

Naturally Kentucky

Fall 2004

Number 44



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

Return of the Majestic Great Blue

by Brainard Palmer-Ball, Jr., Terrestrial Vertebrate Zoologist

In this day of diminishing wildlife populations and natural habitats, it is heartening to reflect on some of the success stories in conservation. Most involve game species like the White-tailed deer and Wild turkey that have been the focal point of significant efforts to restore their numbers. However, there are also a growing number of cases involving species that have responded to the specific and indirect effects of a combination of generalized environmental regulation and habitat restoration efforts. One such species is the Great blue heron.

This large wading bird was once a common inhabitant of the swamps and sloughs of western Kentucky. The loss of natural wetlands and the devastating effects of the accumulation of residues from organophosphate pesticides like DDT, resulted in the nearly complete disappearance of this grand bird from the state during the middle of the 20th century. With the banning of DDT in the early 1970s, the stage was set for the species to return from the brink of local extinction. Wetland protection and restoration measures subsequently put in place have resulted in a dramatic increase in the state's nesting population.

In addition, this large fish-eater seemingly adapted to life on the state's reservoirs during the 1980s, and since the turn of the 21st century it has moved onto rivers and streams across the western three-quarters of the state. Presently, every year produces a number of new reports of nesting colonies, and the state's breeding population is certainly more widespread, and likely more numerous, than at any time in the past two centuries.

In 2004, the Kentucky State Nature Preserves Commission and the Kentucky Department of Fish and Wildlife Resources, in cooperation with private citizen volunteers, members of the Kentucky Ornithological Society, and personnel from other state and federal agencies, conducted a comprehensive survey of the nesting colonies of wading birds, primarily Great blue herons, across the state.

This was the third such cooperative effort in recent years, others were undertaken in 1994 and 1999.

The results of this year's survey continue to show a dramatic increase in Great blue herons in Kentucky. As of the mid-1950s, nearly 900 pairs of Great blue herons were known to nest at



Photo by Lana Hays

eight sites in the western quarter of the state; it is likely that some additional sites were present but unknown to ornithologists of the era. From published accounts, it appears that for about a decade from the late 1960s to the late 1970s, the species disappeared from Kentucky as a breeder and was even more scarce at other times of the year. However, the late 1970s saw the return of nesting Great blue herons, and the 1980s saw a pronounced expansion commence in the far western part of the state. The cooperative inventory of heronries in 1994 documented the presence of about 1750 pairs at 24 sites. A similar survey in 1999 found at least 2235 pairs present at 48 sites. This year's survey continued to show a skyrocketing population, with more than 5150 pairs present at just over 70 sites now spread as far east as Bell and Menifee counties (see Fig. 1)! We believe that a part of this survey's increase in numbers is the result of better surveys, but the greater numbers are certainly explained only in part by that factor.

Along with increased numbers of Great blues has been a slower, more gradual increase in the occurrence of other nesting herons and egrets. Great egrets, the smaller, white-colored cousin of the Great blue, also has returned

from local extinction during the DDT era, and although its numbers have not attained pre-DDT era status, numbers do continue to increase. In fact, this year saw the reappearance of a large colony of Great egrets at the north end of Reelfoot Lake in southwestern Fulton County, where more than 100 pairs of these majestic birds were found nesting for the first time since the early 1950s. These avian success stories are indeed heartening.

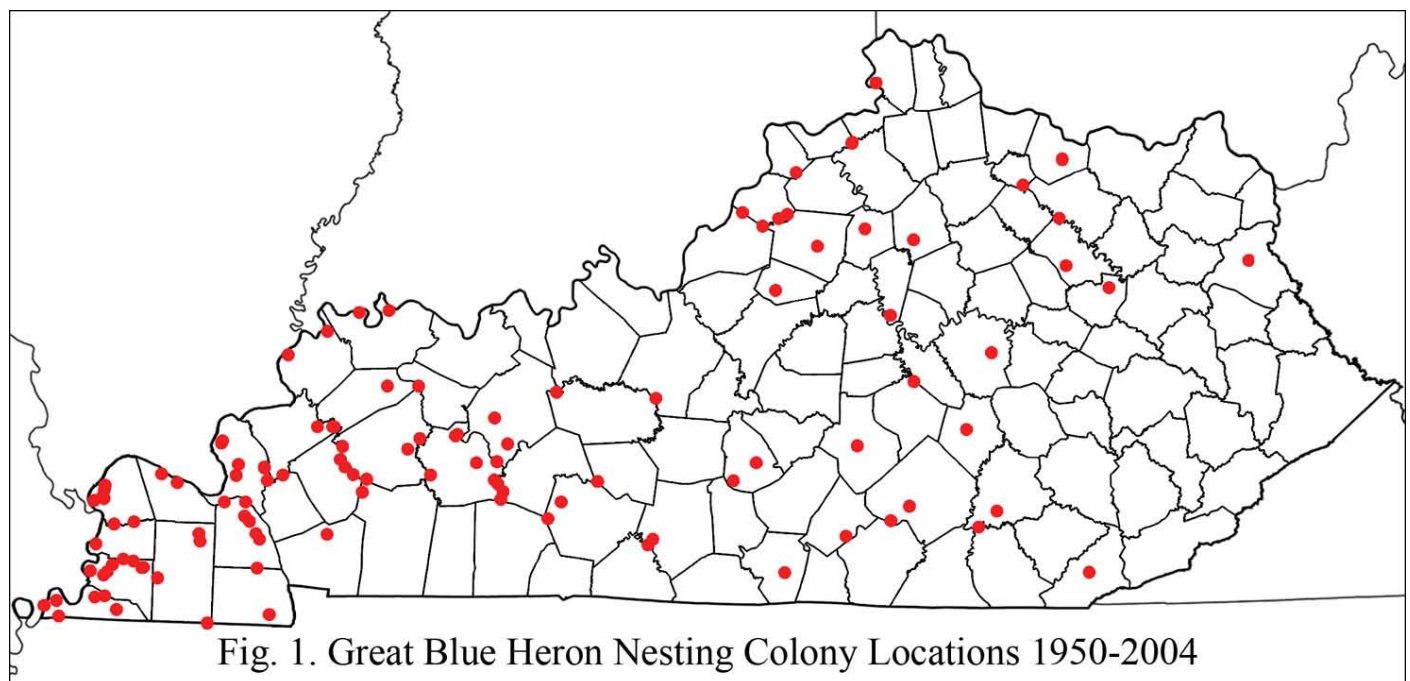
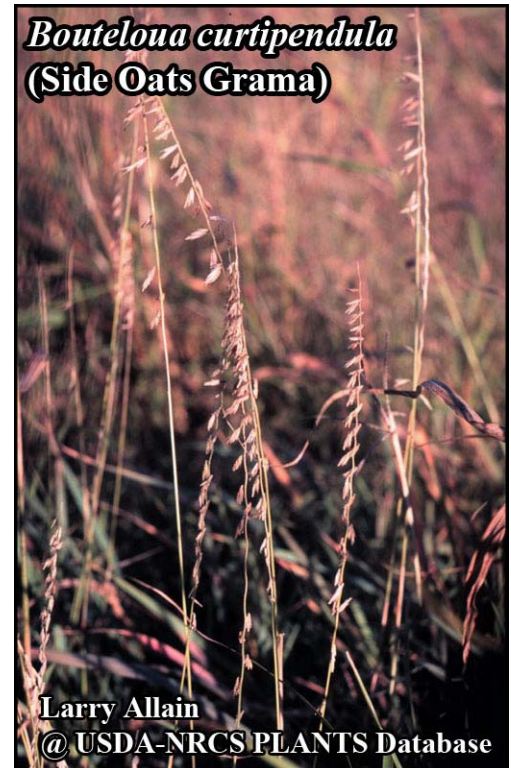


Fig. 1. Great Blue Heron Nesting Colony Locations 1950-2004

Nature Preserve System Now Reaches to Lincoln County

by Joyce Bender, Stewardship Branch Manager

On Sept. 8, the commission dedicated Bouteloua Barrens State Nature Preserve, a 261-acre tract in northeastern Lincoln County. This is our first preserve in Lincoln County. The site is a large native grassland remnant that is unique not only for the Outer Bluegrass region, but for the state. Limestone barrens, gravelly glades and open grassland habitat are interspersed with sub-xeric forests on several broad ridge tops and side slopes above a tributary flowing into the Dix River. Grazed pastures and fescue conversion limit the diversity in some portions of the preserve. However, several rare species are known from the site including state endangered Hairy false gromwell (*Onosmodium hispidissimum*), and three special concern species: Eggleston's violet (*Viola septemloba* var. *egglestonii*), Side-oats grama (*Bouteloua curtipendula*) which is the preserve's namesake, and Craze's sedge (*Carex crazei*). Management for the preserve will require habitat restoration efforts such as prescribed burning, brush removal and invasive plant control.



Hardin County Gets Fourth State Nature Preserve

by Lane Linnenkohl, Western Regional Preserves Manager

This summer, the KSNPC acquired a 55-acre conservation easement near Stephensburg in Hardin County. The conservation easement, purchased from Russell Jefferies, Jack Skees and Brad Haydon, was dedicated as Springhouse Barrens State Nature Preserve (SNP) at the Sept. 8, 2004, quarterly commission meeting.

Springhouse Barrens SNP is ecologically significant because it contains a good quality post oak/blackjack oak barrens with several rare species. Its open native grasslands harbor the federally threatened Eggert's sunflower, *Helianthus eggertii*, the state endangered prairie gentian, *Gentiana puberulenta* and a state endangered invertebrate. Prior to European settlement, barrens habitat covered a significant portion of the western half of Kentucky. Land conversion and fire suppression have reduced the barrens to scattered remnants. The owners of Springhouse Barrens had helped sustain the shade intolerant species by removing cedars to improve hunting conditions. The commission will now build on their good work by introducing prescribed fire to the site and working on invasive species control.



What's New?

by Deborah White, Natural Heritage Branch Manager

As a botanist at the Kentucky State Nature Preserves Commission (KSNPC) I get a lot of botanical news - especially exciting finds for the state. It never fails to astound me that species that have never been seen here before are discovered, or that we discover new occurrences of plants that are very rare. Here are a few of the exciting finds for Kentucky from recent years.

Black Mountain is a very unique place in Kentucky, having the highest elevations, over 4,000 feet, and the only stands of northern hardwood forest in the state. Dr. Ron Jones, professor of botany at Eastern Kentucky University found three species new to the state a few years ago during his survey of Black Mountain - a true botanical bonanza. Alderleaf viburnum (*Viburnum lantanooides*) is found in rich cove forests at mid to high elevations in the Appalachian region. Another rare shrub species, southern mountain cranberry (*Vaccinium erythrocarpum*) is an Appalachian high elevation species. Also, an interesting sedge, Roan mountain sedge, (*Carex roanensis*) turned up on Black Mountain. This is a sedge that was only known from the North Carolina mountains before Dr. Jones discovered it on Black Mountain - should we call it Black and Roan mountain sedge now?

Floating pennywort (*Hydrocotyle ranunculoides*). This was found in 2002 at the KSNPC's Terrapin Creek Preserve during a general floristic survey. I found large floating mats of this species throughout the extensive marsh. Ed Hartowicz also noted it from the Henderson County area. It looks like other pennyworts by having round leaves at the end of a stalk.

Spoon-leaved sundew (*Drosera intermedia*). I actually thought Martina Hines was pulling my leg when she first brought this in from Russell County because it hadn't been seen in 50 years! These little sundews are notorious for being carnivorous. You can sleep peacefully at night however, because this one is only a few inches tall and catches (and digests) insects, presumably for a nitrogen source. The grassy opening where it was found has a very interesting native flora rich in native sedges and unusual herbaceous species. Martina has applied for funding to improve the habitat at this site through the Landowner Incentive Program (see www.usfs.gov)

Fraser's sedge (*Cymophyllus fraseri*). I know you're thinking - this is another little sedge that looks like other little sedges. Think again! This species has large, glossy, strap-like, lily-looking leaves and a very distinctive fuzzy-headed inflorescence. A new large population was found last year by KSNPC botanists and ecologists surveying Stone Mountain, a site on the Virginia border in Harlan County, that is being protected and developed for



recreation through the Heritage Land Conservation Fund. In fact, nine rare plants were found or rediscovered at this site during this survey - crinkled hair grass, Appalachian sedge, rock harlequin, southern bog clubmoss, showy gentian, jointed rush, Curtis' goldenrod and variable-leaved heartleaf. This will be a wonderful place to hike once trails are completed.

Also, Dr. Robert Naczi (with Robert Kral and Charles Bryson) has been working on sedges (the genus *Carex*) and has described a species new to science, Cumberland sedge (*Carex cumberlandensis*). This is a species of mesic forests in the southeast United States and a few adjacent states, with a center of distribution apparently on the Cumberland Plateau of Kentucky-Tennessee-northern Alabama. Another newly described sedge in their article, and thought to be rare is Timid sedge (*Carex timida*). The type specimen for the species is from the Sugar Camp Creek area of the Daniel Boone National Forest's Morehead Ranger District. Thanks to David Taylor at the DBNF for providing some background on these new species.

Kentucky's Landowner Incentive Program, Partnerships in Protection

by Heather Housman, Botanist, Landowner Incentive Program

The Landowner Incentive Program (LIP) is a federal program funded through the U.S. Fish and Wildlife Service (USFWS) and administered by state wildlife agencies throughout the country. It was initiated by the U.S. Department of the Interior in 2002. Realizing that protection of rare species required cooperation of private landowners, USFWS developed a non regulatory opportunity for landowners to participate in protecting and enhancing habitat for plants and animals considered threatened or endangered or vulnerable to decline and extinction.

Many of Kentucky's rare species occur on private lands-95 percent of the land in Kentucky is privately owned and managed. To protect these rare species on non governmental lands, it is important to provide landowners with the best management advice and assistance available. For instance, improved fencing may benefit the aquatic fauna in a stream or rare plants in a prairie by keeping cattle out, and reducing the impact on the neighboring farm from wandering cattle. This program also provides an opportunity for private landowners to learn about the natural heritage of Kentucky and contribute to its recovery.

Funds are distributed by USFWS as grants to states on a competitive basis. Only state agencies with primary responsibility for fish and wildlife are allowed to apply. The Kentucky Department of Fish and Wildlife Resources (KDFWR) partnered with the Kentucky State Nature Preserves Commission (KSNPC) and the Kentucky Chapter of The Nature Conservancy (TNC) and was awarded a LIP grant of \$1,495,000.

Kentucky is fortunate to have such a successful collaboration with a federal agency. This partnership provides a means for the federal directive to be implemented in a much more local way. Some of the financial benefits to the state include hiring additional biologists, including a full-time botanist at KSNPC to coordinate the plant projects, and a crew to do the work. The LIP program also provides funding and incentives to participating landowners. The partnership between KDFWR and KSNPC provides more opportunities for exchange of information and to coordinate recovery efforts on both plant and animals, many of which occur at the same sites. The Kentucky LIP has a hard-working seasonal crew to implement LIP practices. This crew works most of the year carrying out plans prepared by staff biologists on approved projects. Some of the activities the crew participates in include: conducting prescribed burns, applying herbicides to control invasive exotic plants, operating seed drills for prairie restoration projects, hand-pulling weeds around rare plants in sensitive areas and planting trees.

Projects are submitted by the participating agencies and selected by a committee comprised of one person from each

of the three cooperating agencies. Any biologist can submit an application. Projects are given a score based on the status of the target species. Projects to improve habitat for federally listed species or state endangered species are ranked highest. Projects are also approved that protect state threatened and special concern species, as well as species of interest listed by groups such as Partners in Flight. Greater consideration is given to projects in ten focus areas scattered across the state. Cost shares are determined based on the application's score and its relative merit for positive impact on the target species. Cost-share rates range from 75 percent to 100 percent.

The Kentucky State Nature Preserves Commission currently has ten projects underway targeting nine rare species. Four of these species are federally listed. Management includes work on more than 200 acres across the state in five counties.

One of the LIP projects completed this year is a project to protect Short's goldenrod, one of Kentucky's rarest plants and one that is listed as both federal and state endangered. Short's goldenrod can be found growing in glades and forest openings, as well as in pastures and on roadsides. Like many rare plants, Short's goldenrod benefits from some type of natural disturbance; historically this was believed to be bison migration. It has become increasingly rare primarily due to lack of natural disturbance and habitat loss.

The Short's goldenrod project is on a privately owned tract of land in Fleming County. To improve the habitat for the plant, a plan was written that included a prescribed burn and the removal of some densely growing cedars. The prescribed or controlled burn was conducted by the LIP crew in April of this year. The low-intensity fire removed the leaf litter from the previous fall and killed small saplings, creating a more open forest, and improved habitat for the goldenrod.

Another example of an ongoing LIP project involves a plant that until recently was believed to be extirpated in Kentucky. Spoonleaf sundew was discovered by a KSNPC biologist last year in a farmer's pasture in Russell county. The property owner has been extremely cooperative and is interested in seeing the plant protected.

Spoonleaf sundew is a very small carnivorous plant. It stands only a few inches tall and has white or pink flowers. Its small leaves are covered by sticky hairs that trap insects, which the plant then ingests. The sundew only occurs in wet areas, such as bogs, wet prairies and swamps.

The sundew's biggest threat at this site is all-terrain vehicle traffic from adjacent landowners. The best way to protect the plant population from excessive disturbance is to build a fence around the site. This is a very wet field that the farm owner does not use for pasture. He has kept it open over the years by periodic mowing, which has been very good for the sundew.

LIP funds have been appropriated to reimburse the farm owner for the cost of the fence. In addition to the fencing, the plan for this site also includes control of invasive exotic plants that will overtop the diminutive sundew, if not removed.

These are just two examples of some of the work that is being done through the Landowner Incentive Program across the state. There are many more rare species being protected through projects initiated by the three cooperating agencies.

This alliance of two state agencies from different cabinets and a non profit non governmental organization to implement a federal program is a unique opportunity to protect some of Kentucky's natural heritage and improve the quality of our environment. By combining the resources of The Nature Conservancy, the Kentucky Department of Fish and Wildlife Resources, and the Kentucky State Nature Preserves Commission, the Landowner Incentive Program is certain to improve the future of Kentucky's rare species.

Land Protection Updates

by Joyce Bender, Stewardship Branch Manager

Even though our land protection position has been vacant from March through mid-October, I am happy to report that acquisition efforts moved forward and much progress has been made this year. We dedicated 135 acres of the Southeast Education Foundation's property as an addition to Hi Lewis Pine Barrens State Nature Preserve (SNP) in Harlan County at the June 9 commission meeting. At the commission meeting held on Sept. 8, we dedicated two new preserves and an addition to a third. The 55-acre Springhouse Barrens SNP in Hardin County and 261-acre Bouteloua Barrens SNP in Lincoln County became our 46th and 47th state nature preserves. A key 8-acre in-holding added to Bad Branch SNP in Letcher County will help with trail expansion plans and securing our southwestern boundary line. Currently, the total acreage for the nature preserves system stands at 19,077 acres.

New nature preserve acquisition projects kept me busy in July and August as I processed four requests for additional land acquisitions at Blanton Forest SNP and one tract in McCracken County for Metropolis Lake SNP. This summer we also accepted donations of conservation easements for Carpenter Cave, a gray bat maternity site in Allen County and for a Braun's rockcress site in Franklin County. Both sites protect species that are listed as federally endangered.

The December commission meeting should be a busy one as we plan to dedicate an addition to Crooked Creek SNP and add another nature preserve in the vicinity of Blue Licks State Park to protect the federally endangered Short's goldenrod. We are planning to dedicate more than 1,000 acres that we own with the Kentucky Department of Fish and Wildlife Resources (KDFWR) on Stone Mountain in Harlan County as a joint state natural area and wildlife management area. I have been working with the Livingston County fiscal court and the KDFWR to finalize plans for dedication of two county-owned tracts that we will co-manage with KDFWR. We may be able to add these to our December agenda as well.

A staff vacancy did not slow down our mission to protect Kentucky's natural heritage, but it did shift priorities for me these last seven months. I want to thank Byron Brooks, Lane Linnenkohl, Kyle Napier and Dave Skinner for the assistance they provided in getting project maps prepared, deeds filed and baseline documents developed on top of carrying out their regularly assigned duties.

Director's Notes

by Don Dott, Executive Director

The forests of Kentucky have deservedly garnered much attention of late. In just the last two months I have been to three forestry conferences convened to discuss the long-term prognosis for the state's forests. I attended a Forest Health Task Force briefing for policy makers at the Salato Wildlife Center, which presented information on the current and anticipated threats to the health of our forests. A multi pronged attack is underway from invasive exotic plants such as the traditional pest, kudzu, and a growing threat from bush honeysuckle, garlic mustard and others. Insects such as the gypsy moth, emerald ash borer, hemlock woolly adelgid and others threaten widespread damage. Finally, diseases like sudden oak death, dogwood anthracnose and others are on the doorstep, or already here. We have to be careful to not make it sound like the sky is falling, but as one attendee commented, " It looks like some chunks may be getting ready to let loose." Sudden oak death has the potential to inflict a major blow to Kentucky, as oak-hickory is our predominant forest type. The damage to this resource caused by sudden oak death would cause a serious economic hardship to the state. KSNPC is greatly concerned for the ecological and aesthetic qualities of the forests that would be damaged by a loss of our numerous species of oaks. The impact could rival the damage caused by the Chestnut blight that virtually removed this dominant tree from the canopy of the eastern forests in a period of no less than 50 years.

The second forestry conference dealt with the issue of sustainability - a concept that many espouse, but for which there does not seem to be a universal meaning. Typically, I think many forestry interests consider sustainability to be the ability of the forest to provide lumber on a perpetual basis. Too often forests are looked at only as an assemblage of trees, as a source of lumber. KSNPC strives to promote the concept of sustainable forestry as one that looks not only to the trees, but also beyond them, to the myriad functions a forest provides. These values range from watershed protection, to air quality and climate regulation, to the biological diversity of the plant and animal species found living and growing from the canopy to the forest floor and beneath it. KSNPC promotes this concept of sustainable forestry and seeks to see it put into practice on a landscape scale.

Kentucky's forests have always been one of the Commonwealth's greatest natural assets. It drew the early Native Americans here to live, and lured pioneers through the mountains with tales of forests so dense a squirrel could traverse the state and never set foot on the ground. While this may have been more fanciful than true, the current Forest Inventory Analysis of our state's forests, compiled by the Kentucky Division of Forestry and the U.S. Forest Service, reports a 3 percent net decline, or a loss of 769,000 acres of forested land from 1988 to 2003. A 3 percent loss does not sound like much, but 769,000 acres does. That's an area larger than Jefferson, Shelby, Franklin and Woodford counties combined - or larger than the Daniel Boone National Forest, which is over 700,000 acres. It is encouraging to learn from the report that nearly half of Kentucky remains forested, but the trend in loss of forest acreage warrants close monitoring.

Considering the multiple threats to our forests - invasive exotic plants, insects and diseases, and conversion to non forest uses - it is reassuring to know that our forests are getting some much deserved attention. But don't leave their protection to someone else. Please use any opportunity you have to work for protection of Kentucky's forests and alert the policy-makers in your county to this need. Our forests are a resource and a treasure to be both protected and used wisely for their myriad values.

KENTUCKY STATE NATURE PRESERVES COMMISSION

COMMISSIONERS

CLARA WHEATLEY, CHAIR
EUNICE JOHNSON, SECRETARY
O.D. HAWKINS
DAVID W. WRIGHT
GAYLE HORN

STAFF

DONALD S. DOTT JR.
EXECUTIVE DIRECTOR

GREG ABERNATHY
JOYCE BENDER
BYRON BROOKS
RONALD CICERELLO
JUDY CUNNINGHAM
SHAUNA DUNHAM
NICHOLAS DROZDA
MARC EVANS
MARTINA HINES
SARA HINES

HEATHER HOUSMAN
ELLIS LAUDERMILK
LANE LINNENKOHL
ALICE MANDT
KYLE NAPIER
BRAINARD PALMER-BALL JR.
RON SCOTT
DAVID SKINNER
DEBORAH WHITE

An Equal Opportunity Employer

Next KSNPC Quarterly Public Meeting
December 8, 2004

KSNPC Frankfort Office
801 Schenkel Lane, Frankfort, KY 40601-1403
10:00 a.m. ~ 12:00 noon EST

Details on meeting agenda and directions to office available soon online at www.naturepreserves.ky.gov

How to contact the Kentucky State Nature Preserves Commission:

Mail: 801 Schenkel Lane, Frankfort KY 40601-1403
Phone: (502)573-2886 Fax: (502)573-2355
E-mail: naturepreserves@ky.gov
Visit us online at: www.naturepreserves.ky.gov

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

