



**Biennial Report  
of the**

**Kentucky State Nature Preserves Commission  
January 2003**



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KY Natural Resources and Environmental  
Protection Cabinet



KY Department for  
Natural Resources

On the cover (clockwise from top right), species now extinct or extirpated from Kentucky: Marsh marigold (*Caltha palustris*), photo by James Henderson and University of Tennessee Herbarium; Red wolf (*Canis rufus*); Cumberland leafshell (*Epioblasma stewardsonii*), photo by Ronald Cicerello, KSNPC; Anhinga (*Anhinga anhinga*); and Bison (*Bos bison*). For a complete listing of extinct or extirpated species, see Page 49.

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**INTRODUCTION**

This is the 14th biennial report submitted to the governor and the General Assembly as required by KRS 146.410 et seq., the Kentucky State Nature Preserves Act, or simply the “Act.” The Kentucky State Nature Preserves Commission (KSNPC) was created in 1976. We endeavor to organize special events and activities designed to increase public awareness of the Commission and Kentucky’s outstanding nature preserve system.

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 natural 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.**
- 3. Educating Kentuckians as to the value and purpose of nature preserves and biodiversity preservation.**

The Commission is composed of five citizen members selected by the governor, two at-large members and one member appointed from each of three groups: the Kentucky Farm Bureau Association, the State Association of Soil Conservation Districts and the National Farmers Organization. The current commissioners are: Mrs. Clara Wheatley, Chairperson (National Farmers Organization), Mr. David Wright (at-large), Mr. O. D. Hawkins (Kentucky Farm Bureau Association), Mr. Kenneth Jackson (State Association of Soil Conservation Districts), and Dr. Eunice Johnson, M.D. (at-large). The executive director is Donald S. Dott, Jr. The Commission staff consists of 23 full-time positions and one permanent part-time position.

Interim positions are used when funding is available. These interim positions are necessary to support seasonal work such as biological inventory and nature preserve maintenance.

The Commission has adopted a vision statement for our long-term future:

“The people of Kentucky recognize, appreciate, endorse, and actively support biodiversity conservation, including the acquisition and maintenance of a state nature preserve system that represents the best possible examples of native biological diversity and significant natural features within the Commonwealth.”

## **WHY PROTECT BIODIVERSITY?**

Obviously protecting biodiversity is our statutory mission, but a fuller explanation may be beneficial. Biodiversity is an abbreviated version of the phrase “biological diversity.”

Biodiversity has been aptly explained by the Kentucky Biodiversity Task Force:

“Kentuckians are privileged to live in one of America’s most beautiful states with a rich tapestry of lands and waters, all teeming with life. This life is found in an abundance of plants, animals, and other organisms that interact with each other and the environments they occupy.

These living things and their relationships with each other and with their surroundings form a mosaic of biological communities and ecosystems that represent the complex and valuable diversity that makes Kentucky unique. This diversity of life, long a central theme of biological studies, is much more than a scientific discipline. It is a fundamental aspect of life on our planet. The interdependency among living things is an essential feature that makes life unique and our existence possible.

Biological diversity – or biodiversity, to use a shorthand term – is the focus of increasing interest and concern today, not only in Kentucky but across the country and around the world. The governments of several nations, recognizing that biodiversity knows no political boundaries, have launched conservation efforts. Biodiversity is emerging as a concept that unifies scientists, conservationists, economists, politicians, and philosophers in their attempts to address the problems resulting from the earth’s ever-increasing human population.” (Excerpted from Executive Summary of the 1995 Report of the Kentucky Biodiversity Task Force.)

There are numerous reasons to protect the native biodiversity of Kentucky – both pragmatic and ethical. A few reasons include:

1. **Commercial benefits** – Biological diversity is the basis for many natural resources that have commercial uses, such as plants for food and fiber, and wood for fuel and other products. Tree species, including oak, maple and walnut, make excellent furniture, pine

is used for framing, cedar for posts, nut and fruit trees provide food, etc. The Kentucky Division of Forestry reports that wood products industries employ 38,000 people and has a direct value of \$5.7 billion to Kentucky's economy.

2. **Medicinal benefits** – Almost one-fourth of all medical prescriptions throughout the world are derived from plants and microorganisms or synthesized versions of their chemical compounds. For example, willow is the basis for common aspirin. The recent growth in alternative medicine and health care is largely reliant on natural remedies which are plant-based; i.e., ginseng, echinacea (coneflowers), goldenseal, as well as many others.
3. **Recreational benefits** – Our great diversity of natural areas and ecosystems draw millions of visitors each year, not only to Kentucky's 51 state parks, but also to other natural areas such as the Department of Fish and Wildlife Resources Wildlife Management Areas, the Daniel Boone National Forest, Mammoth Cave National Park, the Land Between the Lakes, and many others. Kentucky's nature preserves are open and available for public visitation and education. According to the Kentucky Tourism Cabinet, recreational tourists provide Kentucky's third largest revenue producing industry, contributing \$8.7 billion to the state economy in 2001. Wildlife watching, hunting and fishing in Kentucky generated an estimated \$1.921 billion in expenditures according to the 2001 estimates of the U. S. Fish and Wildlife Service. This involved 2,722,000 participants in hunting, fishing and wildlife watching in Kentucky. Nationally hunting, fishing and wildlife expenditures in 2001 were an estimated \$110 billion, or 1.1% of the gross domestic product (GDP).
4. **Ecological functions** – Biological diversity is a major component of a stable, healthy environment. Plants provide foods, fibers and medicine. Forests provide oxygen to the atmosphere, help cool the climate and absorb man-made air pollution. Wetlands function with their unique diversity of species to purify water runoff from uplands, and are being used as alternative treatment methods for sewage and acid-mine drainage. Wetlands also act as reservoirs to retain and slowly release floodwaters. Many songbirds are natural pest predators that help reduce crop damage and forest injury from insects. Other insects provide plant pollination for both native flora and agricultural crops. These multiple biological elements are complexly interwoven in nature's scheme of biological diversity

that is the key to a healthy, stable environment.

5. **Man as steward** – Beyond the restorative benefits many people gain from visiting or simply being aware of undisturbed natural areas, is the ethical concept of stewardship. This is the belief that as but one species on this shared earth, humans do not have the right to push another species into extinction. Many people believe we have a social, spiritual or moral responsibility to ourselves and our children to preserve and share our natural resources – both inanimate and the biological. Future generations are wholly dependent on us to stem the loss of existing species.

Whatever reason may be most compelling for protecting our biological diversity, the 1976 Kentucky General Assembly made it our mission. KRS 146.410(1) states:

“All areas within the borders of the Commonwealth, except those which are expressly dedicated by law for preservation and protection in their natural condition, are subject to alteration by human activity. As part of the continuing growth of the population and the economic development of the Commonwealth, it is necessary and desirable that the overall impact on the natural ecology be considered when major alterations are proposed affecting same, and that certain areas of unusual natural significance be set aside and preserved for the benefit of present and future generations. Such unique areas are valuable as laboratories for scientific research, as reservoirs of natural materials not all of the uses of which are now known, as habitats for plant and animal species and biotic communities, as living museums of the native landscape where people may observe nature’s web of life and our natural heritage, as places of historic and natural interest and scenic beauty, and as reminders of the vital human dependence upon fresh air, clean water, and unspoiled natural areas.”

## **THREATS TO KENTUCKY’S BIODIVERSITY**

Nature preserves are often thought of by the public as areas in an undisturbed natural state, best left to “Mother Nature.” Unfortunately, there are too many threats to the remaining natural areas (as witnessed by their scarcity) for a hands-off approach. These threats are not only in the form of trespassing, unauthorized use of ATVs, timber theft, indiscriminate habitat destruction, arson, etc., but natural areas also suffer from more natural threats. Second only to the loss of diversity caused by land development is the invasion of and competition from exotic (non-native) species, like kudzu, garlic mustard, multi-flora rose and zebra mussels.



Invasive (rapidly proliferating) exotic species are the second most serious threat to native biodiversity, not only in Kentucky, but throughout the United States. The U. S. Government Accounting Office recently warned in a report of the dangers invasive species pose to the environment and the economy. Enormous costs have been incurred in seeking to control zebra mussels. In Kentucky, two of the worst invasives that farmers must fight to control are musk thistle and Johnson grass.

Exotic species that have no natural predators or disease to keep them in check can proliferate rapidly and crowd out native species. Historically, American chestnut blight and Dutch elm disease took a devastating toll on these two tree species. More current forest threats include dogwood anthracnose, hemlock wooly adelgid and butternut (or white walnut) canker. Kudzu is a notorious example of what an exotic plant can do to overwhelm native species. Less well known, but perhaps more widespread invasive exotic plants include garlic mustard, purple loosestrife, musk thistle, Japanese honeysuckle and others.

Additionally, the virtual elimination of wildfire as a normal event in the natural environment, to protect human habitation and timber value, has led to “non-natural” changes in ecosystems that evolved with wildfire as a regular component. For example, woody species and trees invade open grasslands or other prairie-like areas that historically were kept open by wildfires. Such areas need controlled burns carried out by the stewardship staff or these special communities of plants and their associated fauna will cease to exist as part of our landscape.

However, land conversion ranks as the primary threat to our natural areas and the native biological diversity they support. Natural areas support a great diversity of species, which we humans replace with only a few preferred species in our managed landscapes. Forests are cut and the most desirable species are removed, reducing tree diversity. Farmlands are frequently fescue pastures or monocultures of row crops. Suburban areas are planted in fescue or bluegrass and a relatively few ornamental plants and favored tree species that survive in urban conditions. Certainly these types of managed landscapes are both desirable and necessary for lodging, food, timber and fiber production, but part of their overall cost is a loss of biodiversity. As land conversion increases, the rare undisturbed natural areas that serve as reservoirs of Kentucky’s

bountiful biological diversity must be found and protected, before they are lost entirely or are reduced to such a small scale that they cannot sustain themselves.

The rapid rate of land development in Kentucky, noted as being second in the nation in 2001, led Patton to establish the Smart Growth Task Force. In the executive order establishing the task force, the governor stated, "Intelligent use of our resources will enhance Kentucky's prosperity by improving our quality of life and preserving our rich heritage." The governor charged the task force to consider growth and conservation issues. The task force noted in its draft report that, "Habitat loss/alteration/fragmentation is the largest contributor to species imperilment." Kentucky currently has 42 species, 33 animals and 9 plants, listed as threatened or endangered by the U. S. Fish and Wildlife Service. KSNPC lists and monitors 757 plants and animals as rare in Kentucky.

The Environmental Quality Commission (EQC) noted in its 2000-2001 State of Kentucky's Environment Report that Kentucky's forests are being cut at record high levels due to timber availability and worldwide demand. A 500-acre site in Letcher County believed to be very rare old-growth forest was lost last year during negotiations with KSNPC when the owner decided to sell the timber. According to the EQC report, hardwood stumpage prices rose nearly 27 percent in just one year (1998-1999). Natural areas are lost before our biologists and ecologists have an opportunity to find them and offer the landowner an option that will protect these scarce environs. EQC's 1996-1997 report recognized this threat several years ago, ranking habitat loss and forest silviculture as two of the primary ecological threats in Kentucky.

The 1996-1997 EQC report also stated, "Kentucky's natural landscape has been greatly altered, affecting the biodiversity of our natural communities and in some cases resulting in the loss of species and entire ecosystems." It reported that an estimated 101 acres per day were converted to urban areas and roads between 1982 and 1992. The 2000-2001 EQC report indicates this rate has increased to 109 acres per day. This not a good statistic for the preservation of our biodiversity.

Anyone who drives the highways of Kentucky does not need facts and figures as proof of the escalating rate of land conversion. It is self-evident and attests to the need to redouble our

efforts to find and protect the vanishing natural areas that have made Kentucky such a beautiful and biologically rich state.

Our Natural Areas Inventory (NAI) process is the primary means utilized to locate the remaining high quality natural areas in the state. However we have been unable to fully assess the surviving natural areas of Kentucky due to our limited resources and staff. The NAI section reached three full-time and one part-time staff in 1999, but has been unable to fill a subsequent vacancy since then due to our limited budget. The NAI process has been completed in only 30 counties and partly completed in another 38 counties, leaving 52 counties completely unassessed. (See map on Page 52.) We estimate that only *one-half of one percent (.5%)* of Kentucky remains in a natural condition comparable to what existed when the pioneers arrived. The current high rate of land conversion threatens these scarce remaining areas.

## **TOOLS TO ACCOMPLISH OUR MISSION**

The Commission uses a system known as the Natural Heritage Program to inventory and catalog information on rare plant and animal species and natural communities. This information is crucial to making science-based decisions to prioritize the protection of our natural areas and rare species. The Natural Heritage Program methodology is used in all 50 states, several Canadian provinces, and more than a dozen Central and South American nations. The Commission is part of the largest international biological data network in the world that is used for land and species protection. The Natural Heritage Program was initiated by The Nature Conservancy and is now managed by NatureServe, a nonprofit organization.

The Commission's Natural Heritage Program data on rare species and natural areas are used by other state agencies, the federal government, consultants, developers, researchers and students through a data service program that continues to grow in importance. Rare species and natural community data are required for many types of environmental assessments, permit applications and biological analyses. Those who use the KSNPC data save time and money, directing surveys where most needed, avoiding unneeded biological surveys and resulting in better environmental planning. In fact, it would be a tremendous task to try to duplicate the rare species and natural areas data that KSNPC has accumulated in its 26 years of diligence. The

Commission has data sharing agreements with several governmental agencies including the Kentucky Department for Surface Mining Reclamation and Enforcement and the Kentucky Department of Fish and Wildlife Resources.

The Commission has a staff of dedicated expert biologists to search the state for rare species, including federally listed endangered and threatened species. Our field staff includes: two botanists for rare plants (there are nine federally listed and 378 state-listed endangered/threatened plants in Kentucky); an aquatic biologist who specializes in native fish and mussels (the most at-risk group of animals in the United States); a zoologist who primarily surveys for birds, mammals, reptiles and amphibians; and a zoologist recently assigned to invertebrates including insects, mussels, gastropods and others, some of which are cave organisms unique to the cave systems of Kentucky.

Another group of Commission field biologists are the ecologists who identify and classify plant communities; i.e., bottomland hardwood forest, wetland, prairie, barrens, etc. The ecologists utilize a process called Natural Areas Inventory (NAI) to find and evaluate the natural areas of Kentucky and guide the acquisition of outstanding natural areas for our nature preserves system. The ecologists use aerial photography, topographic maps and other tools to assess potential natural areas prior to making ground visits to locate, document and assess these areas. The best natural communities are targeted for inclusion in the nature preserves system. Recently, our ecologists have assisted the Governor's Office of Technology on a National Aeronautics and Space Administration (NASA) grant to create a current statewide map of land cover. It will help to detect land use change and target surviving natural areas.

A new tool being implemented to locate and evaluate natural areas is the Large Forest Block project. This tool is a geographic information system (GIS) created map that delineates all contiguous blocks of forest larger than 900 acres in the Commonwealth. This is very important information as there are numerous species (including some of our songbirds and large mammals) that require large, unbroken forests for their survival. Prior to development of this map, there was no information as to the number and size of the remaining forest blocks in Kentucky. KSNPC has shared this data with other agencies. (See map on Page 55.)

The Nature Preserves and Natural Areas Branch staff members protect and preserve our diverse system of nature preserves. This involves expertise in land management techniques such as prescribed burning and exotic plant control and includes a myriad of tasks from trail maintenance to research on the viability of rare species populations. Currently, our preserve system consists of 17,835 acres and is growing. However, we have a staff of **only six** to oversee our 44 preserves. (See map on Page 54.) These outstanding natural sites are scattered across the Commonwealth from the wetlands of the Mississippi River to the dense forests of Pine Mountain on the state’s eastern border.

Thanks to the General Assembly’s creation of the Kentucky Heritage Land Conservation Fund Board (KRS 146.550-146.570), the Commission has been able to purchase high-quality natural areas from willing sellers. Since the 2001 biennial report, the Commission has enlarged several existing preserves and established new ones using funds of the Heritage Land Conservation Fund (HLCF) Board. These include:

Axe Lake Swamp	Ballard County	312 acres
Blanton Forest	Harlan County	1,646 acres
Brigadoon	Barren County	89 acres
Frances J. Palk	Pulaski County	150 acres
Julian Savanna	Franklin County	42 acres
River Cliffs	Franklin County	112 acres
Three Ponds	Hickman County	216 acres
Tom Dorman	Garrard County	<u>447 acres</u>
<b>TOTAL</b>		<b>3,004 acres</b>

This funding source is critical to ongoing efforts of the Commission to preserve unique and irreplaceable elements of Kentucky’s natural heritage. The HLCF receives its funding from three sources: the unmined minerals tax, environmental fines and sales of the “Nature’s Finest” license plates.

In addition to funds allocated from the Heritage Land Conservation Fund, KSNPC also applied to a variety of federal programs to assist in our land acquisition efforts. These include the U.S. Fish and Wildlife Service’s Recovery Land Acquisition grant program, the Land and Water Conservation Fund and the Transportation Enhancements grant program administered by the Kentucky Transportation Cabinet. In the latter case, we were successful and were awarded

\$75,000 to acquire or otherwise protect glade habitat in Bullitt County supporting a variety of unique prairie plant species, including the globally rare glade cress (*Leavenworthia exigua* var. *laciniata*).

## **KSNPC'S ACCOMPLISHMENTS DURING THE LAST BIENNIUM**

The public has increasingly recognized the significance of the preservation of biological diversity. The November 2001 report of the Governor's Smart Growth Task Force observed, "To make sure that our generation and those that follow continue to enjoy the benefits from these uniquely Kentucky qualities, we must give our attention to preserving, enhancing, and linking open space, green space, wildlife habitats, and other ecologically important lands." The task force recommended a statewide inventory of forest, riparian, wildlife, ecological and biological resources and developing a statewide strategic plan to preserve these assets. Creating incentives for counties to incorporate these environmental components into their comprehensive plans and development codes was also recommended.

On June 16, 2001, the KSNPC held a celebration at Blanton Forest State Nature Preserve (SNP) to announce the acquisition and dedication of the second half of the old-growth portion of the preserve. The additional 1,170 acres, purchased from Mrs. Alma Smukler and her family, brought the combined old-growth area to 2,245 acres. The acquisition was partially funded through a \$250,000 Clean Water Act § 319(h) Non-Point Source Pollution grant, along with a \$600,000 Community Development Grant authorized by the 2000 General Assembly.

The KSNPC continued our efforts to expand the forested buffer surrounding the old-growth forest, including a significant acquisition of 466 acres purchased at a substantial discount from the Kentucky Natural Lands Trust (KNLT), a nonprofit organization. KNLT had acquired the property from a private individual, following several years of negotiations, with the purpose of conveying it to the Commission for inclusion as part of Blanton Forest SNP. As of the end of 2002, the total preserved area encompasses 2,577 acres.

Public education is part of the KSNPC's mission. Though lacking a full-time position for

public outreach, our biologists and other administrative staff make effective representatives. We attend numerous public events such as Earth Day celebrations, the state fair, the conservation districts' Envirothon, and other environment-related activities. We also provide speakers to various organizations on request and conduct guided tours of our preserves.

The KSNPC has published a series of scientific articles as part of its education mission. Since 1976, there have been six publications on topics such as fishes, aquatic wetland plants and the ferns of Kentucky, etc. The latest publication was released in 2000, *The Butterflies and Moths (Lepidoptera) of Kentucky*. We compile and publish a list of state and federal rare, endangered and threatened species in the *Journal of the Kentucky Academy of Science*. Our aquatic biologist is nearing completion of a seventh publication for the scientific series, a guide to the native mussels of Kentucky, the most endangered group of animals in the United States.

The KSNPC has expanded the scope of its rare species inventories to include invertebrates (animals without backbones). Many invertebrate groups are very poorly known (i.e., beetles, mayflies, cave invertebrates, etc.) in Kentucky, yet have members that are rare or declining globally and nationally. In fact, the total number of invertebrate species in Kentucky is unknown, and each year species new to our state are discovered. In 2002, KSNPC staff inventories alone yielded three insect species new to the Commonwealth.

Invertebrate inventories at Eastview Barrens (Hardin County) and Crooked Creek Barrens (Lewis County) State Nature Preserves yielded a high species diversity, and a number of rare moths, butterflies, leafhoppers and grasshoppers. Many of these rare invertebrates evolved within the rapidly declining prairie, barren and glade communities, and are completely dependent upon the plants within these habitats for their survival - for food, egg-laying, etc. Eastview Barrens supports one of the best populations of a globally rare species known from fewer than 15 populations in the world, and rare species continue to be discovered there, contributing to our knowledge of its already amazing species assemblage. Based on what we already know of its invertebrate populations, Eastview is one of the top grassland sites in eastern North America.

Other invertebrate species previously unknown from Kentucky are being discovered at preserves and sites under consideration for preserve status. Surveys during 2002 yielded rare moths, including a new state-record of a rare moth from Springhouse Barrens (Hardin County), a site we hope to add to the preserve system. The new record represents the southern-most population of this species known to science. Floral and faunal surveys are vital to the development of management plans that must take into consideration the fragile balance of these communities. Maintenance of prairies and barrens by prescribed fire is a very important management technique, but must be done carefully so fire-sensitive species (i.e., invertebrates) have refugia from which to repopulate the burned areas. With proper inventory and management, we expect preserves like Eastview Barrens to support an even more diverse plant and animal community. We still have a tremendous amount to learn about our invertebrate fauna, especially in our rarest communities (i.e., prairies, barrens, old growth forests, etc.).

KSNPC is involved in a project funded by the NASA and administered through the Governor's Office of Technology, entitled the Kentucky Landscape Snapshot. The purpose of this project is to produce a map of the state depicting existing land covers (farm, forest, urban, etc.) using the latest available satellite imagery. The Commission's role in the project included aerial vegetation sampling to provide verification of the satellite data. This digital map will enable the state to track changes in land use and development, providing a critical planning tool.

As of January 2003, there are 44 nature preserves in the Kentucky State Nature Preserves System. Since the previous biennial report, four new preserves have been added: Three Ponds State Nature Preserve in Hickman County, Frances J. Palk State Nature Preserve in Pulaski County, River Cliffs State Nature Preserve and Julian Savanna State Nature Preserve, both in Franklin County. The Franklin County preserves are notable for the Commission. They are the first properties dedicated into the nature preserves system owned by private individuals. An additional 3,004 acres of land were dedicated at eight existing preserves. Altogether, land currently owned and/or dedicated by the Commission totals 17,835 acres.

Blanton Forest of Harlan County, the 13th largest old-growth forest in the eastern United States, will continue to require a significant amount of staff time. During this biennium, the



Commission dedicated the remaining old growth portion of the forest and has added a significant amount of mature second growth forest acreage as buffer. The final Blanton Forest preserve design encompasses 6,700 acres on Pine Mountain. Acquiring and managing this much land requires a long-term effort and more preserve management staff. We continue to have encroachment problems and illegal trespass on our remotely located Pine Mountain preserves.

Under contract with the United States Fish and Wildlife Service (USFWS), we are studying the distribution and status of five USFWS fish species of concern in the Green River system. One species lives only in the Pond River, but appears to be relatively common. The others are known from the mainstem Green and Barren rivers, where two of the species were not found, another is relatively widespread and common, and the last is difficult to collect and poorly known because of its deepwater habitat.

The administrative rules for the Kentucky Rare Plant Recognition Act (KRS 146.600, et seq.) were approved in 2002. This regulation establishes Kentucky's state listing of rare plants and assists the Commission in educating the public about this issue. There are nine plant species in Kentucky that are federally listed under the Endangered Species Act. (See list on Page 47.) We continue to utilize federal funding to work on the recovery of these species. Field surveys to determine the range of three of these species were conducted and population monitoring programs for federally listed Short's goldenrod and White-haired goldenrod continued. In addition to the federally threatened and endangered species, the status of 12 plants that may be considered for candidate listing was investigated and a comprehensive range-wide status survey was completed for another candidate species, Starry-cleft phlox.

The specialized expertise of KSNPC's biologists continues to be sought by other government agencies and is utilized in the review of development proposals through the Kentucky Intergovernmental Review Process (KIRP). These proposals involve projects where federal funding requires a review for potential impacts to endangered and threatened species. In addition, KSNPC staff regularly review project proposals outside of KIRP for other state and federal agencies, such as the USDA, Forest Service (Daniel Boone National Forest), Kentucky Division of Water, Department of Highways, Department of Surface Mining Reclamation and

Enforcement, the Division of Abandoned Mine Lands, and the Division of Waste Management. Some of this work is performed as part of Memoranda of Agreement between KSNPC and the other agencies.

Our Sherri Evans Memorial Grant Program is funded with donations from organizations and individuals who want to remember the good works of the late Kentucky biologist. It is used to support research projects on nature preserves, to study rare species and for other projects supporting the protection of Kentucky's biodiversity. The results add to our knowledge of the diversity of Kentucky, as well as our ability to manage and protect the nature preserves. Projects to date include a study of the mosses and liverworts of Blanton Forest SNP, a dendroecological study of bluegrass savanna (one of our rarest habitat types) and the effects of red cedar on glade soil properties. These studies will provide valuable information to help us protect these rare ecosystems that are represented within our nature preserve system.

Other grants and contract work continue to enhance KSNPC's overall biological inventory effort and are needed to supplement the agency's budget. During 2001 and 2002, KSNPC received commitments of \$244,516 for grant and contract work. As points of reference, during 1997 and 1998, KNSPC received \$567,030, and during 1999 and 2000, KSNPC received \$321,193 by way of grants and contracts. The primary source of these funds is the Department for Surface Mining Reclamation and Enforcement (DSMRE) and several federal agencies. The DSMRE had been a mainstay for KNSPC, but this has declined precipitously from \$240,000 in FY 99, to only \$33,000 in FY 03. This decrease resulted from a reduction in federal funding received by DSMRE. We have garnered other contract work to help offset this loss of agency receipts, but still suffer from it. It has especially reduced our ability to hire seasonal field assistants, and the contract work pulls our biologists from their most pressing work.

The following tables contain information on projects undertaken and accomplished by KSNPC for 2001 and 2002 and include the agencies from which the grants/contracts were awarded.

**KSNPC Contracts by Agency and Project  
2001**

**Amount**

KES00 United States Fish and Wildlife Service Endangered Species Act	\$ 19,170.70
KES01 United States Fish and Wildlife Service Endangered Species Act	\$ 1,643.97
Ky. Dept. for Surface Mining Reclamation and Enforcement - Natural Heritage Program database	\$ 50,383.11
US Dept. of the Army - Gray bat study	\$ 17,653.96
Louisville - US Corps of Engineers - Green River Lake	\$ 6,000.00
US Dept. of Defense - Running Buffalo Clover	\$ 6,500.00
US Dept. of Interior - Habitat Protection Model	\$ 5,893.00
US Dept. of Interior - White Haired Goldenrod	\$ 2,000.00
<b>Contracts for 2001</b>	<b>\$109,244.74</b>

**KSNPC Contracts by Agency and Project  
2002**

**Amount**

HPM00 U.S. Fish and Wildlife Service – Endangered Species Act	\$ 9,107.00
USDA Land Between the Lakes – Prices Potato Bean	\$ 1,000.00
U. S. Fish and Wildlife Service – Green River Mussel Inventory	\$ 15,000.00
Ky. Dept. for Surface Mining Reclamation and Enforcement - Natural Heritage Program database	\$ 22,708.44
KES00 – U.S. Fish and Wildlife Service	\$ 3,255.14
KES01 – U. S. Fish and Wildlife Service – Endangered Species	\$ 17,415.54
KES02 – USDOJ – Endangered Species	\$ 1,513.96
Ky. Division of Water – Martins Fork Survey	\$ 24,500.00
U. S. Dept. of the Army – Gray bat study	\$ 12,771.04
Ky. National Guard survey	\$ 18,000.00
Ky. Division of Forestry survey	\$ 10,000.00
<b>Contracts for 2002</b>	<b>\$ 135,271.12</b>

**DATA SERVICES**

The Natural Heritage Database of rare species, natural communities, sites, and managed areas is the result of 27 years of field research by the KSNPC biologists, as well as the compilation of herbarium and natural history museum records and field records from other biologists. The Commission is committed to providing timely and accurate data in a professional and cooperative manner through data request services and by agreement with other state and federal agencies and conservation organizations. The database maintained by KSNPC continues to be recognized as invaluable tool, as we provide government and private requesters with

current, reliable data for environmental impact statements, biological analyses and long-term planning.

The following table summarizes the source and number of data requests KSNPC received during fiscal years 2001 and 2002.

**KSNPC Data Requests Summary  
Fiscal Years 2001 and 2002**

<b>Requester</b>	<b>Requests FY 2001</b>	<b>Requests FY 2002</b>
Private Consultants	185	105
State Government	52	66
The Nature Conservancy	1	3
Researchers	9	6
Individuals	1	1
Local Government	3	1
Federal Government	10	4
Utilities	21	14
Conservation Groups	2	6
Others	3	2
<b>TOTAL</b>	<b>287</b>	<b>208</b>

The Commission acquired Geographic Information System (GIS) capability in the fall of 1998. This technology once fully implemented, will allow KSNPC to increase its effectiveness at providing data and also allow us to better analyze and interpret our data in order to assess and prioritize sites for preserving Kentucky’s biological heritage. The Commission staff has used GIS to digitize (electronically map) all the state’s nature preserves and has used GIS community shape files for eco-regional planning initiatives. We have been striving to implement this

technology in many other ways to help further the mission of KSNPC. Budget limitations have left one position vacant in the data section for much of the time in the past two years, and the loss of trained personnel to other agencies have caused us to be cautious about the number of GIS projects that we undertake at any given time.

The KSNPC has worked with the Division of Conservation on a GIS-based Large Forest Block Inventory, which is currently in a draft version. This project has enabled us to identify the remaining large, unbroken forested areas of the state and will allow us and other groups involved in land protection to better guide our land acquisition efforts. Numerous species from black bears to neotropical migratory songbirds require large expanses of unbroken forest to survive. This project will help us not only to locate these areas, but to also find greenways that serve as critical corridors to connect the remaining large forested tracts.

The KSNPC has been involved in preparing several maps and gathering information for the Pine Mountain Trail State Park and the related Pine Mountain Legacy Project. Throughout 2002, with the assistance of the Natural Resources and Environmental Protection Cabinet GIS Branch, we have responded to the needs of both these projects with several GIS products. Examples of these are maps to distribute at public meetings and maps depicting specific threats to Pine Mountain that were determined by KSNPC staff.

GIS is also being regularly used to develop vegetation cover maps for all the state nature preserves, to map management units, for rare species locations, exotic plant infestations and trail systems. These state-of-the-art computer applications enable the Commission to better focus its limited resources.

The Commission purchased and installed in July 2002, a computer program entitled Biotics, which is an ArcView-based program that interfaces our existing rare species/natural areas database with GIS mapping capabilities. The installation of Biotics was the first phase of a complete software conversion for the Commission. In the first part of 2003, we hope to implement the second phase, which will upgrade our existing DOS database, (with a version date of 1986) to a modern Oracle database which was written expressly for use in Natural Heritage

Programs to work seamlessly with Biotics.

The conversion to a GIS mapping program from the paper maps that we have updated over the course of 27 years is a work in progress. There are many site and managed area shapes and species locations drawn on the paper topographic maps that still need to be digitized before they can be used in the Biotics system. We are hoping to get additional interim help and work intensively on this project in 2003, as it is difficult for the existing staff to maintain current responsibilities and complete this time-intensive project at the same time.

### **NATURE AND WILDLIFE FUND**

The Nature and Wildlife Fund allows Kentucky taxpayers to donate to KSNPC and the Kentucky Department of Fish and Wildlife Resources (KDFWR) on their state income tax returns using the tax check-off boxes. Approximately \$6,901 and \$4,368 were generated in interest income from the tax check-off program for tax years 2000 and 2001, respectively. Contributions are evenly divided with KDFWR.

A table containing the total check-off receipts recorded by tax year follows. The Revenue Cabinet may further adjust figures beyond tax year 2001.

#### **Nature and Wildlife Fund Income by Tax Year**

<b>Tax Year</b>	<b>Total Receipts</b>
1990	\$74,936
1991	\$93,580
1992	\$95,424
1993	\$100,974
1994	\$99,682
1995	\$99,842
1996	\$98,624
1997	\$109,792
1998	\$90,946
1999	\$76,732
2000	\$45,088
2001	\$38,624

Appeals to the public are made through all possible media that offer free advertising. Articles have been written for the publications of both agencies and their cabinets. Articles and news releases have been offered to the media during each tax season. KDFWR produced a video promotional advertisement that was test marketed on Louisville area cable television. If this test proves successful in generating higher contributions, it will be expanded to additional areas of the state. As specified in KRS 141.470, all funds from the Nature and Wildlife Fund are used by KSNPC only for land acquisition or the protection, maintenance, and use of land so acquired.

## **NATURE PRESERVES AND STEWARDSHIP**

The Commission's Nature Preserves and Natural Areas Branch manages 44 preserves containing 17,835 acres that comprise the Kentucky State Nature Preserves System. The majority of the preserves are owned by the Commission, but three preserves are owned by The Nature Conservancy, three are owned by county governments, one is owned by a local private organization, one is owned by Berea College, two are privately owned, and eight are within Kentucky state parks.

Stewardship activities have increased steadily with the establishment of management objectives for each nature preserve. The extent of management varies with each preserve. All preserves require routine maintenance such as boundary posting and inspections. Projects involving habitat manipulation, exotic species control, trail construction, or species monitoring are developed according to the purpose and management needs of each preserve. The Commission's recent acquisitions include several areas that will require intensive management to restore the integrity of component natural communities and ensure the survival of rare species.

Personnel have not increased since 1998 yet the management responsibilities of the nature preserve system are increasing. To date, there are **only six** full-time permanent employees to care for a preserve system of nearly **18,000 acres**. Personnel include a branch manager supervising three regional preserve managers, and two stewardship assistants. Two of the regional preserve managers are stationed in satellite offices; located in Bowling Green and Whitesburg. The stewardship assistants develop management plans for each preserve and interpretive materials for visitor use, and assist with the administrative and field management

duties of a statewide operation. Only one interim position was hired in 2001 and 2002 due to budget shortages. We need at least four interims to keep up with management needs. A single interim is insufficient staffing for the routine preserve maintenance, let alone the site specific work such as controlling invasive plants and conducting prescribed burns. Additional staff are critical to the future successful management of Kentucky's nature preserves, in which so much as been invested.

To offset the increasing responsibilities of preserve management, the Commission has entered into partnerships to help ensure that preserves are properly maintained. Custodial care of four preserves has been assigned to other organizations in accordance with KRS 146.410 to 146.530. We use Memorandums of Agreement (MOA) with other public agencies and private organizations to assume partial responsibility for the costs of preserve maintenance and operation, when we can find willing partners. MOAs are presently in effect with Eastern Kentucky University, the Louisville Nature Center, the Jefferson County Board of Education and their partner the Blackacre Foundation, and Berea College.

Despite these efforts, we are losing ground in our ability to care for our nature preserve system. We acquire new preserve acreage (and we still lack representatives of many types of natural areas), utilizing the Kentucky Heritage Land Conservation Fund (KHLCF). The KHLCF wisely provides 10 percent of acquisition costs for the initial management expenses in the first two and one-half years. However there is no similar fund source for the ongoing management expenses after that initial 10 percent is exhausted. We are particularly in need of an additional preserve manager for the preserves in far western Kentucky. We need additional stewardship assistants or funding to hire more seasonal interim workers to keep up with the increased work that comes with the annual growing season. Without sufficient staff the preserves will decline and the quality of the visitor experience will also suffer.

The Commission's use of volunteers has continued to be important, as management responsibilities have increased. Volunteers include scout troops, school groups, members of organizations such as the Sierra Club and The Nature Conservancy, as well as local citizens. Volunteers patrol trails and boundaries and add to our knowledge of the flora and fauna of selected preserves. Future plans for volunteers include training interested persons as field trip



leaders and recruiting preserve monitors for each preserve.

Major stewardship activities since the January 2001 biennial report include:

- Acreage actively managed by prescribed fire has increased each year. Results of fire management indicate a positive response from rare species being managed (increase in stem counts for the federally endangered Short's goldenrod, state endangered royal catchfly and prairie gentian). Barrens communities at Crooked Creek, Raymond Athey Barrens and Eastview Barrens State Nature Preserves (SNPs) are becoming more open as woody stem densities decrease. Long-term goals are coming to fruition on these preserves.
- Exotic plant control demands an increasing portion of management assignments on state nature preserves. Fescue control at Crooked Creek and Raymond Athey Barrens SNPs has been very successful, with a significant increase in native grasses at both sites.
- The preserves branch manager has taken a leadership role in communicating the threat of exotic species in natural areas to the public and to sister agencies by participating in both state and regional exotic species organizations. Exotic plant legislation has been prefiled by State Rep. Carolyn Belcher in the 2003 Regular Session (HB 59).
- Research projects funded by KHLCF money and the Sherri Evans Fund have discovered a number of insects and plants that are considered rare or were previously unknown for Kentucky. A cooperative study with the KDFWR on determining bear population size has provided the Commission with a better understanding of black bear migration on the five Pine Mountain nature preserves.
- Use of GIS resources and high quality global positioning equipment has enhanced the quality of map products and improved preserve management planning.

The following table lists all the dedicated state nature preserves:

## Kentucky State Nature Preserves System

### Managed Acreage by County and Preserve January, 2003

County	Preserve	Acres
Allen	Goodrum Cave SNP	51
Ballard	Axe Lake Swamp SNP	458
Barren	Brigadoon SNP	181
Bell	Pine Mountain SPNP	868
Boone	Boone County Cliffs SNP	74
Boone	Dinsmore Woods SNP	106
Carter	Bat Cave SPNP	128
Carter	Cascade Caverns SPNP	18
Clark	Lower Howard's Creek Heritage Park & SNP	244
Fayette	Floracliff SNP	287
Franklin	Julian Savanna SNP	42
Franklin	River Cliffs SNP	112
Graves	Terrapin Creek SNP	229
Greenup	Jesse Stuart SNP	714
Hardin	Eastview Barrens SNP	120
Hardin	Jim Scudder SNP	58
Hardin	Vernon-Douglas SNP	730
Harlan	Blanton Forest SNP	3,055
Harlan	Hi Lewis Pine Barrens SNP	164
Harrison	Quiet Trails SNP	165
Henderson	John James Audubon SPNP	325
Hickman	Obion Creek SNA	1,402
Hickman	Three Ponds SNP	216
Jefferson	Beargrass Creek SNP	41
Jefferson	Blackacre SNP	170
Jefferson	Six Mile Island SNP	81
Jessamine	Tom Dorman SNP	812
Larue	Thompson Creek Glades SNP	64

Letcher	Bad Branch SNP	2,376
Letcher	Kingdom Come SPNP	225
Lewis	Crooked Creek Barrens SNP	351
Logan	Logan County Glade SNP	41
Logan	Raymond Athey Barrens SNP	156
McCracken	Metropolis Lake SNP	123
McCreary	Cumberland Falls SPNP	1,294
Muhlenberg	Cypress Creek SNP	97
Powell	Pilot Knob SNP	648
Powell	Natural Bridge SPNP	994
Pulaski	Frances J. Palk SNP	150
Robertson	Blue Licks SNP	53
Rockcastle	John B. Stephenson Memorial Forest SNP	124
Simpson	Flat Rock Glade SNP	99
Warren	Chaney Lake SNP	169
Warren	Woodburn Glade SNP	20
<b>Total</b>		<b>17,835</b>

Located at the end of this report is an alphabetical listing of Kentucky State Nature Preserves and Natural Areas with a description and directions to each.

## **REGISTERED NATURAL AREAS**

The Kentucky Natural Areas Registry, established by the Commission with the assistance of the Kentucky Chapter of The Nature Conservancy in 1984, is a non-binding, non-regulatory program that recognizes landowners who retain ownership and agree to exercise good stewardship of ecologically significant property. The registry simply encourages the preservation of important habitat on private and public lands that are not available or quite suitable for dedication as a state nature preserve. Private individuals, government agencies and local governments, as well as businesses and other corporate entities, may register property they own. Those who have registered their land as a State Natural Area have earned the appreciation of all citizens of the Commonwealth for their preservation of our state's most unique remaining habitat - something that state government cannot wholly achieve on its own.

Currently, there are 55 landowners with interests in 52 areas that have registered their natural areas. (See map on Page 53.) These voluntary agreements encompass approximately 4,938 acres in 36 counties across the state. Since the last biennial report, seven new natural areas have been added to the registry. The names of each of the State Natural Areas that have been registered, along with the approximate acreage and county, are listed below:

**KENTUCKY STATE NATURE PRESERVES COMMISSION  
REGISTERED NATURAL AREAS**

Abbreviations: Kentucky Dept. of Fish & Wildlife Resources (KDFWR), Kentucky Transportation Cabinet (KTC), National Park Service (NPS), Tennessee Valley Authority (TVA), U.S. Corps of Engineers (USACE)

<b>COUNTY</b>	<b>NAME</b>	<b>ACRES</b>	<b>OWNERSHIP</b>	<b>SIGNIFICANCE</b>
Adair	Rossin Mayne Woods	230	Private	mature woods
Allen	Carpenter Cave	20	Private	rare animal
Ballard	Axe Lake	385	Private	wetland community
Boyle	Central Kentucky Wildlife Refuge	500	Private	forest
Bullitt	Jefferson County Sportsmen Club	12	Private	rare plant
Bullitt	Rocky Run Glade	25	Private	glades, rare plants
Calloway	Panther Creek Swamp	128	TVA	wetland, rare plants
Carlisle	Back Slough/Laketon	43	Private	wetland community
Clinton	Seventy-six Falls	1	USACE	rare plant
Crittenden	Goodman/Clouser – Sandstone Glade	15	Private	glades
Edmonson	White’s Cave	5	NPS	rare insects
Fayette	Ashland	15	Private	rare plant
Fayette	Boone Creek	260	Private	undisturbed woods & rare plants
Fayette	Raven Run	274	Municipal	Kentucky River palisades
Fleming, Nicholas, Robertson	Blue Licks Highway	2	KTC	rare plant
Franklin	Camp Pleasant Woods	118	Private	rare plant
Franklin	Leeland Valley	26	Private	rare plant
Franklin	Rockcress Woods (Bryan)	10	Private	rare plant

Franklin	Rockcress Woods (Greene/Adams)	15	Private	rare plant
Franklin	Strohmeiers Hill	53	Private	rare plant
Grayson	Big Clifty Prairie	2	KTC	prairie remnant
Hardin	Dowell	20	Private	glade, rare plants
Hardin	Hardin Cedar Glade	20	Private	glade, rare plants
Hardin	Knights Barrens	400	Private	barrens community
Hardin	Springhouse Barrens	130	Private	glade, rare plants
Harrison	Griffith Savannah	140	Private	rare community
Hart	Big Woods	307	NPS	old-growth woods
Hart	Riders Mill Cave	260	Private	rare animal
Jefferson	Shippingport Island Rookery	10	USACE	heron rookery
Jefferson	Surrey Hills Woods	35	Private	mature forest
Jessamine	Jessamine Creek Gorge	298	Private	rare plants
Larue	Jackson Pond	8	Private	geologically significant pond
Larue	Spalding Glade	8	Private	glade, rare plants
Letcher	Bad Branch (Crawford)	245	Private	rare plants & animals
Letcher	Bad Branch (Gatton)	215	Private	rare plants & animals
Logan	Katie White Barrens (Webb)	15	Private	glades/barrens communities
Logan	Katie White Barrens (Lockett)	15	Private	glades/barrens communities
Logan	Log House Prairie	10	Private	prairie remnant
Lyon	Cannon Springs Woods	220	USACE	recovering woods
Marshall	Bear Creek Rookery	10	TVA	heron rookery
McCracken	Barkley Prairie	8	Municipal	wet prairie remnant
McCracken	Bayou Creek Ridge	150	TVA/KDFWR	old-growth woods
McCracken	Metropolis Lake	2	TVA	natural lake, rare fish
McLean	Floyd Woods	25	Private	old-growth woods
Nicholas	Abnee Goldenrod	1	Private	rare plant
Nicholas	Kingsolver Goldenrod	5	Private	rare plant
Owsley	Morris Kentucky Ladyslipper	5	Private	rare plant
Perry	Stillhouse Branch	105	USACE	mature forest
Pulaski	Blowing Cave	5	Private	rare plants & animals
Taylor	Blue Knob	30	Private	glades, barrens
Todd	North Elk Fork Woods	41	Private	old growth woods
Todd	South Elk Fork Woods	37	Private	old-growth woods
Trigg	Lake Barkley Rookery	10	USACE	heron rookery
Warren	Watt Cave	1	Private	rare animal
Whitley	Grove Powerline	8	Utility	rare plants
<b>TOTAL</b>		<b>4,938</b>		

## CONCLUSION

The Kentucky State Nature Preserves Commission, despite being a small agency, has made great strides since its beginnings 27 years ago. KSNPC has created an impressive system of nature preserves representing some of the most unique habitats in Kentucky. The Commission's Heritage database of information on rare species and natural areas is widely respected, not only by other federal and state agencies who deal in these concerns, but also among private consultants and Kentucky's scientific community. Our field biologists, ecologists and preserve management staff are committed experts and are well-known and respected among their peers.

Though much has been accomplished in 27 years, much work remains to be done. The fact that 17,835 acres have been forever protected as dedicated preserves is impressive, but if you consider that Kentucky has approximately 25 million acres, it is evident that we need a greatly expanded nature preserve system to protect viable examples of Kentucky's many unique habitats. The Commonwealth is blessed with a diversity of natural areas – from the lushly forested mountains of eastern Kentucky to the bald cypress swamps of western Kentucky and a myriad in between of tall-grass prairies, rocky glades, blue holes of the karst region, countless caves, free-flowing streams, bluegrass savannas and more. There are, of course, other managed natural areas under public ownership, such as state parks and federal lands, but KSNPC's nature preserve system is truly our best-protected repository for Kentucky's biodiversity.

To forge ahead with our task of surveying the remaining **half** of Kentucky that waits to be inventoried, we need to employ more field biologists before the escalating rate of land conversion and the loss of natural areas destroys our remaining gems. We cannot take another 15 to 20 years to complete the inventory if we are to be successful. Another pressing need is our expanding nature preserves system. It will require more management staff and funds for infrastructure such as trail building and visitor parking. KSNPC will seek to establish more partnerships to help with these needs.

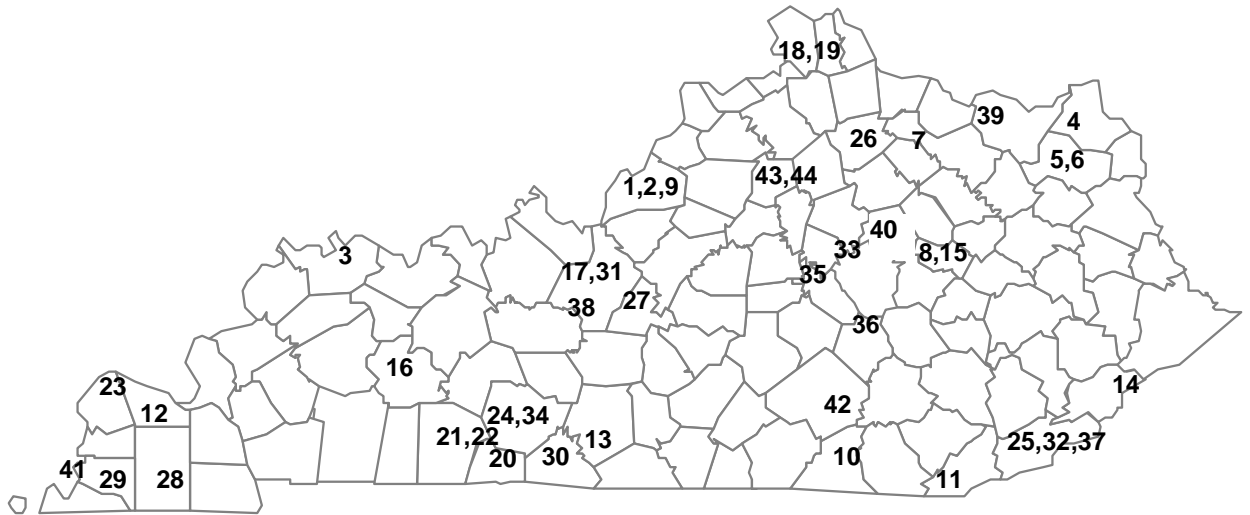
With only three managers and two assistant staff to care for 17,835 acres, the

Commission is woefully understaffed when compared with neighboring states' natural areas programs. The current geographic distribution of managers provides the bare minimum of coverage to prevent serious damage to the preserves. However, the wetland preserves in the Jackson Purchase (far western Kentucky) require more attention than we have been able to provide to date. Wetland systems require monitoring to ensure water quality is not impaired and fragile resource protection needs are met. The closest manager is stationed in Bowling Green and that is too far to respond quickly to any urgent situation that may arise, i.e. wildfire, illegal logging, etc. KSNPC will continue to build upon existing partnerships and seek to establish more to help with these needs, but additional funding is crucial and at least two more managers will be necessary by 2004.

The rare species, both plant and animal, and unique natural areas that make Kentucky the ecologically diverse state it is are perhaps the most precious endowment we can leave to our children and their children. It is the task of the Kentucky State Nature Preserves Commission to protect this heritage.

# LISTING OF KENTUCKY STATE NATURE PRESERVES

January 2003



<b>Blackacre SNP (1)</b>	<b>Cumberland Falls SPNP (10)</b>	<b>Dinsmore Woods SNP (19)</b>	<b>Terrapin Creek SNP (28)</b>	<b>Hi Lewis Pine Barrens SNP (37)</b>
<b>Six Mile Island SNP (2)</b>	<b>Pine Mountain SPNP (11)</b>	<b>Flat Rock Glade SNP (20)</b>	<b>Obion Creek State Nature Preserve (29)</b>	<b>Eastview Barrens SNP (38)</b>
<b>John James Audubon SPNP (3)</b>	<b>Metropolis Lake SNP (12)</b>	<b>Logan County Glade SNP (21)</b>	<b>Goodrum Cave SNP (30)</b>	<b>Crooked Creek Barrens SNP (39)</b>
<b>Jesse Stuart SNP (4)</b>	<b>Brigadoon SNP (13)</b>	<b>Raymond Athey Barrens SNP (22)</b>	<b>Vernon-Douglas SNP (31)</b>	<b>Lower Howard's Creek Heritage Park and SNP (40)</b>
<b>Bat Cave (Roger W. Barbour) SNP (5)</b>	<b>Bad Branch SNP (14)</b>	<b>Axe Lake Swamp SNP (23)</b>	<b>Blanton Forest SNP (32)</b>	<b>Three Ponds SNP (41)</b>
<b>Cascade Caverns SPNP (6)</b>	<b>Pilot Knob SNP (15)</b>	<b>Chaney Lake SNP (24)</b>	<b>Floracliff SNP (33)</b>	<b>Frances Johnson Palk SNP (42)</b>
<b>Blue Licks SPNP (7)</b>	<b>Cypress Creek SNP (16)</b>	<b>Kingdom Come SPNP (25)</b>	<b>Woodburn Glade SNP (34)</b>	<b>River Cliffs SNP (43)</b>
<b>Natural Bridge SPNP (8)</b>	<b>Jim Scudder SNP (17)</b>	<b>Quiet Trails SNP (26)</b>	<b>Tom Dorman SNP (35)</b>	<b>Julian Savanna SNP (44)</b>
<b>Beargrass Creek SNP (9)</b>	<b>Boone County Cliffs SNP (18)</b>	<b>Thompson Creek Glades SNP (27)</b>	<b>John B. Stephenson Memorial Forest SNP (36)</b>	

Numbers indicate chronological order of dedication. SPNP indicates state park state and nature preserve.



### 1. Blackacre State Nature Preserve

Dedicated on March 19, 1979, Blackacre State Nature Preserve is a tract of approximately 170 acres located in Jefferson County near Jeffersontown that is used as an environmental education center by the Jefferson County Public School System and the University of Louisville. Since it is located adjacent to a large metropolitan area, it offers a unique outdoor laboratory for environmental education to a large number of children who otherwise might not have the opportunity for this experience. This area is currently being managed by the Jefferson County Public School System and the Blackacre Foundation Inc., through an agreement with the Commission. To schedule a visit, contact the Blackacre Foundation at 502-266-9802.

### 2. Six Mile Island State Nature Preserve

Dedicated on June 24, 1979, Six Mile Island State Nature Preserve is an 81-acre island located in the Ohio River in Jefferson County, near Louisville, that is noted for its variety of water birds. This island was protected so that it would be allowed to return to its original natural state. With time, this island will allow researchers and citizens the unique opportunity to study the ecology of riverine island systems.

<i>Features</i>	-	undeveloped riverine island
<i>Access</i>	-	by boat
<i>Facilities</i>	-	none
<i>Hazards</i>	-	barge and motorboat traffic
<i>Activities</i>	-	nature study, birdwatching, etc.
<i>Directions</i>	-	Jefferson County. From the junction of I-71 and Zorn Avenue, turn right onto Zorn Avenue for 0.2 mile. Then turn right on River Road for 0.5 mile to the Cox Park boat ramp. Island is 1.5 miles upstream from landing.

### 3. John James Audubon State Park Nature Preserve

Dedicated on Sept. 19, 1979, John James Audubon State Park Nature Preserve consists of approximately 325 acres and is located in Henderson County within John James Audubon State Park. This area is composed of a rich, mixed hardwood forest which was originally set aside as a bird sanctuary and memorial to the distinguished naturalist, John James Audubon. The preserve protects an excellent example of the forested loess bluffs along the Ohio River.

<i>Features</i>	-	old growth trees, lake, spring wildflowers
<i>Access</i>	-	5.5 miles of trail over uneven terrain, moderate
<i>Facilities</i>	-	state park
<i>Parking</i>	-	abundant
<i>Activities</i>	-	hiking, nature study, birdwatching, etc.
<i>Directions</i>	-	Henderson County. From the junction of U.S. 60 and U.S. 41 in Henderson, follow U.S. 41 north for 1.7 miles to the John James Audubon State Park entrance.

### 4. Jesse Stuart State Nature Preserve

Dedicated on Dec. 7, 1979, Jesse Stuart State Nature Preserve encompasses 714 acres located in Greenup County that was acquired through a gift-purchase arrangement with the internationally known author, Jesse Stuart. The area is used

for passive recreation and environmental education. The preserve is also a Watchable Wildlife Site.

- Features* - hills and hollows made famous in Stuart's writings
- Access* - 3.0 miles of trail over uneven terrain, moderate
- Facilities* - none
- Parking* - 6 cars; 1 bus
- Activities* - hiking, birdwatching, literature study, etc.
- Directions* - Greenup County. From the junction of I-64 and KY 1 north of Grayson, follow KY 1 north for 20 miles. Turn left onto W-Hollow Road. Drive 1.5 miles to parking area on right side of road.

5. Bat Cave (Roger W. Barbour) &

6. Cascade Caverns State Nature Preserves

Dedicated on Dec. 16, 1981, Bat Cave/Cascade Caverns State Nature Preserves consist of two tracts totaling 146 acres located in Carter County within Carter Caves State Resort Park. Bat Cave was dedicated into the nature preserves system for the protection of the Indiana bat (*Myotis sodalis*). This federally endangered species' wintering numbers in Bat Cave are estimated at 28,000. The Cascade Caverns portion of the preserve was dedicated into the nature preserves system to protect two rare plant species, the mountain maple (*Acer spicatum*) and the Canadian yew (*Taxus canadensis*). To prevent disturbance of the bats in hibernation, the caves are closed to public visitation from October through May. However, hiking trails on the portion of the preserve that is above ground are open year-round.

- Features* - 2 cave systems, rare bat winter roost, rare plants
- Access* - cave tours (Bat Cave closed in between months of October and April), 1 mile of trails on surface
- Facilities* - state resort park
- Parking* - abundant
- Hazards* - steep banks above Tygarts Creek at Cascade Caverns
- Activities* - hiking, geological study, birdwatching, etc.
- Directions* - Carter County. From the junction of I-64 and U.S. 60 N.E. of Olive Hill, follow U.S. 60 east 1.5 miles. Turn left at the junction with KY 182 and drive east for 2.5 miles to Carter Caves State Resort Park entrance. Inquire about the preserve at the lodge.

7. Blue Licks Battlefield State Park Nature Preserve

Blue Licks Battlefield State Park Nature Preserve is located in Robertson County within Blue Licks State Park. The original 15-acre tract was dedicated on Dec. 16, 1981. An additional 15 and 23 acres were dedicated on June 16, 1998 and March 7, 2000, respectively. This area was dedicated into the nature preserves system for the protection of Short's goldenrod (*Solidago shortii*), an extremely rare species of plant known nowhere else in the world and protected under the Federal Endangered Species Act.

- Features* - globally rare plant, relict bison trail, glade
- Access* - 0.25 mile foot path along buffalo trace, easy
- Facilities* - state park
- Parking* - abundant
- Activities* - hiking, birdwatching, nature study, etc.

- Directions* - Robertson County. From Maysville, take U.S. 68 25 miles south to park entrance. From Carlisle, take U.S. 68 10 miles north to Blue Licks State Park entrance.

#### 8. Natural Bridge State Park Nature Preserve

Dedicated on Dec. 16, 1981, Natural Bridge State Park Nature Preserve consists of approximately 994 acres and is located in Powell County within Natural Bridge State Resort Park. This area was dedicated into the nature preserves system to protect a significant geological system and rare species habitat. The rare Virginia big-eared bat (*Corynorhinus townsendii virginianus*), a federally endangered species, has been recorded from the preserve.

- Features* - Natural Bridge, rare species, scenic views
- Access* - 13.7 miles of trail over uneven terrain, moderate to strenuous
- Facilities* - state resort park
- Parking* - abundant
- Hazards* - cliffs, venomous snakes (rare)
- Activities* - hiking, nature study, geological study, etc.
- Directions* - Powell County. From the junction of the Mountain Parkway and KY 11 at Slade, follow KY 11 south for 2.0 miles to the Natural Bridge State Resort Park entrance.

#### 9. Beargrass Creek State Nature Preserve

Dedicated on Feb. 17, 1982, Beargrass Creek State Nature Preserve is a 41-acre second growth forest located in close proximity to Joe Creason Park and the Louisville Zoological Gardens in Jefferson County. This urban green space is a popular birding area and offers passive recreation and nature education within the city limits of Louisville. The preserve is co-managed with The Louisville Nature Center and is also a Watchable Wildlife Site. For more information, contact the Louisville Nature Center at 502-458-1328.

- Features* - wooded tract in urban Louisville, diversity of migrant birds
- Access* - 1.0 mile of trails on ridgetop and bottomland, easy
- Facilities* - Louisville Nature Center and adjacent Joe Creason Park
- Parking* - abundant
- Activities* - birdwatching, hiking, nature study, etc.
- Directions* - Jefferson County. From the junction of I-264 (Watterson Expressway) and Newburg Road, follow Newburg Road north for 1.0 mile. Turn left onto Trevilian Way for 0.5 mile. Turn right into Joe Creason Park.

#### 10. Cumberland Falls State Park Nature Preserve

Dedicated on Sept. 26, 1983, Cumberland Falls State Park Nature Preserve encompasses approximately 1,294 acres in Cumberland Falls State Resort Park in McCreary and Whitley Counties. This preserve protects several species of rare plants and animals. In addition, a number of waterfalls are located within the preserve including Cumberland Falls, which plummets 67 feet into a rocky gorge and is the highest waterfall in the eastern United States south of Niagara Falls.

The Cumberland River, designated as a Kentucky Wild River, flows through the preserve.

- Features* - waterfalls, rare plant and animal species, scenic views
- Access - Facilities* - 4.5 miles of trail over uneven terrain, moderate state resort park
- Parking* - limited at trailheads; parking areas within short walk
- Hazards* - steep cliffs, waterfalls, venomous snakes (rare)
- Activities* - hiking, nature study, geological study, birdwatching, etc.
- Directions* - Whitley and McCreary Counties. From the junction of I-75 and U.S. 25W southwest of Corbin, follow 25W for 14.5 miles. Turn right onto KY 90 for 8.8 miles to reach the Cumberland Falls State Resort Park Lodge area. Inquire at the lodge for information about the preserve.

#### 11. Pine Mountain State Park Nature Preserve

Dedicated on Sept. 26, 1983, Pine Mountain State Park Nature Preserve consists of two tracts of approximately 868 total acres within Pine Mountain State Resort Park in Bell County. This area contains an old growth forest of hemlock (*Tsuga canadensis*), tulip poplar (*Liriodendron tulipifera*), and white oak (*Quercus alba*), many of which are 200-300 years old, as well as a significant archaeological site - a large sandstone shelter that was inhabited by Native Americans, now known as a Rock Hotel. Pine Mountain fault block is also one of the most prominent geological structures in the eastern United States.

- Features* - old growth hemlocks, fault block mountain, scenic views, rare species
- Access - Facilities* - 3.0 miles of trail over uneven terrain, strenuous state resort park
- Parking* - abundant
- Hazards* - cliffs, venomous snakes (rare)
- Activities* - hiking, nature study, birdwatching, geological study, etc.
- Directions* - Bell County. From Pineville follow U.S. 25E south for 1.5 miles. Turn right onto KY 190 for 1.5 miles. Then turn right on 1491 for 1.5 miles to the Pine Mountain State Resort Park Lodge parking lot.

#### 12. Metropolis Lake State Nature Preserve

Dedicated on July 16, 1984, Metropolis Lake State Nature Preserve is a 123-acre tract in McCracken County, which contains 50-acre Metropolis Lake, one of only a few remaining natural lakes in the Ohio River floodplain. The area was acquired with the assistance of The Nature Conservancy. The lake is ringed with bald cypress (*Taxodium distichum*) and swamp tupelo (*Nyssa aquatica*) and provides habitat for five species of fish that are rare or uncommon in Kentucky. The preserve is also a Watchable Wildlife Site.

- Features* - natural floodplain lake, rare species
- Access - Facilities* - 0.75 mile interpretive trail over uneven terrain, moderate
- Facilities* - none

- Parking* - 20 cars; 2-3 buses
- Activities* - birdwatching, hiking, nature study, etc.
- Directions* - McCracken County. From the Junction of I-24 and U.S. 60 in Paducah, follow U.S. 60 west for 7.0 miles, then turn right on KY 996 for 5.5 miles. Turn right onto Stafford Road, drive past gate to lake parking area.

### 13. Brigadoon State Nature Preserve

Dedicated on March 14, 1985, Brigadoon State Nature Preserve originally consisted of 92 acres of mostly mature forest in Barren County adjacent to the Barren River Reservoir. Another 88 acres were dedicated on June 12, 2001. Both tracts were acquired with the assistance of The Nature Conservancy. The rich woodlands contain an impressive array of spring wildflowers including several species that are considered rare or uncommon. The preserve also provides habitat for many resident and migratory birds. Access is by written permission only.

### 14. Bad Branch State Nature Preserve

Initially, 435 acres of land in Letcher County were dedicated on Sept. 26, 1985, forming Bad Branch State Nature Preserve. An additional 1,088 acres, owned by The Nature Conservancy, were dedicated March 4, 1992 and 820 acres, owned by the Commission, were dedicated Sept. 17, 1997. The preserve contains Bad Branch Gorge, a forested gorge on the south face of Pine Mountain. The 820 acre addition provides protection to the majority of Presley House Branch Watershed and the rare species associated with this drainage. This is one of the most significant and beautiful natural areas in the state. This preserve protects the scenic beauty of the gorge and one of the largest concentrations of rare and uncommon species known in the state. The preserve also protects Kentucky's only known nesting pair of common ravens (*Corvus corax*). Bad Branch has been designated a Kentucky Wild River.

- Features* - hemlock gorge, waterfall, high quality stream, numerous rare species, trail along mountain crest
- Access* - foot trail and bridges, 7.4 miles of trail over uneven terrain, strenuous
- Facilities* - none
- Parking* - 10 cars; 1 bus
- Hazards* - steep cliffs, venomous snakes (rare)
- Activities* - hiking, birdwatching, nature photography, research, etc.
- Directions* - Letcher County. From the junction of KY 15 and U.S. 119 in Whitesburg, follow U.S. 119 south 8.0 miles. Turn left at junction with KY 932 and travel east for 2.0 miles to gravel parking area on left side of KY 932.

### 15. Pilot Knob State Nature Preserve

Pilot Knob State Nature Preserve is a 648-acre area in Powell County. The original 308-acres were acquired with the assistance of The Nature Conservancy and dedicated on Sept. 26, 1985. The 340 acres purchased in 1998 more than doubled the size of this preserve. This new section was dedicated on March 16, 1999. A sandstone outcrop at the southeast end of the 730-foot high knob, considered to be the prominence upon which Daniel Boone first stood and looked

out over the Bluegrass Region of Kentucky, is known as "Boone's Overlook." This preserve is managed with Eastern Kentucky University through an agreement with the Commission.

- Features* - cultural history, scenic views, historic millstone quarry
- Access* - 1.75 mile trail to top of knob, strenuous hike; 0.5 mile trail along creek, moderate
- Facilities* - none
- Parking* - 7-8 cars; 1-2 buses
- Hazards* - cliffs, venomous snakes (rare)
- Activities* - hiking, nature study, birdwatching, geological study, etc.
- Directions* - Powell County. From the junction of the Mountain Parkway and KY 15 at Clay City, follow KY 15 north for 2.7 miles. Turn right on Brush Creek Road for 1.5 miles to gravel parking area.

#### 16. Cypress Creek State Nature Preserve

Dedicated on Dec. 5, 1986, Cypress Creek State Nature Preserve consists of a 97-acre portion of bottomlands lying adjacent to Cypress Creek in Muhlenberg County. The preserve and adjacent areas contain a mosaic of natural communities including bald cypress (*Taxodium distichum*) swamp and bottomland hardwood forest complex, that support numerous rare species typically associated with wetlands. Access is by written permission only.

#### 17. Jim Scudder State Nature Preserve

Dedicated on Sept. 2, 1987, Jim Scudder State Nature Preserve is a 58-acre glade and prairie complex located in Hardin County. The dry, rocky glade openings provide habitat for several rare plant species including the silky aster (*Aster sericeus*). The preserve, owned by Hardin County, is managed by the Commission to protect one of the best remaining examples of a limestone glade in Kentucky. Access is by written permission only.

#### 18. Boone County Cliffs State Nature Preserve

Dedicated on Nov. 5, 1987, the preserve is owned by the Kentucky Chapter of The Nature Conservancy and protects unique glacial features and four forest community types. Forty-six acres were initially dedicated. Twenty-eight additional acres were dedicated on May 16, 1990. The preserve protects a tributary to Middle Creek, and is named for the 20 to 40-foot conglomerate cliffs along the valley walls. The conglomerate is composed of gravel that was deposited as glacial outwash 700,000 years ago.

- Features* - glacial outwash cliffs, spring wildflower display
- Access* - 2.4 mile trail over uneven terrain, moderate
- Facilities* - none
- Parking* - 5 cars; 1 bus
- Hazards* - steep cliffs
- Activities* - hiking, nature study, geological study, birdwatching, etc.
- Directions* - Boone County. From the junction of I-75 and KY 18 near Florence, follow KY 18 west for 10.8 miles, then left on Middle Creek Road for 1.5 miles to gravel parking area on left side of road.

#### 19. Dinsmore Woods State Nature Preserve

Dedicated May 16, 1990, Dinsmore Woods State Nature Preserve is a 106-acre area owned by the Kentucky Chapter of The Nature Conservancy. The preserve protects a relatively undisturbed maple-oak-ash forest in Boone County. Prior to the Conservancy's ownership, the woods had been in the possession of one family dating back to the 1830s. The maturity and species composition of this woodland are attributed in part to the fact that it has never been commercially logged. The preserve is adjacent to the early 19<sup>th</sup> century Dinsmore Homestead, a historical landmark. Populations of the federally endangered running buffalo clover (*Trifolium stoloniferum*) are also adjacent to preserve property.

<i>Features</i>	-	mature forest
<i>Access</i>	-	1.7 mile trail, moderately strenuous
<i>Facilities</i>	-	none
<i>Parking</i>	-	limited
<i>Activities</i>	-	hiking, nature study, birdwatching, etc.
<i>Directions</i>	-	Boone County. From the junction of I-75 and KY 18 near Florence, follow KY 18 west for 11.3 miles, turn left into gravel parking lot for the county horsemen's area. Trailhead is across KY 18.

#### 20. Flat Rock Glade State Nature Preserve

Dedicated Oct. 24, 1990, Flat Rock Glade State Nature Preserve was originally a 65-acre natural area in Simpson County. An additional four acres were acquired as buffer acreage and were dedicated on March 11, 1994. The area was acquired with the assistance of The Nature Conservancy. On Dec. 5, 2000, the Commission dedicated another 30 acres adjacent to the existing preserve. The preserve's name describes the large expanses of limestone bedrock that outcrop at the surface and form openings in the oak-hickory woods. The glades support seven rare plant species including limestone fameflower (*Talinum calcaricum*), which is only known from two sites in Kentucky. Access is by written permission only.

#### 21. Logan County Glade State Nature Preserve

Dedicated Oct. 24, 1990, Logan County Glade State Nature Preserve is the result of a cooperative effort between the Logan County fiscal court and the Commission to protect 41 acres of limestone glades in Russellville. The glades occupy the southwest-facing midslope of an 810 foot high knob located within the city limits. The steep rocky slope is dominated by prairie grasses such as little bluestem (*Schizachyrium scoparium*) and side-oats grama (*Bouteloua curtipendula*). Rare plants include Carolina larkspur (*Delphinium carolinianum*), glade violet (*Viola egglestonii*), and limestone fameflower (*Talinum calcaricum*). The county and the Commission manage this preserve jointly.

<i>Features</i>	-	high quality limestone glades
<i>Access</i>	-	0.5 mile trail over uneven terrain, moderate
<i>Facilities</i>	-	none
<i>Parking</i>	-	parking lot adjacent to preserve, space for 15 cars
<i>Hazards</i>	-	steep slopes, loose rock, venomous snakes (rare)
<i>Activities</i>	-	birdwatching, hiking, nature study, etc.
<i>Directions</i>	-	Logan County. From the junction of the Green River Parkway and U.S. 68/KY 80 at Bowling Green, follow U.S. 68/KY 80 west for 24.4 miles to

Russellville. Turn right into parking area between Health Department and old hospital building.

#### 22. Raymond Athey Barrens State Nature Preserve

This preserve was named in honor of the man who discovered the site's significance as a natural area. Raymond Athey, a self-taught botanist, freely gave of his extensive knowledge to help in the protection of Kentucky's unique natural areas. Initially, 63 acres of land in Logan County were acquired with the assistance of The Nature Conservancy and dedicated on Oct. 24, 1990. Additional tracts of three and 90 acres were purchased in 1991 and 1994 and dedicated on Feb. 20, 1991 and March 11, 1994, respectively. The 156-acre preserve supports several plant communities with a high diversity of associated species. The barrens are typified by the open-grown post (*Quercus stellata*) and black jack (*Quercus marilandica*) oaks that dominate the woodland canopy. Glades occur as small openings within the woods. The soils are characteristically thin with bedrock at or near the surface. Several rare species are known from this preserve, including the prairie gentian (*Gentiana puberulenta*), a wildflower with vibrant deep blue petals. Access is by written permission only.

#### 23. Axe Lake Swamp State Nature Preserve

Dedicated Feb. 20, 1991, 146 acres of Axe Lake Swamp in Ballard County, established the Axe Lake Swamp Nature Preserve. An additional tract of 312 acres was bought and dedicated on Dec. 11, 2001 increasing the size of the preserve to 458 acres. This preserve was acquired with the assistance of The Nature Conservancy and represents the first step for the Commission in assisting with the long term protection of the entire 3,000 acre Axe Lake Swamp wetlands complex which supports at least eight rare plant and animal species. Axe Lake Swamp State Nature Preserve is a portion of Kentucky's best known example of a large, intact bald cypress-tupelo swamp. The wetland contains a large great blue heron (*Ardea herodias*) rookery and is the only known nesting site for the great egret (*Casmerodius albus*) in Kentucky. Thousands of waterfowl, particularly wood ducks (*Aix sponsa*), roost here during the winter, and the site has been recognized as a priority wetland in the North American Waterfowl Management Plan. Access is by written permission only.

#### 24. Chaney Lake State Nature Preserve

Dedicated May 9, 1991, Chaney Lake State Nature Preserve consists of 169 acres of intermittently flooded low-lying fields and woodlands. The area was acquired with the assistance of The Nature Conservancy. Chaney Lake, located near Woodburn in Warren County, is one of two "transient" lakes in the area. The lake forms when heavy rains cause groundwater levels to rise and overflow onto the surface through several sinkholes located in the low-lying depression. The area is well known to birdwatchers for the abundance of migrant waterfowl and shorebirds that pass through the area in the spring. Access is by written permission only.

#### 25. Kingdom Come State Park Nature Preserve

Dedicated March 4, 1992, Kingdom Come State Park Nature Preserve consists of 225 acres on the north face of Pine Mountain in Letcher County within the Kingdom Come State Park. This preserve protects Kentucky's third largest colony of the federally endangered Indiana bat (*Myotis sodalis*). Line Fork Cave, located in the preserve, is the winter roost for over 3,000 bats. Historically,



10,000 Indiana bats inhabited Line Fork Cave. This serious decline in bat population is due to human disturbance and vandalism to the cave. Consequently, cave visitation has been restricted to the days between May 1 and Aug. 31 and can be arranged through the Kingdom Come State Park office.

- Features* - cave system, rare bat winter roost
- Access* - at your own risk, due to rugged terrain and absence of trail
- Facilities* - state park
- Parking* - limited
- Hazards* - steep cliffs, venomous snakes
- Activities* - caving, hiking, birdwatching, etc.
- Directions* - Harlan and Letcher Counties. From junction of KY 160 and U.S. 119 in Cumberland, take U.S. 119 1.0 mile to the east. Turn left at entrance to Kingdom Come State Park and follow signs to the park office.

#### 26. Quiet Trails State Nature Preserve

Quiet Trails consists of 165 acres of ridges and ravines bordering the Licking River in Harrison County. Mr. and Mrs. W. G. Wigglesworth, Jr. donated the original 110 acres to the Commonwealth of Kentucky in 1992. For years the property was set aside as a private nature sanctuary and was utilized by local scout troops, schools and private organizations for nature study and as a place for quiet reflection. The diversity of birds, trees and wildflowers represent the richness of the Bluegrass fauna and flora. An additional 55 acres were purchased and dedicated in 1997. The Kentucky State Nature Preserves Commission manages this area primarily for environmental education and passive recreation. The preserve is also a Watchable Wildlife Site.

- Features* - great diversity of birds, trees, wildflowers and mussels
- Access* - 3.1 miles of trail, moderate
- Facilities* - none
- Parking* - 4 cars
- Activities* - hiking, nature study, birdwatching, etc.
- Directions* - Harrison County. From Cynthiana, take U.S. 27 north approximately 10 miles. Turn right onto KY 1284, which leads to Sunrise. Continue on Pugh's Ferry Road after crossing the four-way intersection. The preserve is located on the right, 1.8 miles from the intersection.

#### 27. Thompson Creek Glades State Nature Preserve

Acquired with the assistance of The Nature Conservancy and dedicated March 4, 1992, Thompson Creek Glades State Nature Preserve is a 64-acre, high quality limestone glade complex located in Larue County. Several hill glades occur on thin-bedded Salem limestone outcroppings on south- and west-facing slopes above Thompson Creek. These areas are characterized by shallow, rocky soils and a number of showy prairie/glade plant species that are able to survive the harsh, dry conditions. This preserve will be managed to maintain the glade openings from encroaching woody vegetation. Access is by written permission only.

#### 28. Terrapin Creek State Nature Preserve

The Terrapin Creek drainage in Graves and Calloway counties is a highly

significant aquatic system that supports an unusual diversity of fishes including several species found nowhere else in Kentucky. The area is characterized by extensive wetlands, springs, and spring runs unlike any other in Kentucky that are home to a broad array of plants and animals. The Commission's goal is to protect this important system from future modifications that could result in the loss of a unique Kentucky resource. With the assistance of The Nature Conservancy, 22 acres of land in Graves County were acquired and dedicated on June 3, 1992, forming Terrapin Creek State Nature Preserve. An additional 39 acres were dedicated on March 11, 1994, another 79 acres on March 15, 1996, another 61 acres on June 15, 1999, and another 28 acres on December 9, 1999. Acquisition of this 229-acre preserve is the first step for the Commission in the long-term protection of the Terrapin Creek wetlands complex. Access is by written permission only.

29. Obion Creek State Natural Area

Purchased in June 1992 this 1,402-acre tract in Hickman County is a mosaic of wetland communities and upland slopes. The area was acquired with the assistance of The Nature Conservancy. The property includes shrub swamp, marsh, and bottomland hardwood forest and is part of one of the largest remaining tracts of wetland in Kentucky. The entire Obion Creek watershed is a haven for numerous rare plants and animals. Access is by written permission only.

30. Goodrum Cave State Nature Preserve

Dedicated Aug. 12, 1992, this preserve is a 51-acre area in Allen County containing one of the six most important maternity caves known in Kentucky. The site protects a maternity colony of approximately 13,000 gray myotis (*Myotis grisescens*) bats, one of three federally endangered bats found in Kentucky. The preserve includes a section of the wooded stream corridor and uplands surrounding the cave, which has been surveyed and mapped for a distance of approximately 6,200 feet. The acquisition of Goodrum Cave represents the Commission's first purchase of a cave for the protection of an endangered bat species. Access is by written permission only.

31. Vernon-Douglas State Nature Preserve

Dedicated Aug. 12, 1992, Vernon-Douglas State Nature Preserve is located within a rugged, steep forested section of Hardin County. This 730-acre preserve protects one of the most mature second growth forests in the Knobs Physiographic Region. Hall Hollow, a north-facing valley in the preserve, supports a rich array of spring wildflowers. A trail system passes through the valley bottom to the dry ridges above Hall Hollow. A spur trail takes hikers onto a narrow point locally known as "the pinnacle", which provides a bird's-eye view of the Younger Creek valley.

- Features* - stands of sugar maple, beech and tulip poplar, spring wildflower display
- Access* - 4.5 miles of trail over uneven terrain, moderate to strenuous
- Facilities* - none
- Hazards* - venomous snakes (rare), steep slopes
- Activities* - hiking, nature study, birdwatching, etc.
- Directions* - Hardin County. From Elizabethtown, take the Bluegrass Parkway east 9.0 miles to KY 583. Exit right and turn right at the stop sign. Immediately

turn right again onto Audubon Trace Road. Drive 0.5 mile to the preserve and park in parking lot on left.

### 32. Blanton Forest State Nature Preserve

A 1,075-acre tract in Harlan County, dedicated on Sept. 15, 1995, protects half of the largest old-growth forest in Kentucky. As the preserve has grown, an additional 326 acres were transferred from Kentucky Division of Forestry in 1996. An additional eight-acre tract was dedicated on June 15, 1999, and 1,167 acres were dedicated on Sept. 25, 2001, yielding 2,576 acres of preserve property. As one of thirteen large old-growth tracts in the eastern United States, Blanton Forest is a diverse ecological treasure. Many of the trees are three to four feet in diameter, towering 100 feet above the forest floor. Blanton Forest contains several forest communities, including mixed-mesophytic deciduous forest with many kinds of canopy trees, such as sugar maple, tulip poplar, various oaks, hemlocks, beech and several magnolia trees. The preserve is open to the public.

- Features* - largest old growth forest in Kentucky
- Access-* loop foot trail (4 miles) up the south face of Pine Mt, foot trail (0.5miles) along Watt's Creek.
- Facilities* - none
- Parking* - lot adjacent to Camp Blanton
- Hazards* - steep slopes, snakes, and hazard trees
- Activities* - hiking, bird watching, nature study etc...
- Directions* - Blanton Forest State Nature Preserve is located in extreme southeastern Kentucky near the community of Keith in Harlan County. The preserve is on Pine Mountain, north of U.S. Highway 119 and west of the city of Harlan. From Interstate 75, exit onto U.S. Highway 25 East at Corbin. Continue on U.S. Hwy 25E through Barbourville to Pineville. In Pineville, turn left off of U.S. Hwy 25E onto U.S. 119, crossing the Cumberland River at the Exxon Station/Happy Mart. Continue traveling east on U.S. 119 for 23 ½ miles, then turn left (north) on KY 840. There will be a sign for KY 840 and Camp Blanton at this point. Follow KY 840 (Watts Creek Rd.) for approximately 2 miles until encountering the parking area for the preserve adjacent to Camp Blanton.

### 33. Floracliff State Nature Preserve

The late Dr. Mary Wharton, former Botany Professor and Biology Department Head at Georgetown College, established Floracliff as a nature sanctuary. Dr. Wharton began acquiring the Floracliff property in 1958. The property is located on the Kentucky River in Fayette County. The Floracliff Board of Directors owns the preserve and jointly manages it with the Kentucky State Nature Preserves Commission. This area was dedicated on March 15, 1996. Floracliff consists of 287 acres of old field upland and second growth forest dominated by maple, oak and hickory. In addition to having a rich and diverse wildflower display, Floracliff also harbors a significant geologic feature. Below Elk Lick Falls is a tufa formation, which resembles a frozen waterfall. It is considered one of the best tufa formations in the eastern United States. Similar to stalagmites in

caves, tufa forms when minerals within dripping water are deposited on a surface. Travertine is the primary mineral composing this tufa. The formation is 61 feet high and 8-12 feet in diameter. The rich flora, ravines, cliffs and waterfalls of Floracliff make it one of the more scenic areas in central Kentucky. Visitation to the preserve is by appointment only and is restricted to small groups led by approved leaders.

34. Woodburn Glade State Nature Preserve

Acquired with the assistance of The Nature Conservancy and dedicated March 15, 1996, this 20-acre tract in Warren County consists of several rocky glade openings. Six rare plants occur in these openings: Carolina larkspur (*Delphinium carolinianum*), upland privet (*Forestiera ligustrina*), Butler's quillwort (*Isoetes butleri*), necklace glade cress (*Leavenworthia torulosa*), Gattinger's lobelia (*Lobelia appendiculata* var. *gattingeri*), and eastern euphorus (*Perideridia americana*). This is the only known population of Gattinger's lobelia in Kentucky. Access is by written permission only.

35. Tom Dorman State Nature Preserve

Dedicated as the Kentucky River Authority Palisades State Nature Preserve on Dec. 20, 1996, this 356-acre preserve was renamed in 1999 to honor Thomas Dorman for his service as former director and commission chairman of the Kentucky River Authority, and his efforts to acquire this site. With 200 acres dedicated on Sept. 25, 2001, it protects 556 acres with spectacular, 220-foot palisades along the Kentucky River in Garrard and Jessamine counties. Several rare plants are located in the thin soils on the limestone cliffs including starry cleft phlox (*Phlox bifida* ssp. *stellaria*) and Eggleston's violet (*Viola septemloba* var. *egglestonii*). Due to hazardous cliffs, fragile habitat and limited access on the Jessamine County tract, the preserve is open to the public on the Garrard County side of the Kentucky River only.

- Features* - 220-foot limestone palisade walls, rare plants, Kentucky River
- Access* - Foot trail through the forest and to the river, 2-mile loop
- Facilities* - None
- Parking* - 8 cars
- Hazards* - Extremely high cliffs
- Activities* - hiking, nature study, birdwatching, etc.
- Directions* - Garrard County. From Nicholasville, follow Rt. 27 south for approximately 9 miles. After crossing the Kentucky River into Garrard County, continue for an additional 1-1/4 miles. Turn right on Rt. 1845 and follow it for 1 mile. At the road next to Lambert's Chapel turn right. Follow this road for approximately 3/4 mile (go straight, do not take the fork to the left). Park in the gravel parking lot at the end of this road.

36. John B. Stephenson Memorial Forest State Nature Preserve

Dedicated Dec. 10, 1996, John B. Stephenson Memorial Forest State Nature Preserve in Rockcastle County protects a 124-acre wooded gorge with two waterfalls and a rich spring floral display. The preserve honors John B. Stephenson, the former President of Berea College who enjoyed the area's beauty

and solitude and worked hard to preserve the forest surrounding Anglin Falls. Long open to the public, the preserve will remain a significant source for education, interpretation, and inspiration for the people of Kentucky and the students and faculty of Berea College.

- Features* - Anglin Falls (75 feet), Venable Falls (150 feet) spring wildflower display, Anglin Creek, forested gorge
- Access* - 1-mile foot trail over uneven terrain, moderate to strenuous
- Facilities* - none
- Hazards* - cliffs at waterfalls, slippery rocks
- Activities* - hiking, nature study, birdwatching, etc.
- Directions* - Rockcastle County. From southern Madison County, from I-75, take KY 21 east for approximately 6 miles to U.S. 421. Take U.S. 421 S. for approximately 2.8 miles. Continue into Rockcastle County for 0.2 miles and take a right on Himanns Fork Road. Follow Himanns Fork Road for approximately 4 miles and take a left on Anglin Falls Road. Follow Anglin Falls Road for 1 mile, then take a left on gravel road to the preserve. Park on the right hand side at the end of the road.

### 37. Hi Lewis Pine Barrens State Nature Preserve

Hi Lewis Pine Barrens State Nature Preserve protects an outstanding example of an open pine-oak woodland, dominated by pitch pine (*Pinus rigida*) and chestnut oak (*Quercus montana*), on the steep, mid to upper south-facing slope of Pine Mountain in Harlan County. One-hundred sixty-four acres were acquired with the assistance of The Nature Conservancy and dedicated into the State Nature Preserves System on June 4, 1997. Named for the branch that drains the area, this part of the mountain supports an extremely rare pine barrens community as well as a number of rare plants that are found in association with it. The open areas feature an unusual mix of plants typically thought of as prairie plants, such as Little bluestem (*Schizachyrium scoparium*) and Indian grass (*Sorghastrum nutans*) and drought tolerant plants such as low-bush blueberries (*Vaccinium sp.*).

Rare plants found at the site include diminutive screwstem (*Bartonia virginica*), frostweed (*Helianthemum canadense*), and the largest known Kentucky population of yellow wild indigo (*Baptisia tinctoria*). Spanning 1,000 feet in elevation from the base of the mountain to the ridge crest, the preserve also protects flowering and fruiting American chestnut trees (*Castanea dentata*), hemlock-mixed mesophytic forest, and massive sandstone outcrops and cliffs. Access is by written permission only.

### 38. Eastview Barrens State Nature Preserve

Dedicated Sept. 17, 1997, Eastview Barrens State Nature Preserve is 120 acres of grassland and open woodland co-owned by The Nature Conservancy and the Commission. The presence of globally rare species at Eastview Barrens makes protection a critical priority. Numerous rare species, including prairie gentian (*Gentiana puberulenta*), barrens silky aster (*Aster pratensis*), frostweed (*Helianthemum bicknellii*), long-haired hawkweed (*Hieracium longipilum*), and spikemoss (*Selaginella apoda*) continue to survive on the fire-maintained grasslands. Due to the sensitivity of the preserve, Eastview Barrens State Nature

Preserve is only accessible through guided tours with the Commission or The Nature Conservancy.

#### 39. Crooked Creek Barrens State Nature Preserve

Crooked Creek Barrens State Nature Preserve, located in Lewis County, was established when the original 60-acre tract was dedicated on June 15, 1999. The protected area increased more than five-fold with the dedication of 291 additional acres in December 2000. The preserve features a unique oak barrens community and adjacent oak-hickory forest. Prairie species such as big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), and prairie dock (*Silphium terebinthinaceum* var. *luciae-brauniae*) occur in the barrens areas.

This site also protects five rare plant species: starry false Solomon's seal (*Maianthemum stellatum*), white rattlesnake root (*Prenanthes alba*), slender blazing-star (*Liatris cylindracea*), earleaf foxglove (*Agalinis auriculata*), and scarlet Indian paintbrush (*Castilleja coccinea*). Access to this preserve is by written permission only.

#### 40. Lower Howard's Creek Heritage Park and State Nature Preserve

Clark County fiscal court agreed to dedicate and protect 244 acres surrounding Lower Howard Creek that they own in southwestern Clark County, and the Commission made it official on Jan. 22, 2001. A tributary to the Kentucky River, Lower Howard Creek flows through a deep, twisting gorge. Second growth forests cover the slopes and cliff tops, and a showy array of spring wildflowers grace the valley bottoms. The steep topography has left refuge for two rare plants, the federally endangered running buffalo clover (*Trifolium stoloniferum*) and state threatened water stitchwort (*Stellaria fontinalis*). Located downstream from Boonesborough, Lower Howard Creek valley was an industrial center for water powered stone milling in the 18<sup>th</sup> and 19<sup>th</sup> centuries. Five of the stone buildings that remain are on the National Register of Historic Places, and one can still find the rock fences and hike the historic wagon road winding down into the steep, forested gorge. Presently, access is by guided hike only.

#### 41. Three Ponds State Nature Preserve

Dedicated on June 12, 2001, Three Ponds State Nature Preserve protects 216 acres of loess bluff, bottomland hardwood forest, and coastal plain slough communities on the Mississippi River floodplain. Bald cypress (*Taxodium distichum*) and buttonbush (*Cephalanthus occidentalis*) surround a series of three small ponds, which have a surface area of about 20 acres, and which drain into Obion Creek. The preserve currently encompasses the upper two ponds. Sugarberry (*Celtis laevigata*), green ash (*Fraxinus pennsylvanica*) and sweetgum (Liquidambar styraciflua) dominate the bottomland hardwood forest, while sugar maple (*Acer saccharum*) dominates the bluff. Access is by written permission only.

#### 42. Frances Johnson Palk State Nature Preserve

Frances Johnson Palk State Nature Preserve was dedicated on July 9, 2002 and is located in Pulaski County. Discovered in 1998 by KSNPC biologists, this 150-acre preserve contains a series of acid seep communities that can rarely be seen in Kentucky. These small wetlands are formed by seeps found at the heads of several small streams. Although much of the preserve is dominated by upland forest, over 70 species of plants occur within the bogs, several of which are considered rare. Access is by written permission only.

43. River Cliffs State Nature Preserve

Rivercliffs State Nature Preserve, located in Franklin County, was dedicated on Oct. 22, 2002. Situated along the Kentucky River palisades northwest of Frankfort, Rivercliffs protects Lucy Braun's rockcress (*Arabis perstellata*), a federally endangered species. This 112-acre preserve is one of the Commission's first privately owned preserves. Access is by written permission only.

44. Julian Savanna State Nature Preserve

Located in Franklin County, Julian Savanna protects 42 acres of remnant bluegrass savanna woodland. A globally imperiled community type unique to the bluegrass region of Kentucky, the Commission plans to conduct research on methods to restore and enhance the woodland. Several other remnant sites in the region will benefit from the research results. Dedicated on Oct. 22, 2002, this property is also privately owned and is accessible by written permission only.

# Kentucky's Federally Listed Endangered and Threatened Species

Key to Status:

E – Endangered

T – Threatened      This list includes only species that are not extinct or extirpated from the state.

SCIENTIFIC NAME	COMMON NAME	STATUS
<b>Vascular Plants</b>		
<i>Apios priceana</i>	Price's potato-bean	T
<i>Arabis perstellata</i>	Braun's rock-cress	E
<i>Conradina verticillata</i>	Cumberland rosemary	T
<i>Helianthus eggertii</i>	Eggert's sunflower	T
<i>Minuartia cumberlandensis</i>	Cumberland sandwort	E
<i>Schwalbea americana</i>	American chaffseed	E
<i>Solidago albopilosa</i>	White-haired goldenrod	T
<i>Solidago shortii</i>	Short's goldenrod	E
<i>Spiraea virginiana</i>	Virginia spiraea	T
<i>Trifolium stoloniferum</i>	Running buffalo clover	E
<b>Freshwater Mussels</b>		
<i>Alasmidonta atropurpurea</i>	Cumberland elktoe	E
<i>Cyprogenia stegaria</i>	Fanshell	E
<i>Epioblasma brevidens</i>	Cumberlandian combshell	E
<i>Epioblasma capsaeformis</i>	Oyster mussel	E
<i>Epioblasma obliquata obliquata</i>	Catspaw	E
<i>Epioblasma torulosa rangiana</i>	Northern riffleshell	E
<i>Lampsilis abrupta</i>	Pink mucket	E
<i>Obovaria retusa</i>	Ring pink	E
<i>Pegias fabula</i>	Littlewing pearlymussel	E
<i>Plethobasus cooperianus</i>	Orangefoot pimpleback	E
<i>Pleurobema clava</i>	Clubshell	E
<i>Pleurobema plenum</i>	Rough pigtoe	E
<i>Potamilus capax</i>	Fat pocketbook	E
<i>Villosa trabalis</i>	Cumberland bean	E
<b>Crustaceans</b>		
<i>Palaemonias ganteri</i>	Mammoth Cave shrimp	E



<b>Insects</b>		
<i>Nicrophorus americanus</i>	American burying beetle	E
<b>Fishes</b>		
<i>Etheostoma chienense</i>	Relict darter	E
<i>Etheostoma percnurum</i>	Duskytail darter	E
<i>Notropis albizonatus</i>	Palezone shiner	E
<i>Phoxinus cumberlandensis</i>	Blackside dace	T
<i>Scaphirhynchus albus</i>	Pallid sturgeon	E
<b>Breeding Birds</b>		
<i>Haliaeetus leucocephalus</i>	Bald eagle	T
<i>Picoides borealis</i>	Red-cockaded woodpecker	E
<i>Sterna antillarum</i>	Least tern	E
<b>Mammals</b>		
<i>Corynorhinus townsendii virginianus</i>	Virginia big-eared bat	E
<i>Myotis grisescens</i>	Gray myotis	E
<i>Myotis sodalis</i>	Indiana myotis	E

Source: Kentucky State Nature Preserves Commission, 2003.

Reference: United States Fish and Wildlife Service. 2000. Endangered and threatened wildlife and plants. Department of the Interior, Washington, D.C.

# Plants and animals presumed extinct or extirpated from Kentucky

## Kentucky State Nature Preserves Commission, 2000

	U.S. STATUS		U.S. STATUS
<b>PLANTS</b>		<b>FISHES</b>	
<i>Caltha palustris</i> var. <i>palustris</i>	--	<i>Ammocrypta vivax</i>	--
Marsh marigold		Scaly sand darter	
<i>Orbexilum stipulatum</i>	--	<i>Crystallaria asprella</i>	--
Stipuled scurf-pea		Crystal darter	
<i>Physostegia intermedia</i>	--	<i>Erimystax x-punctatus</i>	--
Slender dragon-head		Gravel chub	
<i>Polytaenia nuttallii</i>	--	<i>Etheostoma microperca</i>	--
Prairie parsley		Least darter	
<b>ANIMALS</b>		<i>Hemitremia flammea</i>	--
<b>Freshwater Mussels</b>		Flame chub	
<i>Dromus dromas</i>	E	<i>Moxostoma lacerum</i>	--
Dromedary pearlymussel		Harelip sucker	
<i>Epioblasma arcaeformis</i>	--	<i>Moxostoma valenciennesi</i>	--
Sugarspoon		Greater redhorse	
<i>Epioblasma biemarginata</i>	--	<i>Percina burtoni</i>	--
Angled riffleshell		Blotchside logperch	
<i>Epioblasma flexuosa</i>	--	<b>REPTILES</b>	
Leafshell		<i>Masticophis flagellum flagellum</i>	--
<i>Epioblasma florentina florentina</i>	E	Eastern coachwhip	
Yellow blossom		<b>BREEDING BIRDS</b>	
<i>Epioblasma florentina walkeri</i>	E	<i>Anhinga anhinga</i>	--
Tan riffleshell		Anhinga	
<i>Epioblasma haysiana</i>	--	<i>Campephilus principalis</i>	E
Acornshell		Ivory-billed woodpecker	
<i>Epioblasma lewisii</i>	--	<i>Chlidonias niger</i>	--
Forkshell		Black tern	
<i>Epioblasma obliquata perobliqua</i>	E	<i>Conuropsis carolinensis</i>	--
White catspaw		Carolina parakeet	
<i>Epioblasma personata</i>	--	<i>Ectopistes migratorius</i>	--
Round combshell		Passenger pigeon	
<i>Epioblasma propinqua</i>	--	<i>Elanoides forficatus forficatus</i>	--
Tennessee riffleshell		Swallow-tailed kite	
<i>Epioblasma sampsonii</i>	--	<i>Tympanuchus cupido</i>	--
Wabash riffleshell		Greater prairie-chicken	
<i>Epioblasma stewardsonii</i>	--	<i>Vermivora bachmanii</i>	E
Cumberland leafshell		Bachman's warbler	
<i>Epioblasma torulosa torulosa</i>	E	<b>MAMMALS</b>	
Tubercled blossom		<i>Bos bison</i>	--
<i>Hemistena lata</i>	E	American bison	
Cracking pearlymussel		<i>Canis lupus</i>	E
<i>Leptodea leptodon</i>	PE	Gray wolf	
Scaleshell		<i>Canis rufus</i>	E
<i>Plethobasus cicatricosus</i>	E	Red wolf	
White wartyback		<i>Cervus elaphus</i>	--
<i>Quadrula fragosa</i>	E	Elk	
Winged mapleleaf		<i>Puma concolor cougar</i>	E
<i>Quadrula tuberosa</i>	--	Eastern puma	
Rough rockshell			
<b>INSECTS</b>			
<i>Pentagenia robusta</i>	--		
Robust pentagenian burrowing			
Mayfly			

## Plants and animals presumed extinct or extirpated from Kentucky

### Key to Status Categories

#### (US) Endangered Species Act of 1973

For status category definitions see:

United States Fish and Wildlife Service. 1992. Endangered Species Act of 1973 as amended through the 100th Congress. United States Government Printing Office, Washington, District of Columbia;

United States Fish and Wildlife Service. 1993. Plant taxa for listing as endangered or threatened species; notice of review. Federal Register 58:51144-51190.

United States Fish and Wildlife Service. 1999. Endangered and threatened wildlife and plants; review of plant and animal taxa that are candidates or proposed for listing as endangered or threatened; annual notice of findings on recycled petitions; annual description of progress on listing actions; proposed rule. Federal Register 64:57533--57547.

#### U.S. statutes were taken from:

#### **United States Fish and Wildlife Service. 1989. Endangered and threatened wildlife and plants; animal notice of review. Federal Register 54:554-579;**

United States Fish and Wildlife Service. 1993. Endangered and threatened wildlife and plants; review of plant taxa for listing as endangered or threatened species. Federal Register 58:51144-51190;

United States Fish and Wildlife Service. 1996. Endangered and threatened wildlife and plants. United States Government Printing Office, Washington, District of Columbia;

United States Fish and Wildlife Service. 1999. Endangered and threatened wildlife and plants; review of plant and animal taxa that are candidates or proposed for listing as endangered or threatened; annual notice of findings on recycled petitions; annual description of progress on listing actions; proposed rule. Federal Register 64:57533--57547.

United States Fish and Wildlife Service. 2000. Endangered and threatened wildlife and plants. Department of the Interior, Washington, DC.

E: Listed Endangered

PE: Proposed Endangered

## Kentucky State Nature Preserves Commission, 2000 State Listing Status of the Major Groups of Organisms in Kentucky

Number of Kentucky Species or Taxa <sup>1</sup>	Lichens	Mosses	Vascular Plants	Gastropods	Freshwater mussels	Crustaceans	Insects	Fishes	Amphibians	Reptiles	Breeding Birds	Mammals
Native	unknown	326	2262	ca. 259	103	unknown	unknown	237	51	52	168	70
Exotic	unknown	0	745	ca. 12	0	unknown	unknown	23	0	1	4	5
KSNPC Endangered	1	12	151	3	26	9	4	28	2	3	18	5
KSNPC Threatened	0	5	116	8	5	5	20	13	2	8	11	3
KSNPC Special Concern	0	0	67	14	4	6	11	16	7	7	16	6
KSNPC Historical	0	0	38	0	1	0	13	4	0	0	4	0
Presumed Extinct or Extirpated	0	0	4	0	19	0	1	8	0	1	8	5
Federal Listing Candidate	0	0	2	0	2	0	0	4	0	0	0	0

### Key to 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 (a) it exists in a limited geographic area, (b) it may become threatened or endangered due to modification or destruction of habitat, (c) certain characteristics or requirements make it especially vulnerable or declining but insufficient information exists for assignment to the threatened or endangered status categories.

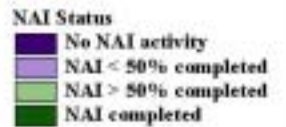
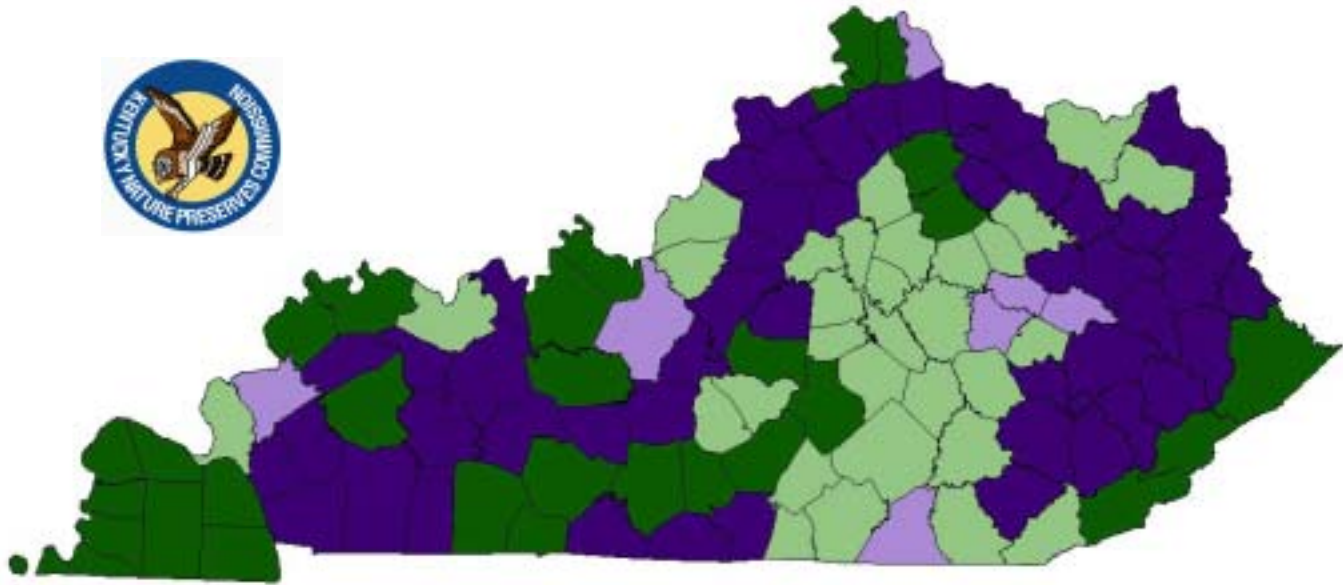
Historical: A taxon documented from Kentucky but not observed reliably since 1980.

Extirpated: A taxon that no longer exists in the wild in Kentucky, but exists elsewhere in the wild.

Extinct: A taxon that no longer exists.

<sup>1</sup> Totals include some distinctive subspecies and varieties for gastropods, freshwater mussels, and fishes but only species for lichens, mosses, vascular plants, amphibians, reptiles, breeding birds, and mammals. Totals do not include species recorded from Kentucky based on fossil specimens. Sources for totals of native taxa/species: mosses (Risk 1999; Snider et al. 1988); vascular plants (Medley 1993); gastropods, freshwater mussels, fishes, amphibians, reptiles, breeding birds, and mammals (KSNPC 2000)

# Status of Kentucky Natural Areas Inventory

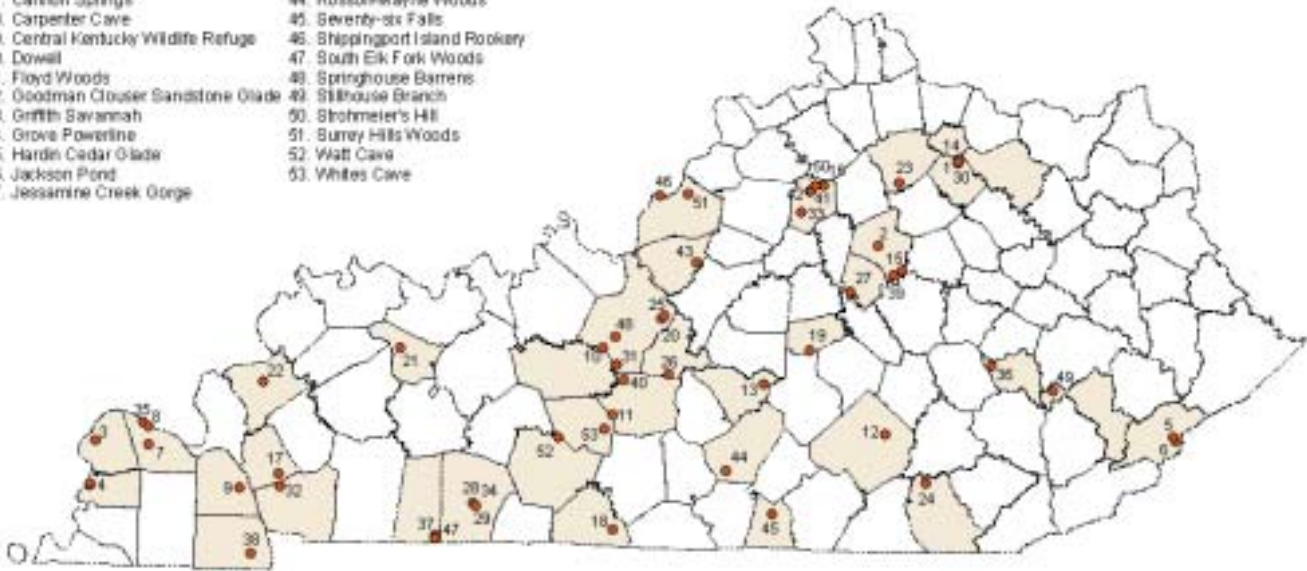
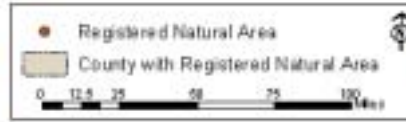


Winter 2002 h/w

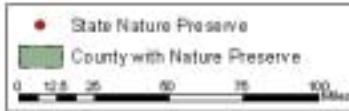
# Kentucky Natural Areas Registry Program

1. Abree Goldenrod
2. Ashland
3. Axe Lake
4. Back Slough/Laketon
5. Bad Branch (Gatton)
6. Bad Branch (Crawford)
7. Barkley Prairie
8. Bayou Creek Ridge
9. Bear Creek Rookery
10. Big Clifty Prairie
11. Big Woods
12. Blowing Cave
13. Blue Knob
14. Blue Licks Highway
15. Boone Creek
16. Camp Pleasant Woods
17. Cannon Springs
18. Carpenter Cave
19. Central Kentucky Wildlife Refuge
20. Dowell
21. Floyd Woods
22. Goodman Clouser Sandstone Glade
23. Griffith Savannah
24. Grove Powerline
25. Hardin Cedar Glade
26. Jackson Pond
27. Jessamine Creek Gorge

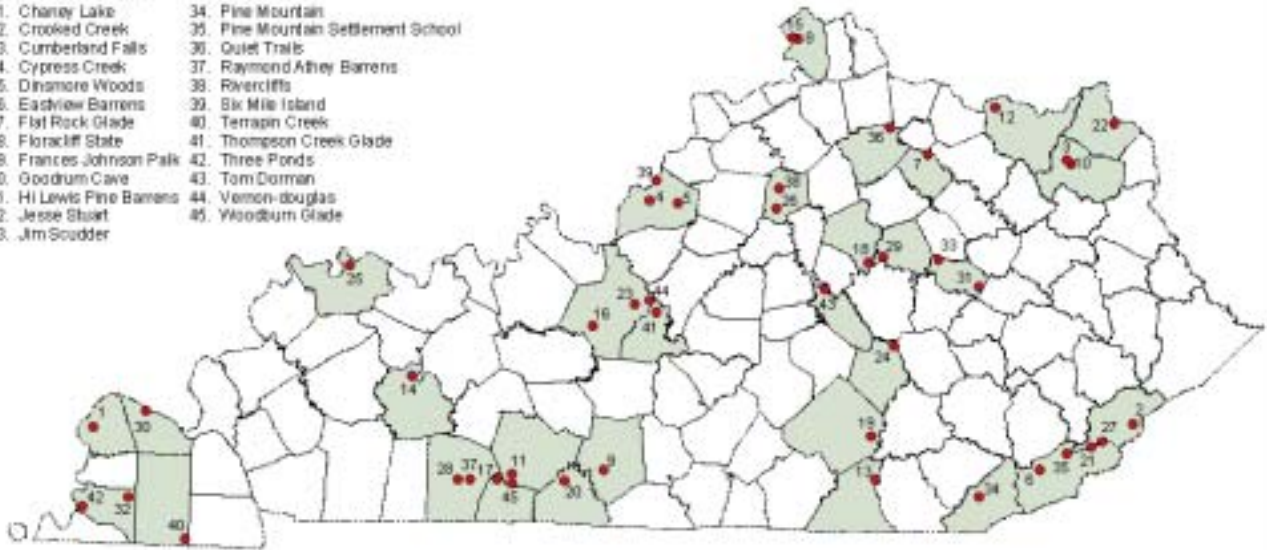
28. Kate White Barrens (Luckett)
29. Kate White Barrens (Nesse)
30. Kingsolver's Goldenrod
31. Knight's Barrens
32. Lake Barkley Rookery
33. Leeland Valley
34. Log House Prairie
35. Metropolis Lake
36. Morris Kentucky Lady's Slipper
37. North Elk Fork Woods
38. Panther Creek Swamp
39. Raven Run
40. Riders Mill Cave
41. Rock Cress Woods (Bryan)
42. Rock Cress Woods (Green/Adams)
43. Rocky Run Glade
44. Roason-Mayne Woods
45. Seventy-six Falls
46. Shippingport Island Rookery
47. South Elk Fork Woods
48. Springhouse Barrens
49. Stillhouse Branch
50. Strohmeier's Hill
51. Suney Hills Woods
52. Watt Cave
53. Whites Cave



# STATE NATURE PRESERVES



- |                           |                                     |
|---------------------------|-------------------------------------|
| 1. Axe Lake Swamp         | 24. John B. Stephenson              |
| 2. Bad Branch             | 25. John James Audubon              |
| 3. Bat Cave               | 26. Julian Savanna                  |
| 4. Beargrass Creek        | 27. Kingdom Come                    |
| 5. Blackacre              | 28. Logan County Glade              |
| 6. Barton Forest          | 29. Lower Howard's Creek            |
| 7. Blue Licks             | 30. Metropolis Lake                 |
| 8. Boone County Cliffs    | 31. Natural Bridge                  |
| 9. Brigadoon              | 32. Oton Creek                      |
| 10. Cascade Caverns       | 33. Pilot Knob                      |
| 11. Chaney Lake           | 34. Pine Mountain                   |
| 12. Crooked Creek         | 35. Pine Mountain Settlement School |
| 13. Cumberland Falls      | 36. Quiet Trails                    |
| 14. Cypress Creek         | 37. Raymond Athey Barrens           |
| 15. Dinwiddie Woods       | 38. Rivercliffs                     |
| 16. Eastview Barrens      | 39. Six Mile Island                 |
| 17. Flat Rock Glade       | 40. Terrapin Creek                  |
| 18. Florackiff State      | 41. Thompson Creek Glade            |
| 19. Frances Johnson Park  | 42. Three Ponds                     |
| 20. Goodrum Cave          | 43. Tom Dorman                      |
| 21. Hi Lewis Pine Barrens | 44. Vernon-douglas                  |
| 22. Jesse Stuart          | 45. Woodburn Glade                  |
| 23. Jim Scudder           |                                     |



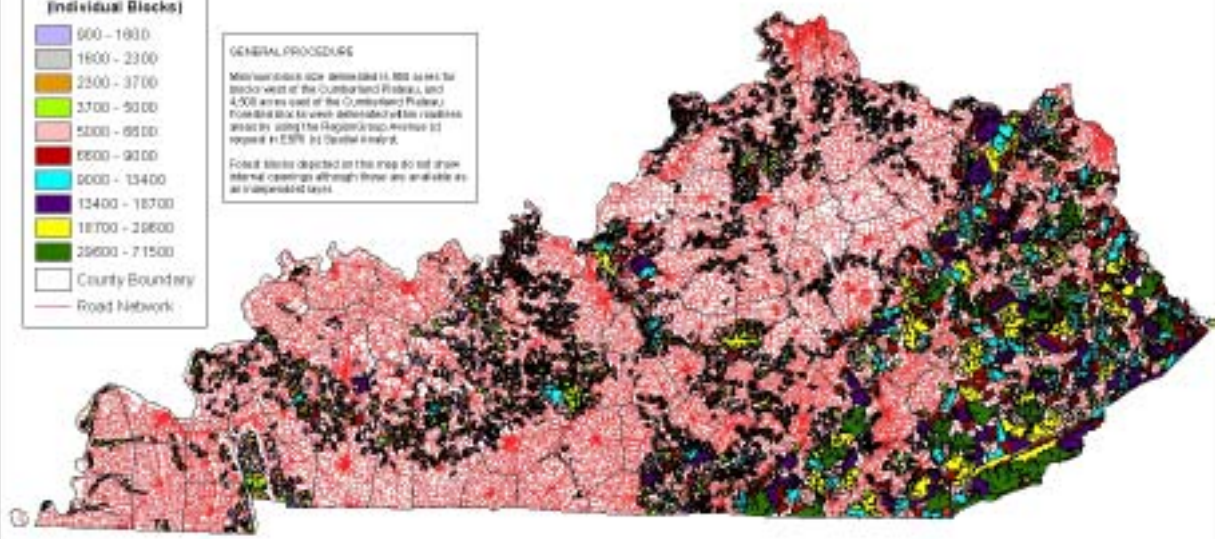
# LARGE FOREST BLOCKS OF KENTUCKY FIRST APPROXIMATION



**Legend**  
**Acres Range**  
**(Individual Blocks)**

600 - 1600
1600 - 2300
2300 - 3700
3700 - 5000
5000 - 6500
6500 - 9000
9000 - 13400
13400 - 18700
18700 - 29600
29600 - 71500
County Boundary
Road Network

**GENERAL PROCEDURE**  
Minimum block size identified is 600 acres for blocks west of the Cumberland Plateau, and 4,500 acres east of the Cumberland Plateau. Forest blocks to which identified within roadless areas by using the Hager's topographic data reported in ESRI by David Knight.  
Forest blocks depicted on this map do not show internal coverings although these are available as a separate data set.



**Created by:**  
Marc Evans, Senior Ecologist - Kentucky State Nature Preserves Commission  
Dimitrie P. Zavrzanik, PhD, Geoprocessing Specialist - Division of Conservation - Department for Natural Resources  
Prepared using the Kentucky OMP and Kentucky Transportation Cabinet road network data layers.  
**DISCLAIMER:** This map was created using the best data available at the time of preparation. Technical review is in progress.  
For further information you may contact Marc Evans at: marc.evans@mail.stns.ky.us



—January 2003—