

Naturally Kentucky

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KSNPC Latest News: 1,601 acres of land owned by the Kentucky Division of Water's Wild Rivers Program along Martin's Fork of the Cumberland River in Harlan County has recently been added to the state nature preserve system. (Complete story on page 6)

☞ General Assembly creates Land Stewardship and Conservation Task Force. HCR 120, introduced by Rep. Robin Webb provides for appointment of a task force to generate recommendations for a comprehensive land stewardship program, to be called the "Conserve Kentucky" program. (Complete story page 7)

☞ In recognition of the Commission's 30th anniversary we are excited to unveil a new logo! The newly designed logo is more befitting the Commission's mandate to protect biodiversity and contains a barn owl (*Tyto alba*) laid over a background design of a northern maidenhair fern (*Adiantum pedatum*). (Complete story on page 7)

☞ To help celebrate Earth Day in Kentucky spring hikes are scheduled for a number of the state nature preserves. Visit our News & Events Web page to learn more (www.naturepreserves.ky.gov/newsevents).

☞ During the spring 2006 fire season, prescribed burns were successfully conducted at Blue Licks SPNP, Crooked Creek SNP, Eastview Barrens SNP, Jim Scudder SNP, Logan County Glade SNP and Log House Prairie Registered Natural Area. (See photos on page 6)

In This Edition:

Bluegrass Savanna-Woodland Project	2
Out With the Invasive, In With the Native	3
In the Spotlight: Kentucky's Rare Species and Communities	4
Land Protection Report	6
New KSNPC Logo Unveiled	7
Director's Notes	7
In the Footsteps of Lucy Braun	8



Small White Lady's slipper ~ Thomas G. Barnes

BLUEGRASS SAVANNA-WOODLAND PROJECT

By Brian Yahn, Ecologist

Biologists in Kentucky have long debated what types of natural communities existed in the Bluegrass region when the first European settlers arrived from the east. Lucy Braun, an expert forest ecologist, referred to the Inner Bluegrass as “the most anomalous of all vegetation areas of eastern United States”. There are many early descriptions of the Bluegrass, which tell of rich forests as well as cane-breaks, salt licks and meadows of clover and grasses. Giant cane (*Arundinaria gigantea*), typically found along river banks and bottomland hardwood forests in the eastern United States, was found throughout the Bluegrass growing unexpectedly on uplands when the first settlers arrived. The federally endangered running buffalo clover (*Trifolium stoloniferum*) is thought to have been locally abundant in the Inner Bluegrass according to early descriptions. Frontiersman, like Simon Kenton and Daniel Boone, described large populations of buffalo, elk and deer, which were capable of trampling and disturbing the vegetation and soil. To some degree, natural communities and the overall landscape were impacted by these large herbivores. Use of the land by Native Americans to establish villages, croplands and hunting grounds also had an impact on the landscape. Cutting trees and using fire to clear fields or open forests were common techniques used by

Native Americans. Before European settlement though, Native American populations in the Bluegrass were decimated by a European pandemic that was brought on by Spanish explorers. To what extent these factors influenced the structure and function of the natural landscape is unknown.



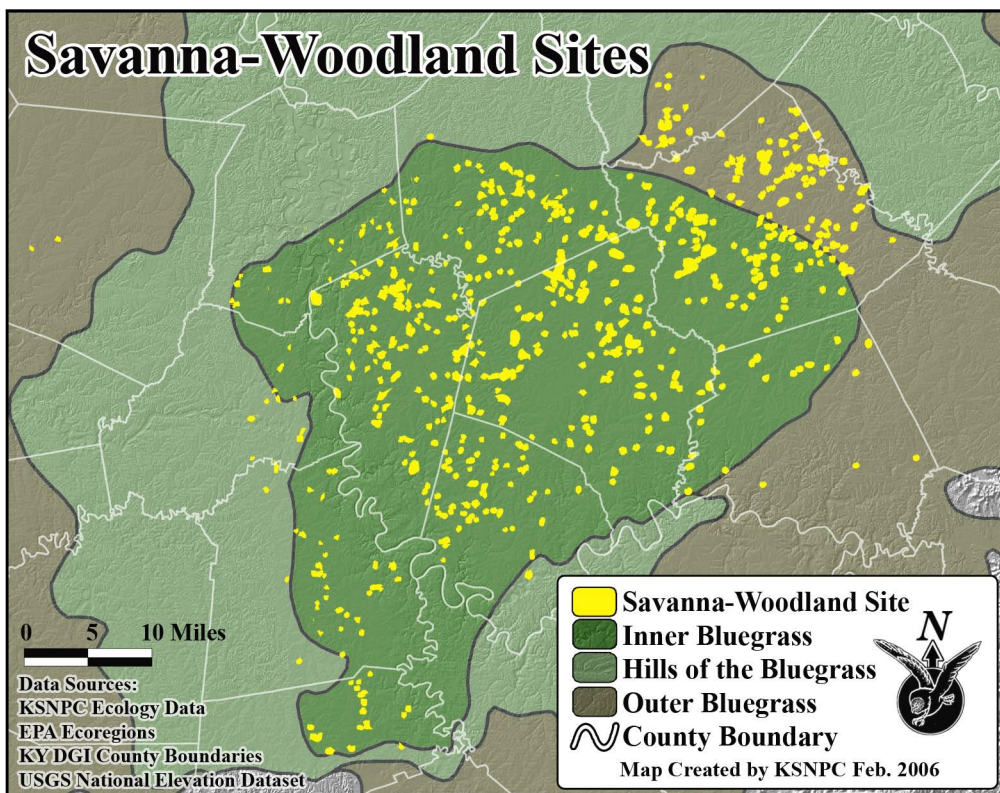
Bur Oak Savanna tree in Georgetown ~ David Yahn

The gently rolling plain of the Inner Bluegrass is thought to have supported a globally unique, natural community often referred to as the Bluegrass savanna-woodland. This unique woodland was thought to have been dominated by large, open-grown chinkapin oak (*Quercus muhlenbergii*), blue ash (*Fraxinus quadrangulata*), bur oak (*Quercus macrocarpa*) and white oak (*Quercus alba*) trees. Many of these massive trees can still be seen scattered throughout the landscape of the Inner Bluegrass, usually in clustered groups. The original composition and structure of this system is not known but the woodland is thought to be associated with the described cane-breaks and clover meadows. Because of heavy clearing and development of the Inner Bluegrass, all

high-quality occurrences of this savanna-woodland type have been destroyed.

Over many years, the Kentucky State Nature Preserves Commission has collected information on the existence of trees thought to have been once a part of this woodland community. A project has been established to document the location, number of trees and species that are found across the Bluegrass. So far, 672 sites have been identified, mostly within the Inner Bluegrass. Of these 672 sites, 162 were sampled in 2005 to verify location and count the number of trees by species. Fifteen percent of the sampled sites were declining or destroyed. The distribution of these sites is continuous throughout the range of the Inner Bluegrass and suggests this savanna-woodland community might have been widespread and dominant.

It is important to science and our natural heritage to understand the roles of past, present and future ecological processes. These old savanna-woodland trees will continue to decline in the years to come, but the information collected can stand as insight into what natural communities once thrived in the Inner Bluegrass.



OUT WITH THE INVASIVE, IN WITH THE NATIVE

By Alice Mandt, Environmental Technologist

Every year, the Nature Preserves and Natural Areas Branch spends more and more time protecting the rare species and high quality natural communities on Kentucky's state nature preserves by fighting invasive species. Unmanaged, these plants can easily overtake an area and change the natural community composition of our preserves. Our goal is to prevent and reverse the impacts of these unwanted plants by cutting, hand pulling and carefully applying herbicides. In 2005, the focus was different in each region.



Before and after photo of a stream covered with Asian bittersweet at James E. Bickford State Nature Preserve ~ KSNPC Staff photo

In the southeast region, many weeks were spent at James E. Bickford State Nature Preserve treating Asian bittersweet (*Celastrus orbiculatus*), multiflora rose (*Rosa multiflora*) and English ivy (*Hedera helix*). With two years of work completed, progress has been made, but there is plenty to keep us busy for many years. Tree of heaven (*Ailanthus altissima*) and Asian bittersweet have been targeted for removal at Pine Mountain State Park Nature Preserve over the past seven years. In both the summers of 2002 and 2005, work release personnel volunteered a total of six days for invasive removal work. With their help and the consistent support of the park naturalist and maintenance staff, one can see the difference they have made in many areas, including Laurel Cove.

Invasive control efforts took place on seven preserves in the eastern region, with focus on Blue Licks State Park Nature Preserve. Overwhelming amounts of Queen Anne's lace (*Daucus carota*), sericea lespedeza (*Lespedeza cuneata*), sweet clover (*Melilotus spp.*), musk thistle (*Carduus nutans*), fescue (*Festuca arundinacea*) and crown vetch (*Coronilla varia*) make our impact seem minimal, but the viability of the federally endangered Short's goldenrod (*Solidago shortii*) hangs in the balance. In 2006, KSNPC will be hosting several volunteer events to increase efforts on this preserve.



Asian bittersweet ~ James R. Allison, Georgia Dept. of Natural Resources www.forestryimages.org



Budd Veverka and Beverly James ~ KSNPC staff photo

In the western region, most of the season was spent fighting kudzu (*Pueraria montana*) at Vernon-Douglas State Nature Preserve and sericea lespedeza at Raymond Athey Barrens State Nature Preserve. The kudzu has rebounded in some spots, which might be due to some stems being overlooked in the past. Most of our time is now spent hunting for individual stems confined to a few areas rather than treating the green masses that once carpeted the slopes. Sericea lespedeza does not respond to herbicide as well as some other targeted species, so it will take more time to get it under control.

A positive attitude makes any task more enjoyable. This past year we had the pleasure of working with two very hard-working people. Beverly James and Budd Veverka spent many hours traveling the state with loppers, backpack sprayers and lots of trash bags. They spent week after week away from their families and friends, enduring whatever conditions they encountered. We appreciate their efforts and dedication to improving Kentucky's nature preserves system.



IN THE SPOTLIGHT: KENTUCKY'S RARE SPECIES AND COMMUNITIES

Etheostoma maculatum *Spotted darter*

KSNPC STATUS: Threatened

USFWS STATUS: Species of Management Concern

GENERAL DESCRIPTION: A 2- to 3-inch fish that is a member of the perch family (Percidae).

HABITAT: Stream bottoms among cobbles, boulders and gravel in riffles of swiftly-flowing medium to large streams.

RANGE: Ohio River basin, but most common in the Green and Barren Rivers upstream from their confluence.

REASON FOR PROTECTION STATUS: Habitat degradation and loss.



Photo by KSNPC Staff

Webbhelix multilineata *Striped Whitelip*

KSNPC STATUS: Threatened

USFWS STATUS: None

GENERAL DESCRIPTION: Land snail with dark maroon stripes, especially on the side and bottom of the shell

HABITAT: Floodplains of rivers and margins of wetlands, lakes and ponds, often among drift or other detritus.

RANGE: Occurs from Kansas to the northeastern United States and south to Tennessee.

REASON FOR PROTECTION STATUS: Clearing of bottomland hardwood forest, and loss of at least 80 percent of Kentucky's wetlands have reduced the available habitat.



Photo by E.L. Lauderdale/KSNPC Staff

KEY TO KSNPC STATUS CATEGORIES:

ENDANGERED: A taxon in danger of extirpation and/or extinction throughout all or a significant part of its range in Kentucky.

THREATENED: A taxon likely to become endangered within the foreseeable future throughout all or a significant part of its range in Kentucky.

SPECIAL CONCERN: A taxon that should be monitored because (1) it exists in a limited geographic area in Kentucky, (2) it may become threatened or endangered due to modification or destruction of habitat, (3) certain characteristics or requirements make it especially vulnerable to specific pressures, (4) experienced researchers have identified other factors that may jeopardize it, or (5) it is thought to be rare or declining in Kentucky but insufficient information exists for assignment to the threatened or endangered status categories.

HISTORIC: A taxon documented from Kentucky but not observed reliably since 1980 but is not considered extinct or extirpated.



Iris Fulva

Copper Iris

KSNPC STATUS: Endangered

USFWS STATUS: None

GENERAL DESCRIPTION: A perennial herb with flowers ranging from coppery colored to brick red and standing over 20 cm tall.

HABITAT: Sloughs, muddy shores and swampy woods, as well as drainage ditches and roadside swales.

FLOWERING PERIOD: Early April to late May.

RANGE: Parts of the Southeast and Midwest.

REASON FOR PROTECTION STATUS: Few known occurrences from a small area in the state, general decline in wetland extent and quality and specifically conversion for agriculture use.



Photo by Dennis H. Horn

Bluegrass Savanna-Woodland

KSNPC STATUS: Endangered

GENERAL DESCRIPTION: A unique and unusual natural community type characterized by large, widely spaced trees with an under story of grasses and forbs. The most common trees include chinkapin (*Quercus muehlenbergii*) and bur oaks (*Quercus macrocarpa*) and blue ash (*Fraxinus quadrangulata*). This community is one of the least known or understood in the Commonwealth. The Bluegrass Region has deep, fertile soils and adequate rainfall, and historically supported rich, closed-canopy forests. However, early settlers also reported scattered areas of savanna and meadows. The exact reason the savannas existed is not known.

RANGE: Restricted primarily to the Inner Bluegrass Region. There may have been scattered occurrences in parts of the Outer Bluegrass.

REASON FOR PROTECTION STATUS: Unfortunately, this community is essentially extinct. Only scattered savanna trees in pastures and a few highly degraded remnants remain. Efforts are under way to attempt to restore this community.



Photo by Marc Evans, KSNPC

ADDITIONAL RESOURCES:

KSNPC Species and Community Information ~ www.naturepreserves.ky.gov/inforesources/SpeciesCommunityInfo.htm

NatureServe Explorer ~ www.natureserve.org/explorer/

USFWS Endangered Species Program ~ <http://endangered.fws.gov>

KEY TO USFWS STATUS CATEGORIES:

(US) ENDANGERED SPECIES ACT OF 1973

ENDANGERED: "... any species ... in danger of extinction throughout all or a significant portion of its range ..." (USFWS 1992).

THREATENED: "... any species ... likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (USFWS 1992).

CANDIDATE: Taxa for which the USFWS has "... sufficient information on biological vulnerability and threats to support proposals to list them as endangered or threatened" (USFWS 1999).

SPECIES OF MANAGEMENT CONCERN: Species the USFWS believes are in need of conservation management.



LAND PROTECTION REPORT

By Ron Scott, Land Protection Specialist

Spring is upon us and with it the desire to be out and about enjoying the wonders of nature. The outside temperature is warm enough to be distracting and the first wildflowers of the season are in bloom.

Several notable accomplishments have taken place since the beginning of the year. At the March 8 Commission meeting, a 1,601-acre tract of land owned by the Kentucky Division of Water Wild Rivers Program along Martin's Fork in Harlan County was dedicated into the state nature preserves system. Martin's Fork is a scenic, high quality mountain stream that originates in the higher elevations of Cumberland Gap National Historical Park in Bell County. In 1974, 3.9 miles of Martin's Fork was designated a state wild river by the Kentucky General Assembly. The wild river segment of Martin's Fork is located on Cumberland and Brush mountains in Harlan County. The area is mountainous and characterized by sharp crested ridges and deep, V-shaped valleys with moderate to steep slopes and narrow ravines. The property supports a wide range of animal species, as well as at least nine plant species considered to be rare in Kentucky. The property, which is also slated to be designated as a Wildlife Management Area, will be cooperatively managed by the Commission, the Kentucky Division of Water and the Kentucky Department of Fish and Wildlife Resources. For additional information about the

Martin's Fork State Natural Area, please visit our Web site at www.naturepreserves.ky.gov/stewardship/martinfork.htm.

Another upcoming addition to the state nature preserves system is a 15.8-acre parcel recently acquired by the Kentucky Department of Parks adjoining the northwest portion of the John James Audubon State Park and Nature Preserve in Henderson, Ky. This tract, located along U.S. 41, was at significant risk of being commercially developed. The Commission contributed \$50,000, including a \$2,000 grant provided by the Beckham Bird Club of Louisville, to assist in the purchase of the property. Except for an acre or so adjoining U.S. 41, the tract will be dedicated as an addition to the existing preserve later this year.

Other good news in the land protection arena includes the culmination of several years of effort to protect a highly significant gray bat (*Myotis grisescens*) maternity cave in Barren County. The owners of the 110-acre farm containing the cave recently agreed to sell their land to the Commission and the survey of the property is under way. The cave currently harbors more than 10,000 gray bats, which are listed as endangered under the federal Endangered Species Act. The bats use the cave from roughly the beginning of April through the end of October.

PRESCRIBED FIRE PHOTOS

Spring burn at Log House Prairie Registered Natural Area (Logan County). Watch for signs of rebirth as the burn units green up – post burn pictures will be included in the summer issue.



Log House Prairie Registered Natural Area Burn ~ Mike Hossum



NEW KSNPC LOGO UNVEILED

By Don Dott, Executive Director

In recognition of the Commission's 30th anniversary we are excited to unveil a new logo! The Commission's first and only logo pictured a barn owl with up-stretched wings encircled by our name. The new logo, designed by resident design artist Greg Abernathy, was selected from several impressive submittals. With a nod to tradition, the logo contains a newly designed barn owl (*Tyto alba*) laid over on a background design of a northern maidenhair fern (*Adiantum pedatum*). This new design is more befitting the Commission's mandate to protect biodiversity, as it incorporates both plants and animals. Our thanks to Greg for submitting the winning design of the Commission's new logo! You can see it for the first time in this edition of our newsletter.



DIRECTOR'S NOTES

By Don Dott, Executive Director

Kentucky does not fare well in a regional comparison on the amount of state-owned lands, which protect natural values. With only 0.9 percent of the state in public ownership (242,000 acres out of about 25 million) we have protected a smaller percentage of land than have our seven surrounding states. When federally owned land is added, which includes military bases (several encompass large parcels), federal parks and forests, the percentage increases to only 7.5 percent of the state's land mass being under some form of long-term protection. Couple this with another alarming statistic – over 130 acres of forest and fields are being lost to development *every day* in Kentucky. That is over one square mile *per week* of irreversible land conversion, one of the highest rates in the country. We must do more to protect our biological resources.

We are fortunate to have the Heritage Land Conservation Fund (HLCF), which averages receipts of \$3 million to \$4 million annually for land purchases. HLCF receives money from sales of environmental license plates, environmental fines and the unmined minerals tax. These funds are available to acquire natural areas that protect habitat for rare species, benefit migratory birds, perform important natural functions, or are to be kept in a natural state for public use and education. Ten percent of the Heritage fund is earmarked for the Commission, which uses it to acquire nature preserves. Ten percent is similarly provided for state parks, state forests, the Wild Rivers Program and the Department of Fish and Wildlife Resources. The remaining 50 percent is available as competitive grants to local governments for the purchase of qualified natural areas. Though we are fortunate to have this funding source, it is not sufficient to accomplish the increased level of natural areas protection we need in Kentucky.

HLCF has been in place since 1995, and we still compare poorly to surrounding states.

The Kentucky Conservation Committee (KCC), a coalition of citizens and environmental organizations that work to conserve and protect Kentucky's natural resources, promoted a program last winter to address the need for increased land conservation. KCC found a sponsor, State Rep. Robin Webb, and five other co-sponsors, to introduce House Concurrent Resolution (HCR) 120. The resolution passed, only three votes short of unanimously, and has been signed by Governor Fletcher. HCR 120 creates a task force to assess the need for protecting both natural lands and agricultural lands and ways to substantially increase the funds available for this purpose. The task force is due to complete its work with a report and recommendation to the General Assembly by June 30, 2007.

The national trend finds strong support among many states for natural areas protection, even to the extent of voter-approved tax increase referendums. The Conservation Fund reports that during 2005 voters in 21 states approved more than \$1.7 billion in conservation ballot measures with an 80 percent success rate. I believe the nearly unanimous vote on HCR 120 reflects the same public support is found in Kentucky. I am confident we will not lag behind in public support for conserving Kentucky's beautiful and varied landscapes. The Commission will be a participant on the task force and I expect to update you next year on how we can create a substantial, sustained funding source to help further the mission of KSNPC and our partners to protect the biological diversity of the Commonwealth.



IN THE FOOTSTEPS OF LUCY BRAUN

The Pine Mountain Settlement School is offering a four-day forest study workshop titled "IN THE FOOTSTEPS OF LUCY BRAUN." The program discusses the work of the eminent ecologist and retraces her visits to eastern Kentucky. Her theory was that the Mixed Mesophytic Forest is a remnant of the great Tertiary Forest and the originator of all eastern North American deciduous forests that exist today. The workshop includes outings to Blanton Forest State Nature Preserve and Bad Branch State Nature Preserve. The workshop will be offered twice this year - June 7-11, 2006 and August 23-27, 2006

For more information:

www.pinemountainsettlementschool.com

(606) 558-3571 or (606) 558-3542



Photo Courtesy of Ecological Society of America

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Kentucky State Nature Preserves Commission Quarterly Public Meeting

June 13, 2006

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801 Schenkel Lane, Frankfort, KY 40601-1403

1:30 PM EDT

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It is the mission of the Kentucky State Nature Preserves Commission 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.

The Environmental and Public Protection Cabinet does not discriminate on the basis of race, color, national origin, sex, age, religion or disability and provides, upon request, reasonable accommodations including auxiliary aids and services necessary to afford an individual with a disability an equal opportunity to participate in all services, programs and activities. To request materials in an alternative format, contact the Kentucky State Nature Preserves Commission at 801 Schenkel Lane, Frankfort, KY 40601-1403 or call 502-573-2886. Hearing-impaired and speech-impaired persons may contact the agency by using the Kentucky Relay Service, a toll-free telecommunication device for the deaf (TDD). For voice to TDD, call 800-648-6057. For TDD to voice, call 800-648-6065.

