

Naturally Kentucky

Winter 2010

Number 63



KSNPC Latest News: This year biodiversity takes the spotlight with the International Year of Biodiversity, 40th anniversary of Earth Day and the publication of the commission's book Kentucky's Natural Heritage: An Illustrated Guide to Biodiversity (complete story on Page 2).

☞ Dr. David Maehr was awarded the 2009 Biodiversity Protection Award. This is the first time the commission has given the award posthumously (complete story on Page 4).

☞ Ellis Laudermilk is named Naturalist of the Year by the Kentucky Society of Natural History (complete story Page 5).

☞ KSNPC will be publishing our Conservation Lands database to the Kentucky Geography Network (<http://kygeonet.ky.gov>) this spring and plans to begin posting regular updates. The database contains nearly 500 spatially referenced records ranging from state nature preserves to national forests to conservation easements.

☞ KSNPC is seeking applicants for an Aquatic Interim to assist our aquatic biologist with sampling, identification, recording and preparation of rare and endangered mussels, fishes, snails, and crayfishes. Visit our Web site for more details.

In This Edition:

International Year of Biodiversity	2
Dr. David S. Maehr Receives Biological Diversity Protection Award	4
Ellis Laudermilk Named Naturalist of the Year	5
In the Spotlight: Hemlock-mixed Forests and Associated Species	6
Invasive Species Highlight: Hemlock Woolly Adelgid	8
Hemlock Woolly Adelgid Update - Fall 2009 Treatments	9
KSNPC Receives a \$10,000 Data Improvement Grant from NatureServe	10
Volunteer Workday at Vernon-Douglas SNP a Success	10
Winter Hiking	11
Land Protection Report	12
Director's Notes	12
Upcoming Hikes and Events	14





International Year of Biodiversity

By Greg Abernathy, GIS Specialist

Biodiversity is set to take center stage globally this year with the United Nations declaration of 2010 as the International Year of Biodiversity. The Secretariat of the Convention on Biological Diversity has taken the lead in promoting this event with the intent of raising awareness of the importance of and threats to biodiversity worldwide. Learn more by visiting www.cbd.int/2010.



2010 International Year of Biodiversity

Kentucky's contribution to global biodiversity is often overlooked. From the summit of Black Mountain to the cypress swamps of western Kentucky there is a diversity of life which may surprise you. Black-throated green warblers, firebelly darters, lizard skin liverworts and small yellow lady's-slippers along with over 19,000 other species are a part of our natural heritage. These unique and interesting species form natural communities across the state and collectively represent the environmental support system upon which we depend. The state boasts a diverse aquatic fauna of global and national significance; ranks in the top five nationally for fishes, mussels and crayfishes, as well as total

Biodiversity is the variety of all living things and their roles and connections within ecosystems. Simply put, it is the web of life.



Red salamander ~ John R. MacGregor

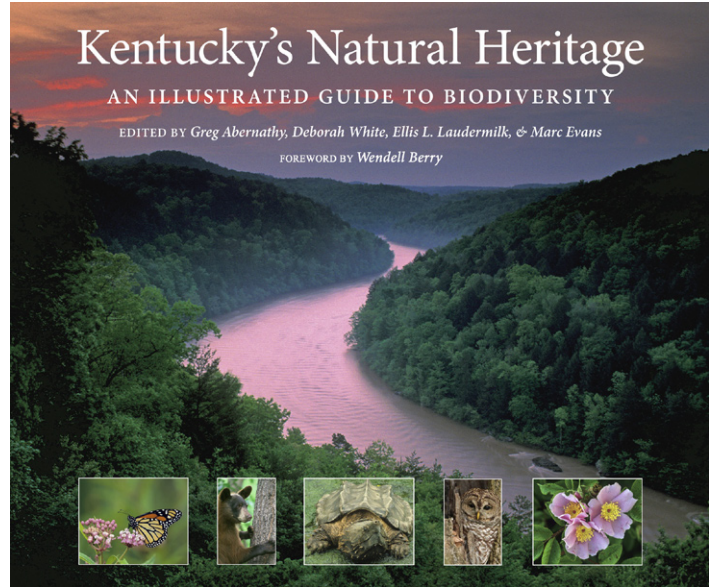


Eastern hemlock ~ Ellis Laudermilk, KSNPC



number of obligate cave-dwelling species; is home to 102 taxa (species, subspecies, and varieties) believed to be endemic (found nowhere else in the world); and lies within the southeastern United States which has some of the greatest salamander diversity in the world.

KSNPC's mission has always been focused on biodiversity protection. Over the last few years we have been working on a publication that highlights the state's biodiversity. This June *Kentucky's Natural Heritage: An Illustrated Guide to Biodiversity* will be published by the University Press of Kentucky (UPK). The book is an exploration of wild Kentucky which highlights the species and the natural communities found throughout the Commonwealth. This synthesis of the current state of biodiversity knowledge is accompanied by more than 250 photographs, maps and illustrations that offer a means to visually explore wild Kentucky. We thank everyone who directly contributed content for this publication, as well as those who have contributed valuable insight into the natural world of Kentucky over the years. View the spring 2010 UPK catalog by visiting www.kentuckypress.com/newsite/pages/catalog.html. Preorders can also be placed via the UPK Web site.



Watch KET this spring during their Earth Day programming for a biodiversity highlight that features KSNPC.

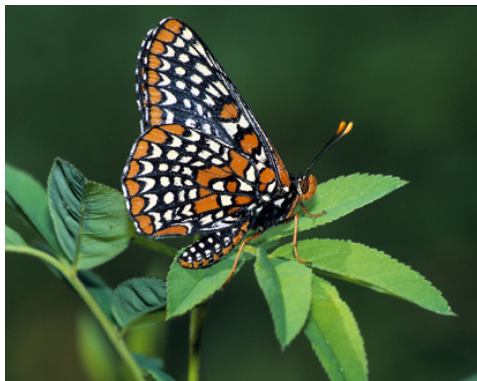
Selections from *Kentucky's Natural Heritage*



Red-headed woodpecker ~ Lana Hays



schematic by Greg Abernathy, KSNPC



Baltimore checkerspot ~ Ellis Laudermilk, KSNPC



Upland burrowing crayfish ~ Guenter A. Schuster



Earth star ~ John R. MacGregor



DR. DAVID S. MAHR RECEIVES BIOLOGICAL DIVERSITY PROTECTION AWARD

By Zeb Weese, Eastern Regional Nature Preserve Manager, and Leslie Isaman, Administrative Assistant

Dr. Dave Maehr, a professor of Conservation Biology at the University of Kentucky, Department of Forestry was a tireless advocate for wild creatures and places. Dave was an accomplished wildlife biologist on several fronts: academic researcher, resource agency manager, popular author, teacher, and classic naturalist who called Kentucky home for the last 10 years of his life. Before his list of accomplishments could be completed, Dave tragically passed away in a single-engine plane accident in Lake Placid, Fla., in 2008 while monitoring radio-collared black bears. This is the first time KSNPC has given the Biological Diversity Protection Award posthumously. Dave's wife Diane and father Robert were on hand to accept the award.

Dave worked professionally in conservation for almost 30 years. After receiving his Bachelor of Science in wildlife from Ohio State University in 1977 and his Master of Science in 1980 from the University of Florida, Dave went to work for the Florida Game and Fresh Water Fish Commission. While there, he conducted research on black bear, river otter, and bobcat before beginning his ground-breaking field studies on the endangered Florida panther at a time when there were believed to be only 30 panthers living in the wild. He returned to the University of Florida and completed his Ph.D in 1996. In 1997 he came to Kentucky where his research focused on biodiversity and conservation-related issues. His work was diverse and included studies of Kentucky's elk introduction, bison ecology in Yellowstone National Park, neotropical migrant songbirds in eastern Kentucky, university-owned natural areas throughout the nation, and black bear ecology in southeastern Kentucky, Florida and Mexico.

In addition to his research, Dave influenced many students, citizens, and fellow scientists both in Kentucky and throughout the nation, with his enthusiasm for biodiversity issues. While at UK he mentored dozens of interns, undergraduates, and graduate students, taught conservation biology and other courses to hundreds of students, served on numerous committees, and authored over 100 scientific articles on a wide-range of wildlife subjects and conservation topics. His devotion and service to his profession was reflected in his peer-

review of hundreds of books and journal articles, and involvement on numerous panels and committees, ranging from species recovery to certification of his fellow wildlife professionals. Never one to shy away from new ideas, he was also a Fellow of the Rewilding Institute, a group of conservationists dedicated to returning large carnivores to North American landscapes. Dave was the award winning author of *Florida's Birds*, *The Florida Panther: Life and Death of a Vanishing Carnivore*, and *Large Mammal Restoration: Ecological and Sociological Challenges in the 21st Century*, as well as a talented artist whose illustrations and drawings have appeared in over a dozen books and articles. Even before beginning his professional wildlife career he was the resident artist at the Cincinnati Zoo from 1974-77. 🎨



Dr. Maehr with black bear cubs ~ UK Dept. of Forestry



ELLIS LAUDERMILK NAMED *Naturalist of the Year*

By Joe Settles, Kentucky Society of Natural History President

The Kentucky Society of Natural History (KSNH) proudly presented the 2009 Naturalist of the Year Award to KSNPC's invertebrate biologist, Ellis Lauder milk during its fall conference at Reelfoot Lake in October. Ellis was selected to receive the award due to his numerous contributions towards the understanding of Kentucky's invertebrate species and populations. These contributions include recording and trending the locations and populations of rare species throughout the Commonwealth as well as efforts to educate the public on the

importance of these organisms through various avenues (hikes, presentation, education materials, etc.). Ellis also co-edited the book *Kentucky's Natural Heritage, An Illustrated Guide to Biodiversity*, which is expected to be out in April, aimed at increasing the awareness of Kentucky's rich natural history. Along with this work, he continues to pen articles and materials related to dragonflies, damselflies and tiger beetles. His passion and dedication to the invertebrate component of Kentucky's fauna made him a well deserving recipient of the award. ☐



Joe Settles (R) presenting Ellis Lauder milk (L) the Naturalist of the Year Award
~ James Kiser



In the Spotlight: *Hemlock-mixed Forests and Associated Species*

Eastern hemlocks (*Tsuga canadensis*) form an extensive range, from Nova Scotia southward through the Appalachians to northern Alabama (see map, p.8). Hemlock trees grow on almost 19 million acres of forest in the Eastern United States¹ and eastern hemlock is the predominant species on 2.3 million acres.² In Kentucky, eastern hemlock communities occur primarily in the Appalachian Plateaus and Cumberland Mountains. Outliers also extend into the eastern Knobs and the Shawnee Hills of western Kentucky. Eastern hemlock is the most shade-tolerant and one of the most long-lived tree species in Eastern North America.³

Rich (productive) forests dominated by eastern hemlock are classified as hemlock-mixed forests in Kentucky. These forests are most often found in rugged landscapes along mesic (moist) stream corridors and sheltered slopes and coves. Almost always a dominant species in the canopy of this community, eastern hemlocks often form dense stands that provide a unique habitat for many plant and wildlife species. Because of this dense canopy and the hemlocks' evergreen needles, these forests remain deeply shaded and cool, even on warm, sunny days. With such an abundance of hemlock, needle drop is recurrent and accumulates into a duff (litter) layer, leading to the development of high-acid soils.

While acidic soils, cool temperatures and dense shade can restrict many plants, other plants are highly adapted and thrive in this forest. For

instance, a variety of mesophytic trees co-occur in the canopy such as tulip tree, sweet birch, basswood, yellow buckeye and beech. Understory trees include flowering dogwood, American holly and magnolias. The shrub layer often includes great rhododendron and sometimes mountain laurel. Like hemlock, great rhododendron can form dense stands. Aptly named "rhodo hells," these form gnarly shrub-thickets which are nearly impenetrable to humans but are favored cover for species like black bears and hooded warblers. Due to low-light levels and midstory competition, herbaceous density and diversity is usually limited. Typical species include early yellow violet, partridgeberry and Christmas fern.

Cold headwater streams sheltered by hemlock provide the stable conditions for rare fish species like the blackside dace and arrow darter. Forest birds like black-throated green warblers, worm-eating warblers, hooded warblers, northern parulas, blue-headed vireos, and Acadian flycatchers utilize hemlock-associated habitats throughout all or part of their life cycle. Hemlock forests also provide suitable (and often favored) habitat for large mammals like black bears, large reptiles like timber rattlesnakes and small amphibians like salamanders. While these species find hemlock-mixed forests to be suitable or preferred habitat, many of them also depend on surrounding forests for survival. Thus at a broad scale, hemlock forests embedded in a large matrix of other forest types (e.g. from rich deciduous forests to dry pine-oak woodlands) form a connected ecosystem that provides habitat and necessary corridors for healthy, reproductive populations of plants, animals and fungi.

Although currently considered secure, hemlock forests in Kentucky are under serious attack from the hemlock woolly adelgid (HWA), an invasive species from Asia. Found in 2006, HWA populations are spreading quickly in the Commonwealth and will likely severely impact hemlock forests throughout the state in the next few years.



Photo by Ben Begley

1. Schmidt, T.L.; McWilliams, W.H. 1996. Status of eastern hemlock in the northern U.S. In: Mroz, G.; Martin, J., eds. Proceedings of a Regional conference on ecology and management of eastern hemlock. Madison, WI: University of Wisconsin; 61-72.
2. McWilliams, W.H.; Schmidt, T.L. 2000. Composition, structure, and sustainability of hemlock ecosystems in Eastern North America. Available online: www.treesearch.fs.fed.us/pubs/14631
3. Ward, J.S., et al. 2004. Eastern Hemlock Forests: Guidelines to Minimize the Impacts of Hemlock Woolly Adelgid. Available online: www.treesearch.fs.fed.us/pubs/11508

Chrosomus cumberlandensis *Blackside Dace*

KSNPC STATUS: Threatened

USFWS STATUS: Threatened

GENERAL DESCRIPTION: A brilliantly colored minnow; up to approximately 3 inches long.

HABITAT: Cool headwater streams with suitable pool habitats which provide areas for spawning and feeding.

RANGE: Restricted to the upper Cumberland River system (above Cumberland Falls).

REASON FOR PROTECTION STATUS: Exists entirely within the Appalachian Highlands. Coal mining and associated problems (mine drainage, etc) has eliminated several streams within its range and poses a threat to its survival in many locations. Poor logging and streamside practices can contribute large amounts of silt which can degrade/eliminate spawning habitat.



Photo by Ellis Lauder milk, KSNPC



Dendroica virens
Black-throated Green Warbler

KSNPC STATUS: None

USFWS STATUS: None

GENERAL DESCRIPTION: This small songbird has a bright yellow cheek, black throat (males), and greenish back. The species forages primarily for insects in the forest canopy. It is a neotropical migrant, migrating from its North American nesting grounds in fall to winter primarily in Central America.

HABITAT: Coniferous, mixed coniferous-deciduous, and entirely deciduous forests, including forest edge, second growth, hemlock forest, cedar-grown pastures, larch bogs, and swamps.

RANGE: Nests throughout the Appalachian Mountains, northeastern United States and across Canada (eastern provinces to northern Rocky Mountains); winters primarily in the Central and northern South America. In Kentucky nests in mature and second-growth mixed coniferous-deciduous forests of the Cumberland Plateau and Cumberland Mountains, primarily in association with eastern hemlock.



Photo by Michael Butler, Trent University

Listera smallii
Kidney-leaf twayblade

KSNPC STATUS: Threatened

USFWS STATUS: None

GENERAL DESCRIPTION: This little orchid is often found in moist forests underneath rhododendron thickets. It is between 6 and 12 inches tall with a delicate green to brown flower.

HABITAT: Damp humus in shady forests of Appalachian Mountains, often beneath rhododendron in acidic soil, also in sphagnum thickets and bogs.

FLOWERING PERIOD: June-July.

RANGE: From Georgia to Pennsylvania and west to Kentucky and Tennessee.

REASON FOR PROTECTION STATUS: This species is known only from eastern Kentucky and there are few records for this little plant. It may partly be because it is not easily seen underneath the rhododendrons where it typically occurs. Hemlock trees are likely important species in these forests in maintaining the moist conditions for this orchid. Also land-use conversion, habitat fragmentation, and forest management practices are reducing its habitat.



Photo by Jim Fowler

Lambdina fiscellaria
Hemlock Looper Moth

KSNPC STATUS: None

USFWS STATUS: None

GENERAL DESCRIPTION: A cream- to gray-colored geometrid moth with a wingspan of 1.2-1.7 inches.

HABITAT: Hemlock and oak forests of eastern Kentucky.

CATERPILLAR FOODPLANT: Hemlocks, firs, spruces, oaks.

FLIGHT SEASON: August-October.

RANGE: Labrador to South Carolina and west to Texas.



Photo by Ellis Lauder milk, KSNPC



Invasive Species Highlight: Hemlock Woolly Adelgid

Adelges tsugae

Hemlock woolly adelgid

DESCRIPTION: A tiny invasive insect that feeds on the needles of Carolina hemlocks and eastern hemlocks. Adult adelgids are less than one-sixteenth of an inch long. They are called “woolly” because they are covered by wool-like projections made of wax.

ORIGIN: Native to Asia, this insect was accidentally introduced to western North America in the 1920s and again in the Richmond, Va., area in the early 1950s.

EXTENT IN KENTUCKY: First documented in eastern Kentucky in 2006, it currently is known to be present in 12 counties.

IMPACT: They feed on the sap in hemlock needles and typically cause an infested tree to die within two to 12 years. This tiny insect has already killed 80 percent of the hemlock trees along the Blue Ridge Parkway and in Virginia’s Shenandoah National Park. The loss of hemlock creates stands of dead and dying trees, resulting in an ecological disaster for species dependent upon this habitat.

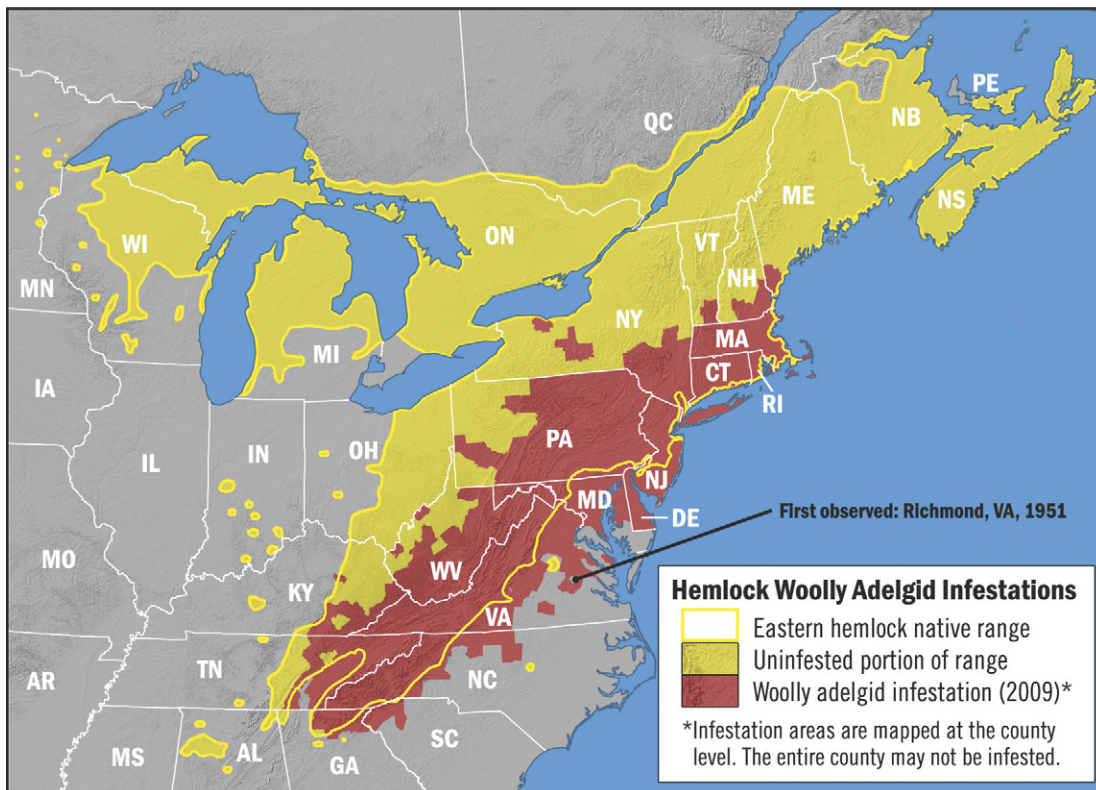
MANAGEMENT: Infested trees can be treated with the release of predatory beetles, sprayed with insecticidal soaps and horticultural oils or systemically treated with an insecticide containing the active ingredient imidacloprid. Optimal times to treat with insecticide are during March through April and from September to October. Soil drenching and soil injections are the most effective treatments.

ADDITIONAL INFORMATION: Visit www.kyhemlocks.org to learn more



infested hemlock branch

Photo by Connecticut Agricultural Experiment Station Archive, Bugwood.org



Map by Greg Abernathy, KSNPC
Adapted from U.S. Forest Service Map



Hemlock Woolly Adelgid Update - Fall 2009 Treatments

By Kyle Napier, Southeastern Region Preserves Manager

Hemlock tree treatments for fall 2009 started on Sept. 30 and ended on Nov. 12. The unusually wet fall provided optimal soil conditions for injecting the imidacloprid pesticide. It was exactly what we hoped for since treatments are more successful when applied to moist soils. During this extended time period we were treating four to five days a week.

Pesticide was provided through a grant from the United States Forest Service (USFS) and all treatments were conducted at Blanton Forest State Nature Preserve. Our crew consisted of myself and Kentucky Natural Lands Trust employees Clint Lester and Merrill Flanary. We also received two days of help from KSNPC employee Byron Brooks. Since most of the easily accessed trees along the trails had already been treated, the crew had to concentrate on the more difficult locations. This required a lot of time walking to and from the rugged treatment sites. The good thing is we were able to treat two really nice old-growth stands where most of the trees were over 20" dbh (diameter at breast height).

With all the effort needed to get to the treatment sites and the large sizes of the trees, this decreased our total number of treated trees considerably. But it definitely increased our quality. Much of the treated area showed old-growth characteristics. We were able to treat 2,696 trees within an approximate 38-acre area.

The total number of trees that have been treated during the spring and fall of 2008 and 2009 at Blanton Forest and Bad Branch is now 23,243 trees within an approximate 403-acre area. We are expecting to finish up the pesticide that the USFS provided when we return to Blanton Forest this spring. This should complete our task of treating the highest priority areas on these two preserves. Examinations of previously treated trees show new needle growth. Hopefully things will be bright in maintaining these areas for future generations. 🌲



Hemlock-mixed forest, Bad Branch State Nature Preserve ~ Ellis Laudermilk, KSNPC



KSNPC Receives a \$10,000 Data Improvement Grant from NatureServe

By Shuana Dunham, GIS Specialist

NatureServe is a nonprofit organization that collects biodiversity data from an international network of natural heritage programs and conservation data centers. These programs generally conform to a standard data collection methodology. KSNPC is the heritage program for Kentucky.

Each year, NatureServe identifies database fields to target for improvement within the natural heritage program network databases. This year, they chose Representation Accuracy (RA) as the primary goal for network standardization. RA is a measure of how well the mapped feature in our database represents the actual field observation. This is directly related to how the data was collected. For example, a naturalist's written account from the turn of the century may mention a rare plant from a particular county. We can not know exactly where within the county the observation was made so the best we can do is to map the plant to the county boundaries. While it is helpful to have that information, it is not

a very accurate representation of the original observation. On the other hand, a biologist today may see the same rare plant and use a GPS device to mark the location. This will be a highly accurate representation that will be much more useful in environmental reviews.

Standardizing RA is particularly important for multi-jurisdictional projects (projects that cross political boundaries). If RA is assigned in Tennessee differently than it is assigned in Kentucky for example, the end user of the data cannot make suitable comparisons of accuracy between the two states.

Under the terms of this grant, we will review our database records to ensure that they follow heritage methodology. We are very grateful to NatureServe for providing this funding opportunity and we are pleased that the end product will be more useful to our clients. ☒

VOLUNTEER WORKDAY AT VERNON-DOUGLAS SNP A SUCCESS

By Byron W. Brooks, Environmental Technologist, and Joyce Bender, Nature Preserves and Natural Areas Branch Manager

On Saturday, Nov. 21, 2009, five KSNPC staff and three volunteers met at the Vernon-Douglas State Nature Preserve (SNP) on Audubon Trace Road in eastern Hardin County to begin the first phase of a long-awaited trail rehabilitation project. The objective on that mild November day was to replace old cribbing along the section of the hiking trail near the Pinnacle Overlook.

What is trail cribbing, you ask? When a trail runs across a slope, along a contour, a small tree trunk or similar material is placed on the downslope side of the trail to keep the trail tread from washing out. It also makes an aesthetically pleasing edge to the trail, and helps define the trail's location after leaf drop in the fall.

Everyone helped to carry hand tools upslope to the remote spot. Rick Lutz volunteered to shoulder the pack with the rebar. Byron W. Brooks cut small cedars for the trail cribbing. After the rebar supply was exhausted, he cut stakes from the cedars to pin the cribbing in place. KSNPC Director Don Dott carried the cedars to volunteers Rick Lutz, Preserve Monitor Doug Gebler, and Joyce Fry who set the logs and pounded in

the rebar and cedar stakes to keep the logs from rolling down hill. Lane Linnenkohl, Joyce Bender and Leslie Isaman did cut-and-fill on the side slope to improve the trail tread. They also ferried stakes and the occasional log to the cribbing crew. At the end of the day, a total of nearly two-tenths of a mile was cribbed with cedar logs laid end-to-end. Many thanks go to our volunteers and staff for their hard work.

Additional workdays will be held this winter and spring to complete improvements to the trail system at the preserve. An ambitious trail re-route avoiding a perpetually wet area is also planned, along with new signage and trail blazing. Please contact KSNPC if you are interested in helping so we can notify you when dates are set.

Vernon-Douglas SNP protects 730 acres of mature mixed hardwood forest in the Knobs region of the state. It is renowned for its spectacular spring wildflower display, as well as fall and winter views of the surrounding plain from the Pinnacle Overlook. Be sure to check our Web site for upcoming hikes and opportunities to volunteer at a state nature preserve near you. ☒



Winter Hiking

Joyce Bender, Nature Preserves and Natural Areas Branch Manager

Don't let the cold keep you inside during the winter months. The preserves are open for hiking year-round and hold many unexpected treasures no matter when you visit. The frozen falls at Bad Branch, the lacy coating of snow on hemlock boughs, the starkly defined landscape all have a quiet beauty that can

make you forget about the low temperatures. Snow on the ground reveals who else walks the trails too. Maybe you'll find the track of a bob cat, one of the more elusive inhabitants of the preserve. Please note the preserves that are open to the public on our Web site and plan a winter adventure soon. ☼



Bad Branch Falls (approximately 60-feet in height) ~ Ellis Laudermilk, KSNPC



LAND PROTECTION Report

By Brent Frazier, Land Protection Specialist

The commission currently has seven properties in various stages of the acquisition process. The Brothers/Sitton Tract at River Cliffs in Franklin County recently closed and was dedicated at our December commission meeting. This addition contains habitat for the federally endangered Braun's rockcress. We also have a pending tract at Hi Lewis Pine Barrens SNP in Harlan County being surveyed. This SNP preserves a rare pine barrens community.

There has been significant progress on the two projects at Crooked Creek SNP in Lewis County that have been in the process the longest. We have a signed land contract on most of the largest tract and are working with American Electric Power, a utility company that awarded KSNPC a grant to assist in acquiring the smaller tract. This SNP protects five threatened plants.

The owners of a tract at Blanton Forest SNP agreed to entertain an offer from the Commonwealth, but the

appraised value and their asking price are too far apart, so a deal seems unlikely at this point. We have also obtained an appraisal on a tract at Bad Branch SNP in Letcher County. This would be a key addition to the SNP because it is adjacent to High Rock. We had one application approved at the January HLCF meeting. This tract would be an addition to Bad Branch SNP in Letcher County.

I have also been working with Jessamine and Mercer county officials concerning HLCF applications on sites the commission would like to see protected. One of the tracts submitted to the HLCF Board by Jessamine County was approved during the July meeting. The other tract will be approved when funds are available. The Mercer County judge-executive has been making contacts with landowners in the target area adjacent to Shakertown. The goal of both of these county projects is to protect palisades and surrounding areas along the Kentucky River. ☞

Director's Notes

By Don Dott, Executive Director

The last year of the first decade of the new millennium has been challenging and eventful at the Kentucky State Nature Preserves Commission. Some very significant accomplishments have been logged, which is perhaps more noteworthy due to the difficult economic times and the resulting budget cuts. We truly strive to do more with less – and several of 2009's successes are quite impressive.

Without question the single biggest project of the last three years is coming to fruition in the publication of *Kentucky's Natural Heritage, An Illustrated Guide to Biodiversity*. Edited by Greg Abernathy, Deborah White, Ellis Laudermilk and Marc Evans, it is an essential reference to the region's remarkable natural history. It emphasizes the importance of conserving the unique biological environment of the Commonwealth. Heavily illustrated with over 250 color maps, photos and charts, it is a compelling cross between a scientific reference and a coffee table book. It will be published by the University Press of Kentucky and available for purchase in June. For a fuller description visit the online 2010 catalog of the University Press of Kentucky at www.kentuckypress.com/newsite/pages/catalog.html.

The commission purchased over 190 acres across Kentucky to add to the nature preserve system this past year. One tract protects rare fish living in spring-fed streams at Terrapin Creek SNP and another is within the Kentucky River Palisades. The Palisades tract is another step forward in securing the protection of a federally listed plant, Braun's rockcress.

Commission staff found 86 new populations of rare plants, animals and communities across the state, further contributing to knowledge on the health of Kentucky's ecosystems. One of these, blunt mountain mint had not been seen for 25 years. Other plant finds include the rock skullcap on Pine Mountain, in an area it was not previously known from, and a new population of blue curls which were known from fewer than five locations. Thirteen new county records representing nine tiger beetle species were found as part of an ongoing effort to better document this group in Kentucky.

A survey of the remaining grassland systems by commission biologists uncovered 20 new sites and new opportunities to recover prairie remnants found in central Kentucky. We estimate that at the time of settlement Kentucky had 2.5-3 million acres of prairies. Over time, most of that land was converted to other uses, primarily for agriculture, and now only a few thousand acres of native grasslands survive in small remnants. This study also provides an opportunity for the property owners to protect grassland biodiversity on their lands by taking advantage of incentives offered through state and federal wildlife habitat protection programs.

Biological inventories on the state nature preserves conducted by non-commission staff produced new discoveries about Kentucky's fauna, including the only known Kentucky population of a rare moth, and newly documented populations of several rare leaf hoppers, a poorly understood but ecologically important group of insects. These species are doing well under



the fire management plans developed by the commission's preserve management staff. Additional tree ring analysis work at Floracliff SNP by ECU professor Neil Pederson led to the identification of the oldest tree yet known from Kentucky, dating to 1611.

Nature preserves management staff started off the year with a big challenge. The ice storm in January damaged trail systems on 14 preserves. With only five staff to clear them, all trails but one were back in safe condition for visitor use by the height of spring visitation. The last trail required funding assistance from FEMA (another challenge in itself), and it was operational before the end of the year. Another challenge met by preserve management staff was the treatment of over 19,000 hemlock trees in 2009. The grand total of trees protected from the onslaught of the hemlock woolly adelgid stands at 23,000.

The commission has increased data sharing with several federal agencies including the U.S. Fish and Wildlife Service and the Natural Resources Conservation Service in 2009, making sure that the best information on rare species and communities is readily available to them for environmental review and land use decisions.

Accomplishing similar achievements will be more challenging in 2010. Governor Steve Beshear has said that the current economic downturn has created the most difficult budget crisis that we have faced in modern times. His comment was made in anticipation of the 2010 session of the General Assembly which will have to adopt a reduced budget for fiscal years 2011 and 2012. But unfortunately this is not a new problem. We have been suffering budget cuts and reductions for at least the past four years. We have been cutting operating funds which reduces our ability to travel and do field work and keep vehicles, computers and supplies in good stead. Having depleted operating funds, we have now been forced to reduce personnel

funding as well. In 2009 we were unable to hire seasonal staff for stewardship work, harming our ability to maintain the unique habitats on the preserves that are constantly invaded by invasive exotic species and other threats.

But perhaps the worst impact has been the lack of funds to replace two key staff who retired in December 2008. This has meant the loss of one of only two ecologists, reducing our ability to conduct natural areas inventories in the search for new preserves as land conversion escalates. The second position lost was our only terrestrial zoologist who worked on the conservation of rare species among the bird, mammal, reptile and amphibian groups. Loss of this expertise leaves a huge gap in our natural heritage program as these are key animal groups. I encourage every reader to call or e-mail your local legislators and express your support for KSNPC in the upcoming budget negotiations. If you are not sure who your legislators are, or if you need contact information, it can be easily found on the Legislative Research Commission's Web site at www.lrc.ky.gov. The continual budget cuts are whittling away at Kentucky's natural heritage and stewardship programs at a particularly vulnerable time - when climate change will begin putting greater stresses on our natural systems.

We will address these challenges by continuing to seek partnerships with all the other natural resource agencies, any agencies that have an impact on land use, nongovernment conservation organizations, and anyone else willing to help protect Kentucky's natural heritage. We must recommit ourselves to protecting the highest quality natural areas, and finding and conserving our most at-risk rare species – under a new plan that must address the reality of climate change. A daunting task, but one we can not shirk from as we all inhabit this one small planet. Let's all pitch in with every effort we can, big and small! 🌱



Terrapin Creek State Nature Preserve ~ Greg Abernathy, KSNPC



Upcoming Hikes and Events

Please note that most events require preregistration. View our complete events calendar at www.naturepreserves.ky.gov/events/.

March 6, 2010. Volunteer Day at Floracliff SNP (Fayette County).

March 6, 2010. Invasive Plant Hike at Beargrass Creek SNP (Jefferson County).

March 11, 2010. KSNPC Commission Meeting (Franklin County).

March 13, 2010. Signs of Spring Hike with Beverly James at Floracliff SNP (Fayette County).

March 14, 2010. Why Queen Anne's Lace Is Our Enemy and Poison Ivy Is Our Friend at Blackacre SNP (Jefferson County).

March 20, 2010. Nature Explore Family Club with Jefferson Memorial Forest at Beargrass Creek SNP (Jefferson County).

March 27, 2010. Wildflowers and their History with Native Americans at Floracliff SNP (Fayette County).

March 30, 2010. Mid-week Wildflower Hike at Floracliff SNP (Fayette County).

~~~~~  
April 3, 2010. Wildflower Folklore at Floracliff SNP (Fayette County).

April 17, 2010. Wildflower Hike with Brian Yahn at Floracliff SNP (Fayette County).

April 22, 2010. Earth Day (40th anniversary).

April 23-25, 2010. Wildflower Weekend at Natural Bridge SPNP (Powell County).

~~~~~  
May 1, 2010. Herpetology with Zeb Weese at Floracliff SNP (Fayette County).

May 7-8, 2010. Herpetology Weekend at Natural Bridge SPNP (Powell County).

May 22, 2010. International Day for Biodiversity

More springtime events are planned so please check our online calendar for an up-to-date list.

KENTUCKY STATE NATURE PRESERVES COMMISSION

COMMISSIONERS

CLARA WHEATLEY, CHAIR
ADRIAN ARNOLD
CARL BREEDING
PETER BROWN

STAFF

DONALD S. DOTT JR.
EXECUTIVE DIRECTOR

GREG ABERNATHY
JOYCE BENDER
BYRON BROOKS
JUDY CUNNINGHAM
SHAUNA DUNHAM
RYAN EVANS
BRENT FRAZIER
MARTINA HINES
SARA HINES
FELISHA HUBBARD
LESLIE ISAMAN
ELLIS LAUDERMILK
LANE LINNENKOHL
TARA LITTLEFIELD
ALICE MANDT
KYLE NAPIER
ZEB WEESE
DEBORAH WHITE
BRIAN YAHN

An Equal Opportunity Employer



DON'T FORGET TO DO SOMETHING WILD

ON YOUR STATE INCOME TAX RETURN AND USE THE CHECKOFF BOX TO DONATE TO THE NATURE AND WILDLIFE FUND!

Kentucky State Nature Preserves Commission Quarterly Public Meeting

March 11, 2010
KSNPC Frankfort Office
10 a.m. EDT

Kentucky State Nature Preserves Commission
801 Schenkel Lane, Frankfort, KY 40601-1403
502-573-2886

naturepreserves@ky.gov
www.naturepreserves.ky.gov

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

The Energy and Environment 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.

Produced with state funds.



Please recycle all paper.



Naturally Kentucky ~ 14