Kentucky's fauna and flora. John has been particularly commendable in his willingness to pass on his knowledge through his presentation of slide-illustrated talks to groups of any size. Many of John's presentations have been at regional and national meetings, and he is recognized nationally as an authority on amphibians, reptiles and bats. He has been active in the Kentucky Society of Natural History and the Kentucky Lepidopterists Society for a number of years, and helped organize and conduct the annual Herpetology Weekend at Natural Bridge State Park for many years. Additionally, John generously shares his outstanding photography focusing on the Commonwealth's natural beauty with organizations and publications.

John arguably may be responsible for a greater contribution to our overall knowledge of Kentucky's fauna and flora than any other individual during the past two decades. He co-authored the description of the Cumberland Plateau Salamander (*Plethodon kentucki*), which is a newly-described species. He serves on the Indiana Bat Recovery Team, helping steer recovery efforts for this imperiled species. He has contributed dozens of new locational records to the Kentucky State Nature Preserves Commission for use in our agency's protection efforts. John is often relied upon by individuals both inside and outside Kentucky to provide distributional information for various groups; for example, he recently provided data to authors of the updated *Peterson Field Guide to Amphibians and Reptiles* so that maps in the book would be accurate for Kentucky.

Based on these accomplishments and many more not categorized here, John R. MacGregor was chosen to receive the 2001 Kentucky State Nature Preserves Commission Biological Diversity Protection Award.
Comedian Rodney Dangerfield tells a yarn about getting lost at the beach as a child and frantically searching for his parents with the aid of a policeman. When asked by young Rodney if they will find his parents, the officer replies, "I don't know, kid. They have so many places to hide!" Freshwater mussels can be nearly as hard to find as Rodney's parents. Mussels live on and bury into the bottom of our streams, therefore several visits might be required to find all the species living at a particular location. One can never feel totally confident of finding all mussel species dwelling in our largest rivers.

During Aug. 27-30, 2001, 15 biologists with the Alabama Division of Wildlife and Freshwater Fisheries, KSNPC, Tennessee Wildlife Resources Agency, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service (USFWS) (4 offices), U.S. Geological Survey, and Western Kentucky University searched for mussels at several "under-sampled" sites in the Green River basin in south-central Kentucky. The Green River was chosen for the USFWS-funded effort because The Nature Conservancy ranks it 4th nationally in terms of the number of rare fish and mussel species. Because of the presence of these imperiled organisms and the large number or "biodiversity" of aquatic species present, the Green River is a USFWS priority for study and conservation.

Despite somewhat high and muddy water, a total of 3,673 specimens representing 41 species were found at 10 sampling sites by scuba divers, snorkelers, and others who felt their way with fingers and toes along the river bottom. Thirty-five of the 41 species found were alive or freshly-dead (recently alive). This equals 50 percent of the 71 species known from the Green River basin and 41 percent of mussel species still living in Kentucky. Many mussel species in Kentucky and elsewhere are experiencing reproductive problems or the young do not survive to become adults. We find few or no small individuals of these species. It was heartening, therefore, to discover small specimens for 22 species that indicate some recent reproductive success.

We were particularly interested in finding species considered rare by the USFWS and/or KSNPC, and we were not disappointed. The group found living specimens of the fanshell (Cyprogenia stegaria), longsolid (Fusconaia subrotunda), pink mucket (Lampsilis abrupta), pocketbook (Lampsilis ovata), rough pigtoe (Pleurobema plenum), and pyramid pigtoe (Pleurobema rubrum), as well as old shells of the ring pink (Obovaria retusa) and clubshell (Pleurobema clava). All these species had been previously collected from the Green River. We were pleasantly surprised by the number of pink muckets and rough pigtoes found. On the flip side, with the exception of the fanshell, none of the specimens were young.

Our efforts yielded important information about mussels in the Green River, but we were left with a nagging feeling that we could have found more, especially if divers had been able to explore areas rendered hazardous by river conditions. So, despite all the time and effort invested, the participants remain unconvinced that we found all the mussel species present. Someday we will need to revisit the area because as Rodney's police officer friend said, "They have so many places to hide!"
A Harvard professor showed a picture of a woman in a wheelchair to a fourth grade class and asked them the question, “Can this woman drive a car - why or why not?” The kids did not think she could and gave all the reasons why. She showed the same picture to another fourth grade class and asked the question, “How can this woman drive a car?” This class offered a wonderfully creative set of possibilities for how she could drive a car.

At Communities by Choice, the organization where I work, we are asking the question, “How can we all live together on the Earth?” The “all” in that question means all living things, of course. We only need to examine disputes around the world over water, land, philosophy, religion, ethnicity and raw power and control, to know the world is not often approached in this framework.

Knowledge about Kentucky’s biodiversity is fundamental to responsible stewardship of the Earth. The answer to our “How can we” question is dependent on this knowledge, which is becoming more important every day. Consider for a moment that most people alive today will likely see the population double. We do not have to wait for massive suffering, starvation, genocide, war, resource depletion and extinction of life forms to occur. That is all happening on a grand scale today.

The first and primary task of the Commission is to tell us what forms of life we have, where they are and how to protect them. This effort should be embraced by every public agency. To act responsibly requires knowledge. The Kentucky Transportation Cabinet, Kentucky Economic Development Cabinet, Division of Forestry, Division of Conservation, Kentucky Department of Fish and Wildlife Resources, Department for Environmental Protection, Kentucky Department of Agriculture and Department of Surface Mining Reclamation should view the Commission as a critical resource, helping them do their work well, which means with the least impact on the Earth. We all need to know what the Commission knows and continues to discover.

The second task, but of equal importance, is to teach Kentuckians and especially our children how and why to care for the Earth. If you do not care about the blackside dace, Kentucky lady’s slipper orchid, or rare mussels in Buck Creek, then what do you care about and when will you start caring? If no one cares, one by one, species will become threatened, endangered and then extinct. If we care too little and too late, ecosystems will collapse and many species will disappear. If the current rate of loss continues, our human legacy will be that we directly caused one of the greatest mass extinctions in the Earth’s history.

What do the next 25 years hold for the KSNPC?

- Continue the detailed data collection on Kentucky’s biodiversity.
- Continue to acquire and protect ecologically significant areas and landscapes.
- Increase and share knowledge on how to manage whole landscapes to maintain ecological integrity.
- Assess, in detail, the socioeconomic causes of biodiversity loss by region.
- Help create nature centers across the state.
- Monitor long-term ecological changes related to pollution and climate change.
- Steward our nature preserves.
- Examine the impact of invasive species and develop control measures.
- Serve as a knowledge resource on biodiversity, ecological restoration and ecological impact, especially to other public agencies.

We fail the Earth and ourselves if we do not teach the next generation why to care and how to care. If we can learn how to all live together on this Earth and teach that to our children, we give them the gift of forever.

This guest editorial was contributed by Don Harker, Co-founder of Communities by Choice, a national learning network committed to advancing the practice of sustainable development. Don was the first director of the Commission and he can be reached at www.CommunitiesbyChoice.org.
Franklin County Landowners Protect Globally Rare Plant

By Ron Scott, Land Protection Specialist

In May and again in September 2001, the Kentucky State Nature Preserves Commission (KSNPC) honored private landowners in Franklin County for their efforts to preserve Braun’s rock-cress (Arabis perstellata) - a globally rare and federally endangered plant. On May 7, 2001, David and Julia Rome enrolled 26 wooded acres of their farm in the state’s Natural Areas Registry program, pledging to exercise wise stewardship of their land and to work with us to help ensure the plant’s survival. After reading about the Rome’s participation in the registry program and the creation of the new Leeland Valley State Natural Area in the Lexington Herald-Leader, another local landowner – Ed Councill – contacted us to determine if his property also supported Braun’s rock-cress.

KSNPC biologists visited the site and determined that Mr. Councill’s property contained an excellent population of Braun’s rock-cress. According to Marc Evans, the Commission’s Senior Ecologist, “This site supports the best known population of Braun’s rock-cress.” He added, “Protecting this site is, without question, an essential component to our effort to protect this critically imperiled species, not just in Kentucky, but throughout its range.” Mr. Councill subsequently enrolled 118 acres of his property, now referred to as the Camp Pleasant Woods State Natural Area, in the registry program.

Recognizing their collective dedication to preserving biological diversity in the state, Commission Director Don Dott commented, “Working cooperatively with private landowners such as the Romes and Ed Councill is vital to successfully achieving protection of Kentucky’s unique natural heritage, for current and future generations.”

Braun’s rock-cress is a wildflower typically found on steep, wooded slopes with limestone outcrops along the Kentucky River and its tributaries. It is found only in Henry, Owen and Franklin counties in Kentucky and in one county in Tennessee. It is endangered throughout its limited range due to habitat alteration resulting from residential, commercial or industrial development; timber harvesting; grazing and trampling; and competition with exotic weedy species, especially the European garlic mustard (Alliaria petiolata). “We have seen a steady decline in the number and the quality of forests in this part of Kentucky and with it, habitat for this very rare plant,” said Deborah White, KSNPC Senior Botanist. “Conserving Braun’s rock-cress on privately-owned lands in Franklin County, where the vast majority of the plant populations are located, is essential to its continued existence – and hopefully its eventual recovery.”

Currently, there are 51 properties enrolled in the Natural Areas Registry program encompassing 4,826 acres in 34 counties. Established in 1984, the voluntary, nonregulatory program is designed to honor and recognize owners of outstanding natural areas for their commitment to preserve our state’s most unique remaining habitats and rare species. For more information about the Natural Areas Registry program, contact Ron Scott, Land Protection Specialist at (502) 573-2886, ext. 112, or by e-mail at Ron.Scott@mail.state.ky.us.

Pine Mountain Fall Weekend Success

By Kyle Napier, SE Region Preserve Manager

On the weekend of Oct. 20, 2001, Joyce Bender and I led hikes to some of our most precious Pine Mountain preserves. The event was part of our 25th anniversary celebration and was dubbed the Pine Mountain Fall Weekend. These hikes were designed to focus on the mountain’s high biological diversity, and allow participants the opportunity to experience its splendid fall colors.

Forty participants joined us for hikes to Blanton Forest State Nature Preserve in Harlan County. These were the last time guided hikes were necessary to view the forest, because the preserve opened to the public the following day. Later that afternoon, 15 participants joined us for a rare opportunity to visit Hi Lewis Pine Barrens State Nature Preserve in Harlan County. To conclude the event on Oct. 21, 2001, 20 people joined us for an all day hike to Bad Branch State Nature Preserve in Letcher County.

All the hikes went really well and we were blessed with wonderful weather. Many participants asked if we would repeat these hikes next year, and our answer is: see you next October!
Update from the Director

by Don Dott, Executive Director

We made very significant progress at Blanton Forest this past year. We bought, dedicated and opened to the public the 1,164 acres of remaining old-growth forest. Kyle Napier’s article has more on this and mentions that Blanton Forest is now open with a trail that is greatly improved. Please visit the forest at your leisure and give us your comments. (Directions are on our Web page, or just call the office.)

Three Ponds, one of our newest state nature preserves, is located virtually as far as you can get from Blanton Forest and still be in Kentucky. It is located on the banks of the Mississippi River in Hickman County and protects a rare assemblage of habitats in two physiographic regions. We dedicated Three Ponds at our April Commission meeting, and took a field trip to visit its loess bluffs and wetlands.

We have recently added some outstanding staff members, but unfortunately lost some as well. I hope to fill each vacancy, if we are not caught in a hiring freeze. We made the front page of the Lexington Herald-Leader (the threat of exotic species) and the Louisville Courier-Journal (Blanton Forest) on the same day - you could say we blanketed the state!

If you keep up with dull topics like the state's budget woes, you won’t be surprised to learn that the slow economy may put a crimp in our operations. Currently, we lack an official state budget passed by the legislature, but Gov. Patton has implemented a Fiscal Year 2003 spending plan that should keep our office functioning as normal. Nevertheless, we need more staff to inventory our least-disturbed natural areas for the rare species and biological treasures we seek to save before they disappear from the landscape. And we need more staff to manage our preserves. But you can help! Please take phone, keyboard or pen in hand and let your state senator and representative know that you value the work of the Nature Preserves Commission. Don’t take us for granted, we need your support, especially when the legislature reconvenes to adopt a budget.

Sherri Evans Memorial Fund

The Kentucky State Nature Preserves Commission is providing a grant again this year to be awarded in memory of the many contributions of Sherri Evans to protect Kentucky’s native biodiversity. $2,500 is available for a grant.

If you have a research project that would increase our knowledge of ecosystem function, aid in ecological restoration or inventory or monitor rare species, please contact Deborah White or Joyce Bender for a copy of our small grant guidelines. Preference will be given to projects that involve our nature preserves. Completed applications must be received by Sept. 1, 2002, and the recipient will be announced in our November newsletter.

This grant, used to fund promising work on the state’s biodiversity, would not be possible without your help and the generous support of East Kentucky Power Cooperative, which has provided the lion’s share of support for this grant. If you would like to provide financial support for this important work and honor the memory of Sherri Evans, we are happy to accept contributions today.
Pine Mountain and Mother Nature (continued from page 1)
corridor for many animals including elk, deer and black
bear. The mountain supports many different ecological
communities including mixed-mesophytic forest, hemlock-
mixed forests, Appalachian oak forests, pine-oak forests,
xeric Virginia pine woodlands, pine barrens, mountain-top
bogs and high quality mountain streams, springs and
caves.
Interestingly, only three streams breach the mountain
throughout its 120-mile length: Clear Fork, in Tennessee
just south of the Kentucky state line; the Cumberland
River at Pineville; and Russell Fork at Breaks Interstate
Park. In fact, for nearly 90 miles no stream cuts through
the mountain ridge at all. The evenness of the ridge top is
broken in a number of places by natural gaps, areas that
are from 300 to 700 feet below the crest and were impor-
tant to early settlers as passages over the mountain.
Amazingly, only six state or county roads cross the moun-
tain in its entire length, most utilizing the natural gaps.

The beauty and scenic attractions of Pine Mountain
have been realized for some time, and a number of public
and private areas are protected to various degrees and for
a variety of purposes. The state already has a long term
and sizable investment in the mountain, owning and
managing approximately 23,520 acres or approximately 15
percent. Three state parks occur on Pine Mountain: Pine
Mountain State Resort Park, Kentucky’s oldest state park;
Kingdom Come State Park; and Breaks Interstate Park.
Two state forests, Kentennia State Forest and Kentucky
Ridge State Forest, also occur on the mountain, as do the
Pine Mountain Wildlife Management Area and the Boone
Wildlife and Recreation Area. In addition, we own or help
to manage five state nature preserves: Bad Branch, King-
dom Come, Hi Lewis, Blanton Forest and Pine Mountain.

Several private organizations also protect land on
Pine Mountain. The Kentucky Natural Lands Trust (KNLT),
a private, nonprofit conservation organization, has been
actively purchasing and protecting land for the Blanton
Forest project since 1995. Pine Mountain Settlement
School protects several hundred acres on the northwest
face, and The Nature Conservancy protects three tracts.
In addition, several other county and city parks also
occur on the mountain.
Recently, there has been even more attention given
Rogers, along with local government leaders, have
supported the establishment of a linear park to run
along the crest of Pine Mountain from Breaks Interstate
Park to Pine Mountain State Resort Park. The trail
would then connect to Cumberland Gap National
Historic Park and the Cumberland Trail Linear Park
being established in Tennessee. These developments
are the result of efforts by a private, nonprofit group,
the Pine Mountain Trail Conference, formed in 1998 to
promote and build the trail. Gov. Patton signed a bill
creating the Pine Mountain Trail State Park on March
30, 2002.

KNLT, in partnership with the Commission, recently
decided to focus its efforts toward protecting the
ecological and biological integrity of the entire moun-
tain. The protection of Pine Mountain will be the
largest and most significant landscape protection
project in Kentucky’s history. There are many factors
that favor the success of this endeavor. But only
through cooperative partnerships of private organiza-
tions, individuals, local communities and government
agencies can a project of this size be successful. The
strong state, private and local support for the protec-
tion of Blanton Forest demonstrates the cooperative
attitude that will be needed for this significantly larger
project. We hope that over the next several years major
strides can be achieved to protect one of Kentucky’s
most impressive and significant natural areas.

Welcome New Employees!
The Commission is fortunate to have recently hired several new employees. Heather Weese is our newest ecologist and
rare plant regulations writer. Steve Beiting is a new geoprocessing specialist and information technology guru, in addition to
being a biologist. Suzanne Fitzgerald is our new geoprocessing specialist and mapmaker extraordinaire. Justin Law is our
newest stewardship assistant. Lane Linnenkohl has joined our ranks as the W. KY preserves manager. Judy Cunningham joins
us as an Accountant IV in our long overdue fiscal vacancy.

We will sorely miss employees who have left the Commission in the past year. Rick Remington, Amy Covert, Emily Crain,
Bree McMurray, Paul Quinlan and Damien Edwards have all left for greener pastures. We wish them all the best!
Because of severe budget restrictions imposed on state government as a whole and the Natural Resources and Environmental Protection Cabinet in particular, we are unable to print hardcopy versions of our newsletters and will not be mailing newsletters after this issue for the foreseeable future.

However, the Commission does intend to continue generating Naturally Kentucky newsletters and make them available to the public on our Web page (www.kynaturepreserves.org).

Additionally, we are compiling a list of individual e-mail addresses in order to send notices alerting our readership of the availability of new newsletters. If you are interested in receiving these electronic notices, please contact us by using the “feedback” option on our Web page or by sending us an e-mail at nrep.c.kspncemail@mail.state.ky.us.

We intend to continue providing the same level of information and education as always. And at such time as the budget permits, we plan to resume publishing printed versions of our newsletter at some point in the future.

Until that time, we encourage you to continue your support of our agency’s work (and budget).

~ Visit us at the Kentucky State Fair, August 15 - 25, 2002 ~

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