



Rare Plants of the Bluegrass

by Deborah White

It's difficult to envision the original landscape of the Bluegrass but it must have been impressive--massive trees with an endless understory of waving grasses, forbs, canebrakes and limestone hills. Early accounts of one of the first English speaking travelers to Kentucky, James Filson, described it as "well timbered" with nearly impassable stands of cane (presumably *Arundinaria gigantea*) and "where no cane grows there is abundance of wild rye, clover, and buffalo grass, covering vast tracts of country". Filson must have seen a landscape that was mostly open beneath the tree cover, what we now call savanna.

The Bluegrass region has been irrevocably altered by intensive land use, more so than any other region in the state. Although it is difficult to accurately reconstruct the original regional flora, it is clear that savanna landscapes occurred in the Inner Bluegrass, the core area of the generally circular Bluegrass Region. Despite inventory efforts, not a single remaining intact example of this community or even a good quality remnant has been found. However, we shouldn't write off this region as floristically dull. E. Lucy Braun, a botanist renowned for her insights on forest flora, wrote in the 1940's that "no comparable combination of species occurs elsewhere in the deciduous forest". The rare plants alone are indicative of the diversity that can be found here. Here's a few of them:

Running buffalo clover (*Trifolium stoloniferum*)

This is possibly one of the original components of the bluegrass savannas - all we know today is that a white clover is mentioned in several accounts of the flora as being common in the savannas and associated with bison trails (thus the name) in these areas. In Kentucky, it has been found

flowering stem; 2) the formation of runners; 3) stem and leaves without any hairs; 4) white one-inch flower heads appearing in May and June; and 5) the leaves being a little larger and paler green.

The other interesting aspect of the history of this plant is that less than fifteen years ago it was thought to be extirpated, and has been listed both

Running buffalo clover (*Trifolium stoloniferum*)

along stream banks and terraces that are open and usually have moderate grazing. Curiously it has been found in the lawns and cemeteries that have been maintained by regular mowing but have never been cultivated, like the Ashland Estate in Lexington. This certainly lends evidence that this clover is a remnant of the pre-settlement flora of the bluegrass savanna ecosystem.

Running buffalo clover is one of only two native clovers in the state. It is distinguished from common exotic clovers in the Bluegrass by: 1) the formation of two leaves on its

federally and on the Commission's monitored list of rare flora and fauna.

It has since been found in 7 counties in this state, in Ohio, Indiana and populations of over ten thousand plants have been found in West Virginia! Although we have found more clover populations, it is still considered vulnerable to extinction. Management of its habitat will be a critical part of its recovery.

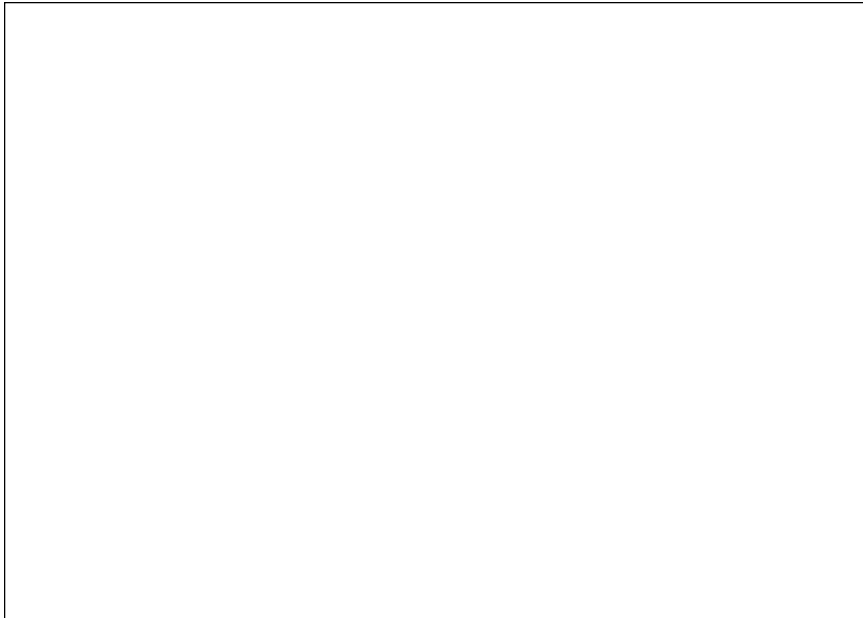
Braun's rock cress (*Arabis perstellata*)

Braun's rock cress is another federally endangered species of the

Highlights of the 95th Meeting of the Kentucky State Nature Preserves Commission

by Barry Howard, Acting Director

The Kentucky State Nature Preserves Commission held its regularly scheduled quarterly meeting on March 24 at the Red River Museum in Clay City,



Commissioners Kenneth Jackson, Judith McCandless and Clara Wheatley at Pilot Knob State Nature Preserve

Kentucky. The Commissioners and staff are very grateful to Larry Meadows and our volunteer hosts at this museum for their hospitality in providing such an interesting site for our meeting. The meeting was preceded in the morning by a field trip to Pilot Knob State Nature Preserve. This turned out to be a beautiful morning for a walk in a nature preserve, and this field trip was well attended by our commissioners, staff, and guests. We typically have a field trip associated with 2 or 3 of our quarterly commission meetings. As with all of our meetings, these field trips are open to everyone, and are excellent opportunities to see our nature preserves and interact with our commissioners and staff. If you can

work it into your schedule, we would love to have you participate with us in a commission meeting or field trip!

KSNPC purchased this 308-acre preserve from The Nature Conservancy in 1985. From atop this knob, one has impressive views of three Kentucky physiographic features: the bluegrass, knobs, and Cumberland plateau. It is from this vantage point that Daniel Boone himself supposedly

once stood and glimpsed the bluegrass region of Kentucky. Although the biological resources of Pilot Knob are not unusual, this preserve does have unique geological, historical, and archaeological elements. Among these special features are the old millstone quarries that are found in close proximity to Pilot Knob.

Search for a New Director

Commissioners Ken Jackson and Lucy Breathitt were asked to develop a position description which can be used in the selection process for the next director of KSNPC. They will review a position description used five years ago and gather input from other commissioners and staff regarding the criteria to be used in choosing our next director.

Public Hearing Policy

During a public hearing this past December (relating to removal of land from dedication at Bad Branch State Nature Preserve), several persons expressed concerns relating to a perceived inadequacy regarding public participation in the hearing process. Although this hearing was conducted in strict accordance with all applicable laws and regulations, the commissioners agreed that additional efforts must be made to ensure that interested and concerned citizens have ample opportunity to voice their opinions during the public hearing process.

As a result, the commission directed that in addition to those actions required by law and regulation, the following points should be considered when scheduling and conducting public hearings:

1. Number of Hearings - In order to hear the public on these issues of importance, KSNPC may choose to have more than one hearing in more than one location.
2. When appropriate KSNPC may hold a hearing in the county of the preserve in question. The Commissioners should seriously consider this possibility.
3. Notification - In addition to required notification to newspapers and people currently on file, KSNPC shall seek out additional interested persons by (1) announcing all public hearings in the KSNPC newsletter; (2) asking persons who receive our newsletter if they would like to be added to our notification list; (3) announcing all public hearings in other cabinet publications such as Land Air and Water and EQC's monthly meeting announcement when possible; (4) actively seeking out concerned interest groups ; and (5) notifying officials and public entities in the area of the preserve in question.

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Updated Preserve Designs for Pilot Knob and Blue Licks

The commission approved updated preserve designs for Pilot Knob State Nature Preserve and Blue Licks State Park State Nature Preserve. Should the opportunity present itself, this allows commission staff to proceed with efforts to protect additional land at these preserves.

Biennial Budget

The commissioners received a brief summary of the proposed budget for KSNPC for the next two state fiscal years.

The proposed general fund allocation to KSNPC for the next two fiscal years is generous. This, coupled with reserves in several KSNPC restricted accounts, should allow us to operate at a level similar to that of the past few years. However, commissioners were alerted to a looming shortfall two years from now. This largely stems from the fact that a significant portion of our stewardship efforts the past few years

have been funded with a generous one-time, restricted appropriation that we received several years ago. This fund is running out, and two years from now it is likely that surpluses we have carried in other restricted funds will also expire.

Update on US 119 Near Bad Branch State Nature Preserve

The six year road plan in the current session of the General Assembly contains several items relating to the re-alignment of US 119 over Pine Mountain in Letcher County. As most of you know, the Commission voted late last year to remove approximately 170 acres from dedication at Bad Branch State Nature Preserve in order to allow plans for this road to progress. For the segment of this road that traverses the mountain, the six year plan calls for design of the road to take place in 2001, right-of-way to be purchased in 2003, and the utilities to be moved in 2004.

The Transportation Cabinet will soon receive computerized drawings of this region of Pine Mountain that will be used to begin more detailed planning of the

actual road alignment. It is hoped that sometime later this year a meeting of the "Pine Mountain Task Force" will be called. This task force is composed of government officials and citizens interested in improvements to this segment of US 119. It is likely that a meeting of the "Ad Hoc Panel of Commission Advisors to Oversee US 119" will be held on the same day that the task force meets. This panel was created as a part of the Commission's Bad Branch determination which removed land from dedication. Its purpose is to ensure that the environmental concerns listed in the determination are implemented during design and construction of the new road.



KSNPC Commission Meeting
When: June 16, 1998
Where: Murray State University
Curriss Center, Mississippi Room
Time: 2:00 p.m. CST



Volunteer Data Management Assistant - If you are interested in learning more about the Heritage Program database and have at least minimal computer skills, we need your help! A volunteer position is open for a Data Management Assistant at the Frankfort office. This position involves updating log books and processing data with our Data Management team. Ability to follow simple procedures and a sense of humor are essential. Time commitment would be a 1/2 day a week.

Volunteer Preserve Biologists - Volunteers are needed throughout the

Commonwealth who have good species identification and monitoring skills. We are currently seeking volunteer Preserve Biologists who want to contribute to our knowledge and management of biodiversity on state nature preserves. You must be able to maintain and submit timely, accurate reports. Hours are flexible. More details are available upon request.

Volunteer Receptionist - While we already have a fabulous receptionist, Karen, she does have other titles and duties to fulfill. We're looking for someone to help her out a couple hours a week by answering phones and performing light office work as needed. Must be able to handle a multi-line phone system and have a pleasant personality to greet incoming callers and guests.

Preserve Monitors - We need reliable volunteers to serve as our eyes and ears at

several specific preserves across the Commonwealth. The individuals will be responsible for visiting their assigned preserve at least twice a month and filling out reports on the conditions of the preserve. Additional training is required. There are positions available at the following preserves:

1. Blanton Forest SNP, Harlan County
2. Flat Rock Glade SNP, Simpson County
3. Hi Lewis Pine Barrens SNP, Harlan County;
4. Jim Scudder SNP, Hardin County
5. Quiet Trails SNP, Harrison County
6. Thompson Creek Glade SNP, Larue County

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Rare Plants of the Bluegrass
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Bluegrass. It is found on wooded limestone slopes of the Kentucky River system. Oddly though, Braun's rock cress has been found only in Franklin and southern Owen and Henry counties, despite the prevalence of apparently suitable habitat in southern counties in this drainage.

It is an inconspicuous species found among the spectacular displays of spring woodland wildflowers. The plants often occur around rock outcrops in the forest, especially moist slope breaks along intermittent streams, and around the bases of trees and other sites of open ground.

Braun's rock cress has star-shaped hairs on the upper and lower sides of the leaves. This character distinguishes it from the more common rock cress (*Arabis laevigata*).

Lesquereux's bladderpod (*Lesquerella globosa*)

We really need a contest to rename this beautiful little plant. It has lots of unique characters we could substitute for "bladderpod" - like the perfectly globose fruits and the brilliantly yellow flowers. The blooms appear in early spring, about the same time as the related yellow rocket (*Barbarea vulgaris*), the yellow mustard common in fields throughout the state.

Lesquereux's bladderpod can occasionally be found growing near Braun's rock cress, but it is found on drier, rockier niches on the rock outcrops. Suitable habitat is found on steep slopes along streams and high rolling hills. It is a perennial that grows to about 18 inches in height (although variable) and has sparse gray green leaves.

Water stitchwort (*Stellaria fontinalis*)

Water stitchwort is found along the slopes or among the seeping rocks along rocky streams. These tributaries of the Kentucky River have formed high walls as they cut through

the white limestone. This rare little plant is found as a small unusually green clump of vegetation, like a large

Rock cress habitat



moss, growing in wet seeps and on ledges. The leaves are less than an inch long and narrow like the tooth of a comb.

This species and the two previous, Lesquereux's bladderpod and Braun's rock cress, as well as the grass that follows, have a disjunct distribution between the Kentucky Bluegrass and Tennessee's Central Basin around Nashville. These regions are both underlain with Ordovician limestone, making them the oldest geological regions in these states. This limestone commonly outcrops along the Kentucky River drainage and its tributaries.

Svenson's wild rye (*Elymus svensonii*)

Svenson's wild rye is most noticeable in August and early fall where it occurs on the cliffs of the Kentucky River and its tributaries. The cliffs of the river near Shakertown and also along Elkhorn Creek appear to be strongholds for this unusual and rare grass.

It is related to the bottlebrush grass that is common in woodlands of the Bluegrass. The difference is that where the awns (the sharp, hairlike projections from the "grains") are straight in bottlebrush grass, they curl back in Svenson's wild rye. These curly awns make this grass easy to spot despite its inaccessible habitat.

Sweetscent ladies-tresses (*Spiranthes odorata*)

Everyone loves orchids so they get much attention, but this one takes its rightful place among the rarest in Kentucky. Sweetscent ladies-tresses grows in another very rare ecosystem in the Bluegrass region, swamp and marsh systems.

Like all ladies-tresses, this species has a row of white flowers twisted into a pointed upright bloom. The flowers have a yellowish area on the lip (inside the flower) and the odor is reminiscent of vanilla.

Although these are some of the rarest plants in the Bluegrass, there are many more. The region is also renowned for its spring woodland flora. But even stands of diverse wildflowers are disappearing and we can expect to add many more plants to the list of rarities from the Bluegrass. Garlic mustard (*Alliaria petiolata*) has invaded these habitats, especially those that have already been somewhat disturbed, and the native flora cannot compete with this aggressive alien. Grazing continues to be a problem as well as the associated trampling. The Bluegrass region is under as much development pressure as any other in the state. Also, many landowners in the Bluegrass have traditionally removed all vegetation in a mis-guided attempt to tidy up the landscape. Trees that may be 300 years old as well as canebrakes and other native remnants are removed in these clean-up efforts. The very unique Bluegrass flora has survived for so many generations--let's hope it's here for the next.



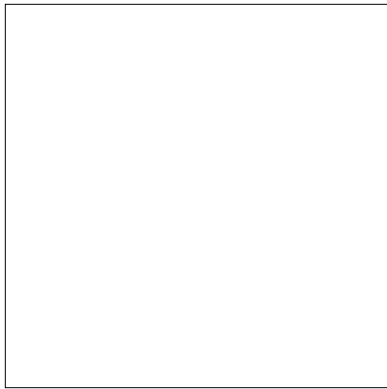
Goodrum Cave State Nature Preserve

by Rick Remington, Franklin Voorhes,
and Julie James

In the past century, populations of gray bats, (*Myotis grisescens*), have been severely decimated. Cave disturbance, pesticide run-off, siltation, and loss of suitable foraging habitat have led to a drastic reduction in bat colonies in the southeastern United States. Since 1976, when gray bats were listed by the U.S. Fish and Wildlife Service as a federally endangered species, the bat population has stabilized and now shows encouraging signs for recovery. Public agencies and private organizations have contributed significantly to the reduction of negative impacts by gating cave entrances, public education, change in pesticide use, and cave acquisition.

One such success story is Goodrum Cave State Nature Preserve in Allen County. The preserve was acquired by the Commission and dedicated into the preserve system in August 1992. Located in the middle of a 50-acre wooded tract, the inconspicuous cave entrance holds no clues to the wonders within.

Goodrum Cave harbors a maternity colony of 10,000 - 15,000 female bats and respective young. The female bats are impregnated during the winter months at a hibernaculum cave and bear their young apart from the males in a separate maternity cave the following May or June. In a maternity cave, the period of May through August is the most critical time because females and young are very susceptible to disturbance. When disrupted, pregnant females may abort and small young which are unable to fly may drop to the cave floor and perish. Goodrum Cave cannot be entered from April 1 through October 31 under federal law. Access to the cave the remainder of the year is by permit only.



Rick Remington, Western Regional Preserve Manager

Last November, with the preserve management crew and the volunteer preserve monitor, we visited the cave to assess roosting sites, check significant cave formations, and search for any evidence of recent disturbance. In the initial portion of the cave, human impact was very apparent due to spray-painted graffiti and the occasional flashlight battery. Once the passages narrowed and we were beyond the realm of the casual flashlight-caver, the pristine cave began. We inched forward on our stomachs to reach passages containing enormous flowstones, numerous ancient stalactites, and large bacon rind formations (which really do look like bacon). We all realized that Goodrum Cave protects not only the gray bats, but a piece of geologic history as well.

When we reached the bat roosting sites, there was no question about it. Large, smelly, slippery piles of guano blanketed the area. Judging by the size and smell of the piles, we estimated that our population was doing well! Moving through the slick bat guano was our most formidable obstacle.

More prolonged crawling, squirming, and dragging ourselves through the mud and water finally revealed the end (or beginning) of the cave, the waterfall. The water tumbles over 50 feet of rock and clay before splashing into a large clear pool. We paused and reflected, then followed the water on its way back out of the cave. Seven hours after we entered the cave, we emerged into the moonlight.

One would never know of the wonders that lie beneath our feet in Allen County. The trip through Goodrum Cave showed us all the aspects that make up the fragile cave ecosystem. The protection of this unique, fragile ecosystem will help enable the gray bats to persevere.



KSNPC 1998 Field Trip Information

Jim Scudder SNP
Hardin County - June 20
Limit 20; moderate hike.
Reservation deadline: June 1.

Natural Bridge SPNP
Powell County - August 22
Limit 20; moderate hike. Contact
Reservation deadline: August 1.

Eastview Barrens SNP
Hardin County - October 10
Limit 20; moderate hike. Contact
Reservation deadline: September 25.

Pilot Knob SNP
Powell County - November 7
Limit 20; difficult hike. Contact
Reservation deadline: October 19.

Tours are limited and reservations will be taken on a first come, first-served basis. Contact Teresa Prather at (502)573-2886 for reservations.

Field Trip Ratings

moderate... Generally easy with a comfortable pace. Must be able to negotiate occasional steep slope or rough trail.



difficult... More endurance required to negotiate longer distances and longer stretches of steep slopes and rough trail.

The Future of Data at KSNPC

by Sandy Vasenda

The Data Management team at KSNPC is constantly busy processing a great deal of data. Environmental Biologists Amy Covert and Bryce Fields work directly with the data every day while Tim Clarke, our Systems Support Technician, keeps our computer network running smoothly (and has come to our rescue on many occasions!).

Presently, we continue to use the Biological Conservation Data (BCD) System to keep track of our data. BCD is a DOS-based application with many relational databases that has been in use for over 20 years throughout the Heritage network. BCD, while very effective, is a very cumbersome system. It is highly labor-intensive and multiple quality control steps must take place before a record, either an occurrence of a rare species or a site of biodiversity significance, is fit to enter BCD. Many of these steps involve visual inspection of the proximity of an occurrence in relation to geographic boundaries such as physiographic province, watershed, county, and USGS topographic quadrangle.

In addition to the data entry, records in the database correspond with hand-placed dots (for occurrences) or boundaries that have been painstakingly drawn on our 799 USGS topographic quadrangle maps over the many years since the Commission came into existence. As you can imagine, both the data entry and the manual mapping are extremely time-consuming. The nearly 9,500 element occurrences in our database are the end product of a tremendous amount of time and effort!

But data entry is only a part of our job. After records are entered, they are manipulated for in-house reports and to answer the requests for

information from outside KSNPC. Since last July, we've completed over 200 requests for information, some requiring hand-made duplication of maps and most of them involving occurrence locations printed on a dot-matrix printer that requires a magnifying glass to decipher!

While the work we do is very labor intensive, it is truly satisfying to be the "stewards" of such a valuable (and cool) database. Keeping track of rare, threatened and endangered species and communities, in addition to unique natural areas is not only work requiring skill and a great deal of care, it is fascinating. Over the last year since we've been working together, the four of us have evolved into a close-knit team, often putting our collective heads together in helping to solve the many (sometimes quirky) problems that face us each day.

This cohesiveness will be important as we take the next giant step in data management into the realm of a Geographic Information System, better known as GIS. What is GIS? Loosely defined, it is a computer-based system for storing, managing and analyzing geographic information and associated data. GIS is a powerful analytical tool that will help us examine our data in a holistic manner. We will see our data as a "layer" which we can lay atop digital maps of Kentucky. These maps can be placed seamlessly beside one another, allowing us to zoom in, zoom out, and pan across the entire state. This will be much easier than flipping back and forth from map to map! We will incorporate other layers, including watersheds, soils, and aerial photographs and view our data in relation to any or all of these with the click of a mouse!

At the heart of a GIS is its ability to geo-reference data with the land it represents. Once coordinates are specified at several control points, such as an element occurrence, the software can calculate the coordinates of every other point. And because it is

geo-referenced, dimensions taken from it, such as the area of a nature preserve, correspond to measurements in the real world.


While we don't yet have a full-blown GIS at the KSNPC (we have ArcView 2.1), we have plans to purchase ArcView 3.0, a plotter, a stand-alone computer, and perhaps hire an additional staff person for one year with the help of an agreement pending with the Natural Resources and Environmental Protection Cabinet (NREPC). ArcView 3.0 is the software that will allow us to view a layer of our data and will help us perform analysis using themes, tables, and charts. Once we get the equipment, we will first work on converting our data into the format required to generate a data layer. We will also be working on simple, immediate applications; for example, Tim has already begun work on creating maps of trails on our nature preserves using ArcView 2.1. ArcView 3.0 will give him more versatility in doing this. Eventually, we will move into more mapping and also perform data manipulation and analysis.

In-house, we will be able to easily create maps using our data layer and incorporating other layers as well. For example, Amy, our master mapmaker, now replicates our occurrence locations onto topographic maps by hand. Using GIS and a plotter, she will easily generate high-quality and even more complex maps incorporating other data layers. She could create maps that show our preserve boundaries in the context of other geophysical layers to help stewardship staff determine future preserve designs.

While most of the use we make of GIS will be in-house, those outside our agency will also see many benefits. Our data will be sent to the Office of Information Services (OIS) at the NREPC which will make it available to outside users. Tim Clarke will work with them to design a layer that can be used by people from grade

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school children to scientific researchers. Eventually, our web-page will be able to visually interact with our database. For example, our "County List" contains a list of species occurring in each county of Kentucky. Right now, it is very cumbersome (and boring) to view. Using GIS, we can create a more visual and interactive way to access this list.


Keeping track of all of our data will, ultimately, be made simpler with GIS! It will help our biologists and stewardship staff better visualize areas to visit, study and manage - allowing us to make greater impact in conserving biodiversity in much less time than it would take normally! Ohhhhhh, the possibilities are endless! Stay tuned. 

KSNPC Staff Update

by Teresa Prather

Preserve management workers, Julie James and Franklin Voorhes finished their nine-month stint in the western portion of the state helping out Rick Remington on the preserves. Scott Spicer also finished his three-month employment by helping crunch numbers on data collected on certain preserves. Pam Snyder, our preserve ecologist, left for full-time employment with the Division of Forestry. Also, Brad Nyholm, who has been busy writing management plans, has left to work in Pennsylvania. We wish them all the best.

New preserve management workers, Paul Quinlan and Jason McClure (Jason's been with us for a couple of seasons) have begun work on preserves.

Our newest additions; however, could be future biologists, ecologists, or even the president! Brad, Heather and daughter Sarah Nyholm welcomed baby brother Andrew on January 19. And our ecologist, Martina Hines and husband Daryl have a new arrival, Lena Sophie, who graced us on March 26. 

Freshwater Mussel Studies on the Green River

by Ronald R. Cicerello and


Ellis L. Laudermilk

The Green River is one of Kentucky's and the nation's most biologically significant streams. Seventy-one of North America's 300 freshwater mussel species inhabited the river, as well as 19% (ca. 151) of the nation's 800 freshwater fishes. Although the river has been degraded by a variety of land uses, the segment from Green River Lake Dam downstream to the Nolin River in Mammoth Cave National Park (MCNP) (the "upper Green River") retains much of its rich aquatic fauna. We have long recognized the upper Green River's importance, but its national significance was only recently highlighted. In 1998, The Nature Conservancy (TNC) published a national assessment of conservation "hotspots" for imperiled fishes and mussels entitled "Rivers of Life: Critical Watersheds for Protecting Freshwater Biodiversity." The upper Green River ranked fourth in the number of imperiled fishes and mussels ahead of all but the upper Clinch, upper Duck, and Powell rivers in Tennessee and Virginia. TNC's Kentucky Chapter and partners such as the United States Fish and Wildlife Service (USFWS) and the Commission are developing plans for the long-term protection of the upper Green River in recognition of its national significance.

In 1996, the Commission received a grant from the USFWS to assist this effort by updating distributional and status information about the mussels in the upper Green River exclusive of MCNP. Some field work was completed in late 1996, but in late summer and fall of 1997 the entire river segment (98 miles) was floated. Sections of the river not crossed by roads were reduced to segments

floatable in one (long!) day by land-owners who generously provided access across their land. We sampled at 19 sites and observed over 6000 specimens of 40 species! Of these 40 species, 34 still live in the river, and we found evidence that the others might be present. Only 84 of 103 mussel species historically known from Kentucky live in the state today, so the upper Green River provides important habitat for many of them. The mucket (*Actinonaias ligamentina*), a common mussel in many Kentucky rivers, accounted for about two-thirds of the mussels observed. Several species listed as endangered by the USFWS and KSNPC were observed, including the fanshell (*Cyprogenia stegaria*), the ring pink (*Obovaria retusa*), the clubshell (*Pleurobema clava*), and the rough pigtoe (*Pleurobema plenum*). We also found small specimens of 17 species, evidence that reproduction had recently occurred.

Among the interesting items we observed were shallow shoals that spanned the channel and were so flush with mussels it was hard not to step on them. Along shorelines we inspected muskrat midden, places where these rodents leave waste from their meals harvested from the river. The midden usually contained small shells from an array of species. This humbled us because of our inability to find the same species or size of shells despite sampling the same river bottom. Finally, as we paused at one site to inspect a gem of a mussel, a bulldozer operator pushed over trees and moved soil and rock along the river terrace in search of gold bars rumored to be buried in a cave by fleeing civil war soldiers.

Next fall we return to the Green River to search six shoals for mussels, and to sample an area just upstream from MCNP that holds great potential for rare species. With any luck, we should find a few more mussel species and additional justification for protecting the Green River. 

Spotlight on Arbor Day

by Tim Clarke

In his 1887 address to Nebraska's school children, Arbor Day's grand-champion, J. Sterling Morton, states, "In no system of religion can a ceremonial be found that so incarnates faith as the act of tree planting.... Our's is an act of devotion to nature and the Supreme law; it is faith expressed in a deed; and it is a deed which conveys health, happiness and consolation to generations not our own."

As I watch a spring landscape awaken--my spirit rejuvenated by warmth and the budding fecundity of a bluegrass countryside--I find myself contemplating that humble, reverential act of planting a tree. I always look forward to Arbor Day, but this year I thought it might be good to delve a little deeper and give this fine practice a bit more consideration.

The first Arbor Day was observed in Nebraska on April 10th, 1872, with hopes of encouraging residents of that prairie state to establish trees where they otherwise would not grow. Since Mr. Morton's time, our understanding of ecological communities has matured. Having seen the negative impacts of invasive non-native plants like kudzu and crown vetch and trees like princess tree and mimosa, a desire to introduce trees to our prairie communities today would likely meet with much resistance.

This Arbor Day (April 3rd in Kentucky, April 24th nationally), I encouraged everyone to experience that glorious communion with the Earth one knows by planting a tree and watching it grow. But let us also improve upon Mr. Morton's practice and plant trees native to Kentucky.

I asked around the commission for recommendations and compiled a list of ornamental native trees that look especially nice in lawns, along fencerows, and around homesteads.

Keep in mind, this is a general list and not all species have statewide distribution. The surest bet is to look around your area, making note of the native trees you see. Check with an arborist or botanist to learn what native trees are most suitable for your region of the state and your particular landscape. It is also good practice to consult Wharton & Barbour's Trees & Shrubs of Kentucky.

I have also attached a list of trees we ought to avoid planting, as these species often escape the lawn and become invasive nuisances elsewhere.

Here's wishing everyone two green thumbs. Have a glorious spring, a "fruitful" Arbor Day, and happy planting to all!

Ornamental Native Trees

Flowering Dogwood (*Cornus florida*)

Redbud (*Cercis canadensis*)

Serviceberry (*Amelanchier arborea*)

Red Buckeye (*Aesculus pavia*)

Pawpaw (*Asimina triloba*)

Catalpa (*Catalpa speciosa*)

Fringe-tree (*Chionanthus virginicus*)

Yellow-wood (*Cladrastis lutea*)

Silverbell (*Halesia carolina*)

Snowbell (*Styrax americana*)

Mountain Camellia (*Stewartia ovata*)

American Holly (*Ilex opaca*)

Sourwood or Sorrel Tree (*Oxydendrum arboreum*)

Mountain Magnolia (*Magnolia fraseri*)

Large-leaf Magnolia (*Magnolia macrophylla*)

Trees and Shrubs to Avoid Planting

Any "Olive" tree (*Eleagnus* sp.)

All non-native Honeysuckles (*Lonicera* sp.)

White Poplar (*Populus alba*)

Princess Tree (*Paulownia tomentosa*)

Tree of Heaven (*Ailanthus altissima*)

Mimosa (*Albizia julibrissens*)



Blanton Forest Update OR, My Trip to Puerto Rico

by Marc Evans

What does Puerto Rico have to do with Blanton Forest? On the surface very little, but actually they have a lot in common. In mid February I received a call from the Secretary of Natural Resources' office informing me that Governor Patton wanted me to go with him and others to Puerto Rico! Puerto Rico is home to the Caribbean National Forest, locally known as El Yunque, and it contains a brand new visitor and environmental education center, called El Portal (the door). This center and the Forest have been a focus on promoting ecotourism in Puerto Rico, something Governor Patton would like to do for Kentucky.

So, the first few days of March were spent visiting El Yunque and El Portal and meeting with Forest Service personnel. The Governor's idea is to build a visitor and environmental education center near Blanton Forest that would not only attract tourists but be used by students all across Kentucky for environmental education. The exact location for such a facility has not been determined yet, but it is hoped that it could be placed next to Blanton Forest so visitors and students could visit the forest right from the center. The Governor is also interested in the possibility of building a tramway or funicular near (but not in!) Blanton Forest to allow people that cannot hike up the mountain a chance to see the mountain from a scenic viewpoint. There has been some concern voiced about possible impacts to Blanton Forest from such a development but the Governor has made it clear that he does not want the old-growth forest damaged in any way. There is also the possibility that the center could be built on other state-owned land on Pine Mountain.



Sierra Club Lends Hardiness and Warm Smiles on a Cold Day at Bad Branch SNP


by Brad Nyholm

As cold rain drizzled on the hooded heads of volunteers and stewardship staff assembled for trail work on Saturday, March 21 at Bad Branch State Nature Preserve, Pine Mountain slept. Before rolling over and pulling up his blanket of clouds, the mountain welcomed us, yet advised us to stay warm; it was going to be cold that day. Hoar-frost and snow began to accumulate on the old mountain's beard. Our clatter of tools didn't disturb his slumber; he had been through cold days like this before, and he knew when to sleep in.

As we neared the top of the south face, the mountain's windy snores deepened our chills, but invigo-

rated our spirits. Upon reaching the work site, the hardy crew divided into east and west teams to work on the loop trail in our new addition to the Bad Branch preserve. To the east were volunteers Martha and Darren Payne, Lisa Meeks, and Doug Epling. Kyle Napier and Brad Nyholm represented KSNPC. To the west were volunteers Carol Von Lancken, Donna DePenning, Oscar Gerald, and Lucas Stone. KSNPC stewardship staff joining this team were Joyce Bender and David Skinner.

Despite six hours in the cold rain and snow, the teams worked extremely well, and much work was accomplished. With loppers, bowsaws, and chainsaws, segments of old logging roads were cleared for a new purpose: to preserve and exhibit the forest, the streams, and the ancient sandstone outcroppings of Bad Branch SNP. Thank you Bluegrass Group of the Sierra Club for your hard work and warm smiles on our trail work day!

Joyce adds: I have worked with Martha Payne and her band of Sierra Club volunteers for several years on the Spring Equinox weekend. Some of the faces change each year, but one thing stays constant, and that is the willingness of the group to cheerfully give their time and energy to help us achieve our goals. The fellowship of such dedicated folks kept me warm when the wind blew and the rhododendrons dropped their snow and ice down my neck. My thanks to all who braved the weather (our worst yet) and I hope that everyone will recover from pneumonia in time to join us on our next adventure. A special thanks to Donna DePenning for her generous donation of loppers! 

SUBSCRIPTION RENEWAL NOTICE

In order for us to be as efficient as possible, we ask that you let us know if you are still interested in receiving our quarterly newsletter. You have several ways of contacting us: 1) tear off this strip and return by mail; 2) call (502) 573-2886; 3) fax (502) 573-2355; or 4) e-mail (until May 30, 1998 to: kgossett@mail.state.ky.us; or after June 1 to: gossett@nrepc.nr.state.ky. We are expecting to have our mailing address database updated no later than November 1. If we do not hear from you by that time, your name will be removed from the mailing list. The Kentucky State Nature Preserves Commission appreciates your continued support.

Volunteers Needed
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Volunteer Botany Assistants - We have several opportunities available for individuals who are interested in learning more about Kentucky's rare plants. At the Frankfort office, we need assistants to help populate the database with information regarding the rare plants of Kentucky. Familiarity with data entry and technical botanical terminology is preferred. A regular schedule and time commitment will be worked out.

In the field, we need assistants to help us continue to locate and monitor rare species on public lands. Volunteers should have some plant identification skills and be able to work independently.

Help around the office:

As field season approaches, we find ourselves with lots of work to still do inside. We need a volunteer who's familiar with video equipment and VCRs to dub 25-30 magnetic tapes of various formats to ½ VHS format on new cassettes. As we approach the 15-20 year lifespan of our current library tapes, we risk losing the valuable information stored on them. You must have your own transportation. All other equipment will be provided. This project should take approximately six dubbing sessions.

Our data management team needs help with a mass mailing effort. Willing volunteers should have no aversion to paper cuts and be prepared to spend two four-hour days preparing envelopes and address labels with our fun data management staff in early May. Call Andrea or watch the web page for more information.



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

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