

# Naturally Kentucky

Summer 2009

Number 62



**KSNPC Latest News:** We have known that bears are returning to Kentucky, but tigers? Invertebrate Biologist Ellis Laudermilk has been tracking these elusive creatures and explains on Page 2.

☞ Intern Jonny Hart has joined KSNPC working under Aquatic Biologist Ryan Evans. Jonny is currently finishing his master's degree in biology from Marshall University. The majority of Jonny's time this summer will be spent working on the South Fork Kentucky River State Wildlife Grant. Jonny has a great deal of mussel and fish experience from his undergraduate and master's work that will be a great asset to the Commission.

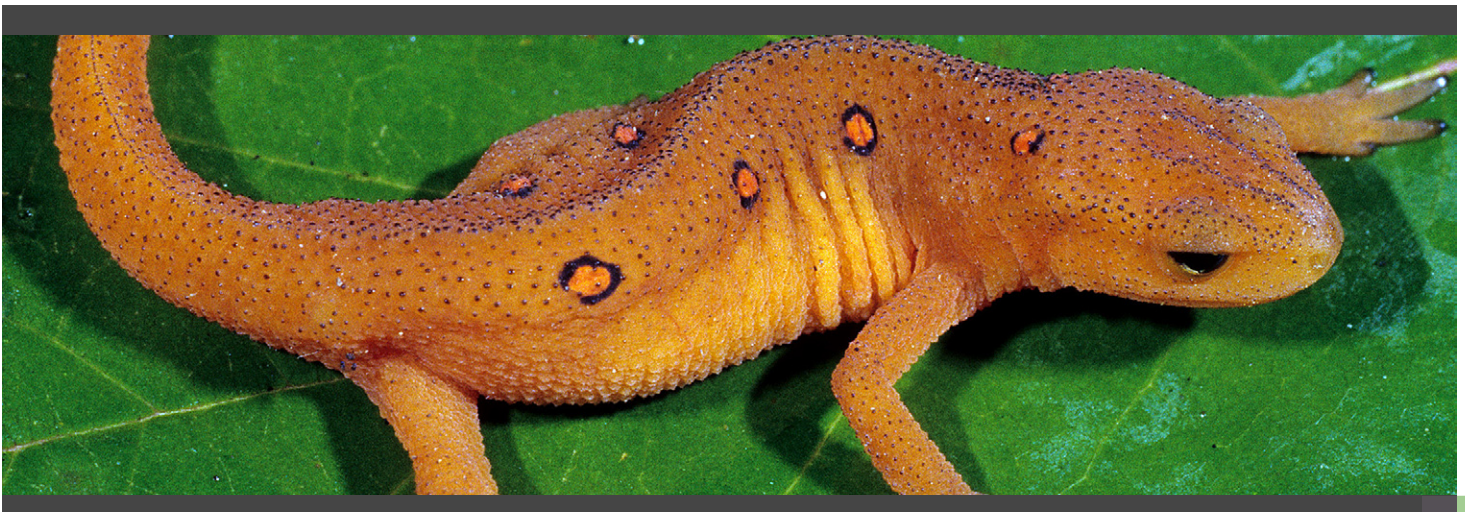
☞ Over 16,000 hemlock trees were treated this past spring to fend off hemlock wooly adelgid. Trees were treated at Bad Branch and Blanton Forest (complete story on Page 5).

☞ Kyle Napier, southeast regional nature preserves manager, received a \$20,000 grant from the Recreational Trails Program (complete story Page 8).

☞ As of June 2009, the Kentucky State Nature Preserves system manages 24,591 acres, thanks to additions to Jim Scudder in Hardin County and Terrapin Creek in Graves County (complete story on Page 8).

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Splendid tiger beetle ~ Ellis Lauder milk, KSNPC

# The Tigers of Kentucky

By Ellis Lauder milk, Invertebrate Biologist

While roaming pine barrens and pine-oak ridge tops in eastern Kentucky the last few years, I've encountered one of Kentucky's most stunning "tiger" species on a few occasions. This secretive predator is beautiful with a striking pattern of white or cream colored lines on its back and an iridescent-green body. Sounds unusual for a tiger, but many Kentucky species exhibit a variety of iridescent colors and line patterns. The tigers I'm referring to here are insects known as northern barrens tiger beetles (*Cicindela patruela*) and they are harmless to humans. They are called tiger beetles because of their voracious predatory habits. After all, if you are a small ant scampering across the ground a tiger beetle is just as ferocious as its furry namesake. All species are carnivorous in the adult and larval stage.



Northern barrens tiger beetle ~ Ellis Lauder milk, KSNPC

Over 2,600 tiger beetle species have been described in the world with about 109 species known from North America north of Mexico. Recent field surveys across the state and visits to museums by tiger beetle enthusiasts (also known as



Appalachian tiger beetle ~ Ellis Lauder milk, KSNPC

cicindelophiles) have revealed species previously undocumented from Kentucky, including the Appalachian tiger beetle (*Cicindela ancocisconensis*) and Pan-American big-headed tiger beetle (*Tetracha carolina*). The latter species has a common name longer than the actual beetle! As of this writing, Kentucky is home to at least 21 species. A few, such as the northern barrens and Appalachian tiger beetles, are uncommon and considered globally vulnerable to extinction.

Tiger beetle species have the same basic appearance in terms of body size and shape and they exhibit similar behavior. Colors, patterns on the hardened forewings (elytra) and size of individuals are the primary ways to distinguish species in the field. Kentucky's species range in size from about 0.2-1.0 inches. Transparent hindwings used for flight are hidden beneath the elytra. Since tiger beetles can run fast, the wings are mainly used for short escape flights, but some species can also fly to new habitats. However, the flight wings are reduced or even absent in a few species that have become adept at running. In fact, according to Dr. Thomas Merritt of the University of Florida, an Australian tiger beetle (*Cicindela hudsoni*) is the fastest running insect in the world, attaining speeds of 5.6 miles per hour!

Several characteristics distinguish tiger beetles from other ground beetles, but some of the most obvious are the long, thin legs that are well equipped for running; long, sickle-shaped mandibles used to devour prey; long body form with the eyes and head together wider than the thorax; prominent eyes used to spot potential prey or danger; and tunnel-building behavior of the larvae, along with a peculiar hump on the back of larvae that has a set of forward facing hooks. The hooks help larvae

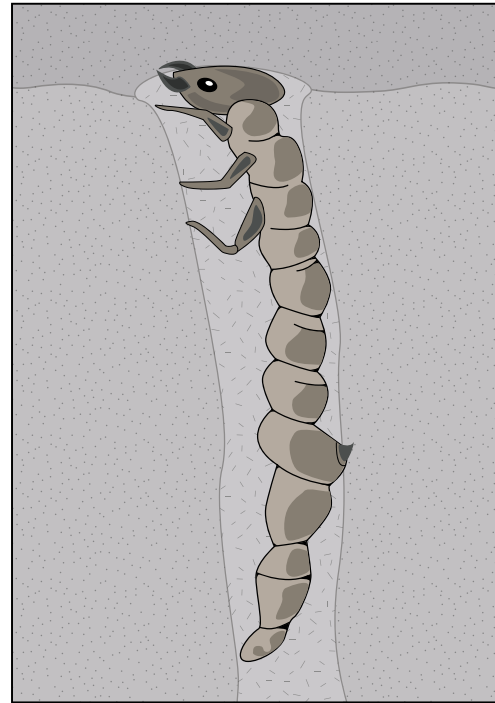


maintain their position inside burrows when they attack prey. When an ant or other small insect approaches, larvae launch out of their burrows and pounce on the unsuspecting prey pulling it back inside the burrow.

Tiger beetles are found in a variety of habitats, but soil type is very important to each species. For example, some species such as the big sand tiger beetle (*Cicindela formosa*), prefer sandy areas as the common name implies, with little or no low vegetation. The splendid tiger beetle (*C. splendida*), is often found in association with open areas and red clay soils. Many readers probably have seen the widespread, iridescent-green six-spotted tiger beetle (*C. sexguttata*) while walking trails or dirt roads throughout the state. This common species occasionally is even found on sidewalks or patios. The one-spotted tiger beetle (*C. unipunctata*) is normally found in woodlands where it forages under leaf litter. In fact, no matter where you wander outside in Kentucky, a tiger beetle could be nearby. You may not have seen it or even been aware of its presence, but at some point you likely have been in the eye of the tiger. 🐅



Tiger beetle larva inside a burrow (top view)  
~ Ellis Laudermilk, KSNPC



Tiger beetle larva inside a burrow (side view)  
~ Greg Abernathy, KSNPC



Big sand tiger beetle ~ Ellis Laudermilk, KSNPC



Six-spotted tiger beetle ~ Ellis Laudermilk, KSNPC



# Ice Storm Recovery ~ Eight Months Later

By Lane Linnenkohl, Western Regional Nature Preserves Manager

On Jan. 27-28, 2009, one of the worst ice storms in Kentucky's recorded history hit the central and western parts of the state. Over 1 million people were left without power. Roads were shut down, businesses and schools closed. People were left without heat or water. It took over a month for some counties in western Kentucky to see full power restored.

With the help of FEMA, the National Guard, local government, county and state crews, private contractors and volunteers, areas were gradually cleaned and infrastructure damaged by the storm was restored. Most areas still show signs of the damage. Just take a drive down the Western Kentucky Parkway and you can't miss the broken and damaged tree canopies and brand new utility poles replacing ones that snapped like match sticks under the weight of all that ice.

Possibly unnoticed by many was the damage caused to the state nature preserves. In the eastern region, nine nature preserves sustained significant damage, as well as 13 nature preserves in the western region. Canopies of trees over 100 years in age were left broken and lying on the forest floor. Limbs hung precariously over trails, dangling by thin strips of twisted fibers. Fifteen nature preserve trails had to be closed to public use for several months. As this newsletter is published, the trails at Bissell Bluff State Natural Area and Metropolis Lake State Nature Preserve remain closed waiting final cleanup. The Commission and Livingston County will be receiving FEMA assistance to hire contractors to complete the cleanup at these two sites. If funding is approved on schedule, the trails should be open by the fall.

KSNPC staff has put a significant amount of time into cleaning up the damage in the preserves. The Kentucky Department of Parks took care of the dedicated state park preserves, personnel from Livingston County worked on the debris at their dedicated natural areas and Facilities Management crews assisted us at

two preserves. We were fortunate to have the assistance of many dedicated volunteers as well.

The ice storm also impacted our spring burn season. Fire breaks that had been prepared early in January had to be re-cleared after the storm, costing us valuable time and resources. The heavy, woody fuel loads, as well as broken branches still hanging in trees, will continue to pose safety concerns for the next several years.

As we move forward, the ice storms have the potential to introduce some long-term negative impacts. Most notable could be the invasion of exotic species due to the disturbance and the

abundance of light coming from new canopy openings. Despite our attempted diligence, many people were in and out of areas helping with cleanup, raising the potential for transported weed seeds on clothing and equipment.

Looking for positives from this situation, it will be interesting to see how the natural communities recover and develop from the damage. We feel that current woodlands in many areas of central and western Kentucky are much too dense, not allowing enough light to reach the

forest floor. The newly opened canopies will offer a wonderful opportunity to see how ground vegetation communities respond to the abundance of light now coming through the canopies.

We won't soon forget the impact the ice storm of 2009 has had on our lives, and we will see the evidence in our nature preserves for years to come. It is important to remember that despite the broken trees and damaged canopies, this storm was a natural occurrence. As nature so often illustrates, the preserves will repair themselves. New tree branches will grow, seeds will sprout, and woody debris will decompose, feeding insects and microorganisms and enriching the soil. ☞



Vernon-Douglas State Nature Preserve, Hardin County ~ Lane Linnenkohl, KSNPC



# SPRING 2009 HEMLOCK WOOLLY ADELGID TREATMENTS A GREAT SUCCESS!

By Kyle Napier, Southeastern Region Preserves Manager

By now most people know about the hemlock woolly adelgid (HWA) and the devastation that is expected from its establishment in Kentucky. From its first detection in Harlan County in the spring of 2006, the adelgid's range has been expanding rapidly and a population explosion seems inevitable within the next few years. I must say that searching for this little aphid-like insect was like looking for a needle in a haystack three years ago, but now it can be found in almost all hemlock stands in southeastern Kentucky. Some of these areas are becoming heavily infested, while some are only lightly infested. Unfortunately, if any hemlock stand is inspected thoroughly enough I am almost certain HWA will be found.

The Commission decided to act quickly to combat this invasive pest. Evidence has shown the more heavily infested an area is, the less likely pesticides will work in ridding trees of the adelgid. A plan was developed to prioritize preserves and key areas for treatment. In the summer of 2006 we researched imidacloprid, the recommended pesticide for HWA control. It was found to be the best and safest chemical available and that soil injections were the best and safest method of application. We knew it was just a matter of time before HWA infestations would be found within the nature preserves in southeastern Kentucky.

The adelgid was first detected during the winter of 2007 at Blanton Forest State Nature Preserve and during the spring of 2008 at Bad Branch State Nature Preserve. We began treating infested hemlock trees at both preserves in 2008. During the two treatment periods (spring and fall) a total of 4,058 trees were treated. We are currently seeing results from these initial treatments. Trees that were treated in 2008 are showing more vigor and fewer adelgids than trees that were not treated at that time. For the most part the smaller trees (from 1 to 10 inches in diameter) that were infested last year are showing no HWA this year. The treatment is supposed to last at least three years, longer under good conditions. We are hoping it will be five years before we have to re-treat these trees.

Spring treatments for 2009 started on March 30 and ended on June 10, while weather conditions were right for soil injections. Treatments at Bad Branch were conducted in the upper gorge on dedicated land owned by The Nature Conservancy. This work was made possible through a donation of imidacloprid to The Nature Conservancy from the manufacturer, Bayer CropScience. Additional assistance was provided by the Landowner Incentive Program (LIP) administered by the Kentucky Department of Fish and Wildlife Resources. Pesticide that was not used during the 2008 fall treatment season was used this spring at Blanton Forest.

There were also more hands on deck this spring to help measure



Hemlock woolly adelgid crew preparing pesticide ~ Jeff Sole, TNC

trees, record data, carry water, mix pesticide and inject the soil surrounding the tree root systems. My main crew for the 44 days we treated trees consisted of Kentucky Natural Land Trust employees Merrill Flanary, Jason "Stuss" Taylor and Timothy "Tick" Brock. I am sure I can speak for all of the crew in saying that during this time we found ourselves lost among the hemlocks. I know I had many restless nights as I treated hemlocks in my dreams. The Nature Conservancy staff, Jeff Sole, Shelly Morris, Lisa Morris, Chris Minor, Jestin Clark, Steven Fields and Amy Samples helped for eight days. We also had assistance from LIP employees Jacob Stewart and Josh Lillpop, Kentucky Division of Forestry forest health specialist Jody Thompson and volunteers Heather Blanton, David Brown and Todd Weinkam.

Before starting this spring, I set a goal of treating 10,000 hemlock trees. I am proud to say that we exceeded that goal and treated a total of 16,462 infested trees. At Bad Branch State Nature Preserve, 14,218 hemlocks were treated this spring. At Blanton Forest State Nature Preserve, we treated a total of 2,244 hemlocks. We spent a total of 1,141 hours on this project. From the beginning, our purpose has been to treat a variety of size classes in order to maintain structural diversity and ensure regeneration. According to my calculations, trees that were treated ranging in DBH (diameter at breast height) size 1 to 5 inches made up 51.7 percent, 6 to 10 inches made up 26.4 percent, 11 to 15 inches made up 12.2 percent, 16 to 20 inches made up 6.0 percent and those 21 inches and over made up 3.7 percent.

Since the very beginning of the project in spring 2008 we have treated 20,520 hemlock trees. The total at Bad Branch State Nature Preserve is 16,607 and at Blanton Forest State Nature Preserve the total is 3,913. We expect to receive more pesticide this fall from the US Forest Service. Most of this will be used at Blanton Forest State Nature Preserve. I will report on the results of the fall treatment season in the next newsletter. 🌲



# In the Spotlight: Kentucky's Rare Species & Communities

## *Orconectes burri*

### *Blood River Crayfish*

**KSNPC STATUS:** Endangered

**USFWS STATUS:** None

**GENERAL DESCRIPTION:** A boldly marked crayfish up to 2.5 inches total length.

**HABITAT:** Small creeks to small rivers in woody debris or undercut banks.

**RANGE:** Blood River watershed in western Kentucky.

**REASON FOR PROTECTION STATUS:** Although this species is not in imminent risk of extinction, a highly restricted distribution places it at-risk from poor land use management or habitat degradation from stream alteration.



Photo by Ryan Evans, KSNPC

## *Appalachina chilhoweensis*

### *Queen Crater*

**KSNPC STATUS:** Special Concern

**USFWS STATUS:** None

**GENERAL DESCRIPTION:** Attaining a width of up to approximately 1.6 inches, this is the largest land snail in Kentucky. The shell is thin, cream-colored, broader than it is tall, umbilicate, and with 6 to 6 ½ whorls.

**HABITAT:** Found in acid woodlands, usually in mature forests on relatively steep slopes along cliffines, rock outcrops, or boulder talus.

**RANGE:** Known from Kentucky, North Carolina and Tennessee.

**REASON FOR PROTECTION STATUS:** In Kentucky, the queen crater is restricted to a few populations in McCreary and eastern Wayne counties.



Photo by Ellis Lauder milk, KSNPC

#### KEY TO KSNPC STATUS CATEGORIES:

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

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

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

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



## *Corydalis sempervirens*

### *Rock Harlequin*

**KSNPC STATUS:** Special Concern

**USFWS STATUS:** None

**GENERAL DESCRIPTION:** A biennial herb with gray green leaves and pink and yellow flowers.

**HABITAT:** Rock outcropping and dry woods at higher elevations – usually increases after fire.

**FLOWERING PERIOD:** Generally May to August.

**RANGE:** Circumboreal (from Alaska to Newfoundland!) and much of the northeast U.S., then south to Georgia, mostly associated with the Appalachian Mountains. Within the state it is known only from southeast Kentucky.

**REASON FOR PROTECTION STATUS:** Narrow habitat availability.



Photo by Brian Yahn, KSNPC

## *Cumberland Mountains Xeric Pine Woodland/Outcrop*

**KSNPC STATUS:** Special Concern

**GENERAL DESCRIPTION:** This community occurs on steep slopes and sharp upturned sandstone ridges on Pine and Cumberland Mountains. The vegetation is sparse due to sandstone bedrock at or near the surface. Drainage is rapid, and conditions are dry and harsh. The canopy is usually open, stunted and generally 50 percent or more pine. Pitch pine and Virginia pine are usually dominant with chestnut oak also common. The shrub layer can be sparse to dense with characteristic species including blueberries, chokeberry and greenbriers. Bare rock can vary from 10 percent to +85 percent of the total area of the community. The herbaceous layer is sparse and limited to areas where soil/leaf litter has accumulated. Lichens are often abundant on the sandstone rock-slabs.

**RANGE:** This community is restricted to the outcrops along the upper spine of Pine and Cumberland Mountains of Virginia and Kentucky.

**REASON FOR PROTECTION STATUS:** In Kentucky, this community is limited in distribution along the southwest-facing spine of Pine Mountain. Logging of adjacent forests and rock quarries have further degraded existing habitat. A rare plant, rock harlequin (see previous species account), is known to occur only within this community in Kentucky.



Photo by Marc Evans, KSNPC

### KEY TO USFWS STATUS CATEGORIES ~ (US) ENDANGERED SPECIES ACT OF 1973:

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

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

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

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

### ADDITIONAL RESOURCES:

KSNPC Species and Community Information ~ [www.naturepreserves.ky.gov/inforesources/SpeciesCommunityInfo.htm](http://www.naturepreserves.ky.gov/inforesources/SpeciesCommunityInfo.htm)

NatureServe Explorer ~ [www.natureserve.org/explorer/](http://www.natureserve.org/explorer/)

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



# Recreational Trails Program Award

By Joyce Bender, Nature Preserves and Natural Areas Branch Manager

Kyle Napier, southeast regional nature preserves manager, received a \$20,000 grant from the Recreational Trails Program on May 13, 2009. Governor Beshear announced the grant award at a ceremony held at the Salato Wildlife Education Center in Frankfort. Kyle's grant will be used to improve a hiking trail that will pass through Stone Mountain State Natural Area and Cranks Creek Wildlife Management Area in Harlan County. The funds will be used to develop a parking facility, refurbish

an amphitheater for classroom use, install an information kiosk at the trail head and interpretive signage for the trail. The intended user groups are local school children and other visitors who would like to learn more about the plants and animals that are protected within these state managed lands. Congratulations to Kyle for his award among some stiff competition! ☞



Gov. Steve Beshear presenting Kyle Napier with a check from the Recreational Trails Program (Pictured R to L: Gov. Steve Beshear, Southeastern Regional Preserve Manger Kyle Napier, First Lady Jane Beshear, Kentucky Tourism, Arts and Heritage Secretary Marcheta Sparrow and Deputy Commissioner of the Department for Local Government Stacia Peyton) ~ Joyce Bender, KSNPC

# LAND PROTECTION Report

By Brent Frazier, Land Protection Specialist

The Commission currently has seven properties in various stages of acquisition. Two at Crooked Creek Barrens State Nature Preserve (SNP) in Lewis County have been in process the longest because of title issues that must be resolved. The Division of Real Properties closed the Blackstone Tract at Jim Scudder SNP in Hardin County and the Wells Tract at Terrapin Creek SNP in Graves County. Both of these tracts were dedicated at our June Commission meeting. The owner of the Carmical Tract at Hi Lewis Pine Barrens SNP in Harlan County is still considering our offer.

We have one application that will be considered at the July Heritage Land Conservation Fund (HLCF) meeting. The Brothers/Sitton Tract would be an addition to River Cliffs SNP in Franklin County. The owners have signed a land contract and the survey work should begin soon. The Hepner Tract would create the

Blood River State Nature Preserve in Calloway County. The Division of Real Properties is negotiating with the attorneys that represent the owners.

Two natural area registry agreements have been signed. One will renew the Log House Prairie in Logan County and the other will establish Cornett Woods in Muhlenberg County. In addition, there are a couple of new registry agreements in the works; one in Mercer County and one in Calloway County.

I have also been working with Jessamine and Mercer County officials concerning HLCF applications on sites the Commission ranks as worthy of protection. The Jessamine County application was submitted to the HLCF Board for review at their July meeting. ☞





## Director's Notes

By Don Dott, Executive Director

Global warming and climate change was the focus of NatureServe's annual national conference in Gettysburg, Pa., this past April. It's a topic that is finally gaining more widespread recognition and agreement that: 1.) it is really occurring; and 2.) it's being driven by human activities, i.e. greenhouse gas emissions (GHGs). One of the keynote speakers commented on Pennsylvania's large contribution of GHGs, based on its heavy reliance on coal and expressed his intent to help Pennsylvania become a leader in the reduction of GHGs.

Along that vein, I recently spoke to the 2009 class of *Leadership Kentucky* and addressed the issue of climate change. Two of the most "solid" references I could find were on the Web site of the U.S. Fish and Wildlife Service. One says straight out that climate change is "real" and the other recognized the worldwide scientific consensus on global warming and climate change caused by human activity. Lastly, the U.S. Fish and Wildlife Service Web site observes that climate change will present the greatest challenge ever faced by natural area managers and conservationists. The debate over whether global warming is real seems finally at an end, we must now move to face this challenge.

While the general public may not yet be as widely in agreement on global warming, we cannot wait for that degree of public support to begin addressing the huge changes it will impose on the planet. What do we do and how do we do it? These are key questions with uncertain and difficult answers.

One thing that is certain is that we have to address another vexing issue – habitat fragmentation. The landscape has been chopped up by urban and suburban areas, roads, utility corridors, crop agriculture and other land uses that separate large areas of natural habitat by developed areas that plants and animals can not travel across. One concern over this parceling of the landscape is that it isolates plants and animals in "islands" of natural habitat. There has been longstanding recognition of the need to create corridors to connect these areas to prevent the genetic isolation of the plants and animals that survive within them. This same concept of connecting large natural areas with travel corridors to prevent genetic isolation can also provide pathways for plants and animals to migrate and adapt to a rapidly changing environment brought on by global warming.



A forested corridor along the Kentucky River Palisades ~ Brian Yahn, KSNPC

Easy to conceive, this plan to create migratory corridors that would extend across great expanses of the state, between states and even regionally, is a massive challenge – like global warming itself. Interstate highways, two lane roads, railroad tracks, utility corridors, urban, suburban and some agricultural uses create insurmountable impediments to the movement of most plants and animals. Retooling the landscape would be a Herculean task indeed, far beyond a single agency or even a single state. It will require acceptance and commitment from all levels of government, from federal agencies to local planning boards – and widespread public support to make it happen. But interstate highways can be retrofitted with "critter crossings" and new roads can be designed with crossings built in or even routed away from natural travel corridors. Urban/suburban areas must be planned to prevent further sprawl. The exurban development that breaks up rural and forest lands must be countered with protected corridors that skirt around them. Rivers and streams make some of the best natural corridors, but riparian zones along their banks must be preserved or restored where missing.

We need to partner with other agencies that have an impact on land use, non-government conservation organizations and anyone else willing to help develop a network of core habitat areas and connecting corridors. We must commit to protecting those which still exist, and to restore those that have lost their vital function but can be recovered. And we need to start now. ☐



# Upcoming Hikes and Events

Please note that most events require preregistration. View our complete events calendar at [www.naturepreserves.ky.gov/events/](http://www.naturepreserves.ky.gov/events/).

Aug. 15, 2009. Licking River Canoe Float Trip (Nicholas County).

Aug. 22, 2009. Macroinvertebrates and Water Quality at Floracliff SNP (Fayette County).

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Sept. 2, 2009. Weed Warrior Day at Floracliff SNP (Fayette County).

Sept. 5, 2009. Weed Warrior Day at Floracliff SNP (Fayette County).

Sept. 9, 2009. Weed Warrior Day at Floracliff SNP (Fayette County).

Sept. 12, 2009. Children's Activity Day as part of Invasive Weed Awareness Month at Floracliff SNP (Fayette County).

Sept. 12, 2009. Monarch Migration Mysteries at John James Audubon SPNP (Henderson County).

Sept. 16, 2009. Weed Warrior Day at Floracliff SNP (Fayette County).

Sept. 19, 2009. Native Alternatives to Invasive Plants at Floracliff SNP (Fayette County).

Sept. 19, 2009. Monarch Migration Mysteries at John James Audubon SPNP (Henderson County).

Sept. 23, 2009. Weed Warrior Day at Floracliff SNP (Fayette County).

Sept. 24, 2009. KSNPC Commission Meeting (Fayette County).

Sept. 26, 2009. Participate in National Public Lands Day at Blue Licks SPNP (Nicholas County).

Sept. 30, 2009. Weed Warrior Day at Floracliff SNP (Fayette County).

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Oct. 3, 2009. Volunteer Day at Natural Bridge SPNP (Powell County).

Oct. 3, 2009. Adventure Trek of the First Frontier at Pine Mountain SPNP (Bell County).

Oct. 10, 2009. Exploring Arch Country Guided Hikes at Natural Bridge SPNP (Powell County).

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Nov. 7, 2009. Moonbow Trail Trek at Cumberland Falls SPNP (Whitley County).

Nov. 7, 2009. Fall Foliage Fiesta at John James Audubon SPNP (Henderson County).

## KENTUCKY STATE NATURE PRESERVES COMMISSION

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## Kentucky State Nature Preserves Commission Quarterly Public Meeting

Sept. 24, 2009

Lexington

(location to be announced)

10 a.m. EDT

Kentucky State Nature Preserves Commission

801 Schenkel Lane, Frankfort, KY 40601-1403

502-573-2886

[naturepreserves@ky.gov](mailto:naturepreserves@ky.gov)

[www.naturepreserves.ky.gov](http://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.

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