KSNPC part of Prescribed Burning Workshop

by Joyce Bender

Motorists traveling past Fort Knox on 31W during the afternoons of February 24 and 25 might have been startled to see smoke and flames rising from Godman Airfield. Then again, perhaps they weren’t surprised and considered it just another military training exercise. It was a training exercise, but the trainees were land managers, not soldiers.

The Nature Conservancy’s Fire Management and Research Program conducted a prescribed burning workshop at Fort Knox and nearby Otter Creek Park February 22 through March 2. The Natural Resources Branch of the Fort Knox Directorate of Public Works coordinated the workshop with assistance from the Commission’s Stewardship Program and the Kentucky Chapter of The Nature Conservancy.

Prescribed burning is one management technique that the Commission’s stewards employ to control the spread of woody species on our barrens and glades, as well as to stimulate the growth of native species and maintain the health of natural communities that are fire-dependent. A prescribed fire is one that is set on purpose and carefully maintained by trained personnel according to a burn plan describing the conditions and limits under which the burn will be conducted. The burn plan lists narrowly defined parameters for such things as wind speed and direction, relative humidity, air temperature, and the moisture content of the material to be burned (grass, leaves, pine needles, etc.). Ecological requirements as well as management objectives are included in the burn plan.

It has been a personal goal to restore and maintain a glade complex located on the southern end of the reservation. Shortly after receiving the report, staff from the Environmental Management Division asked me to help them burn the glades. Since none of them had ever received training in prescribed burning, I worked with them to develop their interest in hosting a workshop.

After a year and a half of planning, grant writing, and site evaluation and preparation, 35 participants descended upon Fort Knox with drip torches, pumper trucks, flappers, rakes, and radios. Dressed in bright yellow Nomex fire retardant coveralls and yellow hard hats, we formed our own rather eye-catching little army. Attendees were land managers from Montana, Arizona, Arkansas, New York, Illinois, Indiana, Ohio, Florida, Michigan, Kentucky, Nebraska, South Dakota, and New Jersey.

Recording weather conditions prior to lighting the fire

Continued on page 2
The Kentucky contingent was the largest. Six staff members from Fort Knox were trained. The Kentucky Division of Forestry sent three staff members, two of whom have been assisting KSNPC with prescribed burns in their districts. The Commission’s stewardship staff was present; Cindy Campbell and Kris Snyder were participants and I attended as an instructor.

The Conservancy’s Fire Program sets an ambitious agenda. Participants must complete a 40-hour home study course as a prerequisite to the workshop. The eight-day agenda covers a variety of subjects that are essential to the safe and effective implementation of prescribed fire. Morning-classroom instruction on such topics as fire behavior and prediction, weather, smoke management, ignition, fire management planning, ecological considerations, liability issues, and safety equipment is followed with training burns in the afternoon. Burn critiques and plans for the next burn are discussed each evening. The volume of information can be overwhelming, but it is critically important to learn and master what is presented. A final exam is given, and in accordance with The Conservancy’s requirements, participants are then eligible to become certified fire leaders after they complete ten additional burns.

Favorable weather conditions during the workshop enabled us to complete six burns at Godman Airfield. Eighteen burn units have been set up at the airfield to maintain nesting habitat for the Henslow’s sparrow, a candidate species under consideration for federal listing. The remaining units will be burned on a rotational schedule to ensure the availability of suitable habitat. Two additional burns were carried out at The Conservancy’s Eastview Barrens preserve. Rain set in at the end of the session and teams were sent to develop burn plans for Jim Scudder’s Stature Nature Preserve, Fire Creek Barrens and Eastview Barrens. According to Ron Myers, director of the Fire Management Program, the number of burns we were able to conduct was very satisfactory for this time of the year. Paula Seamon, the assistant director, told me that our workshop ranked as one of the best she has experienced.

The smoke has long since cleared and the participants are back in their home states now, applying newly learned skills or updating their “tried and true” methods. The fires that were set at Fort Knox in February have been extinguished, but everyone in attendance brought home a little spark that will make their prescribed burn programs even more effective.

![Fire line along one of the burn units at Godman Airfield, Fort Knox](image)

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Blanton Forest Update

by Marc Evans

Since the last issue of Naturally Kentucky spring has come to Blanton Forest and the campaign to protect the forest has also blossomed. A new nonprofit organization has been formed to coordinate the effort to protect Blanton Forest. The Kentucky Natural Larders Trust, Inc. (KNLT) will take the lead on raising funds, acquiring lands, and investing and managing stewardship funds. KNLT has a broad-based board of directors including representatives from the Nature Conservancy, Kentucky State Nature Preserves Commission, and MACED and individuals with experience in environmental issues or regional economies and commerce.

Amanda Hiley, development director for the Blanton Forest project, has been incredibly busy making contacts, submitting grant proposals, organizing and speaking at fund raising events, and producing brochures. Amanda has been instrumental in turning this project into a reality. In early March first lady Elizabeth Lloyd Jones hosted a meeting of the Blanton Forest Steering Committee. Amanda presented the Blanton Forest (KNLT) promotional plan, and all in attendance were enthusiastic about the project.

By mid-May much of what has been implemented will be coming to fruition, and you will be hearing more about the Blanton Forest project.
Dragonhunter Alert!

By Ellis L. Lawdermill

Have you ever seen a dragonhunter? What would a dragonhunter hunt these days? Actually, dragonhunters are common throughout much of Kentucky, and their prey also is abundant.

In reality, a dragonhunter (Hagenius brevitars) is a dragonfly (insect), which commonly hunts and eats other dragonflies, but may also feed on mosquitoes, butterflies and moths, etc.

This efficient predator is conspicuous along streams and may be recognized by its large size (approximately 3.0-3.4 inches in length); two pairs of highly veined, membranous wings; black and yellow body markings; and green eyes on a very small head. Some of you may have called them "snake doctors" or "devils darting needles" or "mosquito hawks." They are harmless to humans, and of course, dragons.

Dragonhunters and other dragonflies are more primitive than other insects, such as butterflies, partly because of their life cycle (only three life stages—egg, nymph, adult). However, they are the "king of the aerial insect jungle" in terms of prey capture. When prey is detected, the speed and agility of a dragonfly in pursuit are awesome. I have witnessed the seemingly effortless capture of a swallowtail butterfly by a dragonhunter, and I can assure you that the chase was of short duration.

If you attempt to sit outdoors on a mild summer evening only to be mercilessly harassed by those pesky mosquitoes, look for a dragonfly (maybe even a dragonhunter) in action. Remember, it is working "effortlessly" to reduce your mosquito problems while providing an unequaled aerial show, and should deservedly be appreciated!

Don't be swindled into buying electronic bug killers that use blacklight fluorescent tubes to attract insects. These lights do not attract mosquitoes, but they do attract and kill many other harmless insects, such as beetles, caddisflies and moths!
How KSNPC selects natural areas for protection

By Robert McCarron, Jr.

Part of the mission of the Kentucky State Preserve Commission is to identify and acquire "natural areas that represent the best known occurrences of rare native species, natural communities, and significant natural areas." The foundational statutes of the Commission define a natural area as:

any area of land or water, or of both land and water, in public or private ownership, which either retains, or has reestablished to some degree in the judgement of the commission its natural character, though it need not be completely natural and undisturbed, or which has natural flora, fauna, biological, ecological, geological, scenic or archaeological features of scientific, aesthetic, cultural or educational interest. (KRS 146.415, Section 1)

While many sites may, in a general way, fit this definition, the Commission is mandated to preserve "areas of unusual natural significance" (KRS 146.410(1)). In order to select those areas of unique biological and ecological value, the KSNPC must first identify sites. Initial identification of significant natural areas typically occurs during the Commission's systematized county-by-county rare species inventory. Rare species inventories completed to date have been conducted largely with grant and contract money from U.S. Fish and Wildlife Service, National Biological Survey, and the federal Office of Surface Mining through Kentucky's Department for Surface Mining Reclamation and Enforcement. Other areas are reported to the Commission by other agencies, cooperative organizations, or landowners.

The Commission then uses Natural Heritage Program methodology to collect and record the site data, and it is this data that determines which natural areas (sites) will be protected. This methodology, developed by The Nature Conservancy and refined over the past 20 years, is used to varying degrees in every state. This provides KSNPC with the best decision-making system in Kentucky for evaluating the relative merits of dissimilar natural areas.

Three concepts form the core of our project selection methodology: (1) element occurrences, (2) natural heritage sites, and (3) site ranking.

1. An element can be a rare species such as grey bats, a cave beetle, an endangered orchid or sedge, or perhaps one of the rarest of Kentucky's natural plant communities.

2. A natural heritage site is an area that deserves protection action because of the type and/or concentration of elements that are known to occur in the area. Sites are ecological features that may include many tracts of land whose boundaries need careful analysis to determine what design will protect the features of concern.

3. A series of ranking procedures are used to select projects that protect the best examples of Kentucky's rarest plants, animals and natural communities.

First, the elements are ranked on two scales--their global rarity and their state rarity. Thus, highest priority is given to elements that are rare throughout the world, no matter their status in Kentucky. If there were 30 known occurrences of a plant in Kentucky, which were also the only 30 in the world, we would place their protection very high on our list--higher than a plant with only five occurrences in Kentucky if it was frequent elsewhere. The state rarity of an element is also important in that it allows us to compare the protection urgency of
dissimilar elements, such as a rare plant and a cave beetle. One of our goals is to protect the best examples of all of Kentucky's rare species despite their status elsewhere.

The second ranking procedure allows us to consider the quality of the particular occurrence of each element, so that we can select the best occurrences of each element for protection. This also allows us to select the best occurrence of a very common natural community such as an oak-hickory forest or a relatively rare community such as a limestone glade. We use a national set of standards to evaluate the quality of occurrences so that an occurrence in Kentucky can be easily compared to an occurrence in another state.

The third ranking procedure is for sites. Again, national standards are used to assure comparability among states. Each site receives four ranks—a biodiversity rank, a protection urgency rank, a management urgency rank, and an other values rank. The four site ranks are all based on a five-point scale, with one being the most significant and five the least significant. A biodiversity rank of one (B1) would be on our high priority list for protection, but typically KSNPC will work to protect B2 and B3 sites as state nature preserves.

The data is kept in the Natural Heritage Program Database which is called the BCD—short for Biological and Conservation Database. This database has won an award for its quality from a computer magazine and is continually refined. The BCD allows easy access to many types of data reports and analysis. KSNPC provides data services to many users who need the information for environmental review and development planning.

Each year KSNPC conducts a "scorecard" meeting to evaluate our data, select targeted natural areas, and plan for preserve design work. Preserve designs require information from several staff members. Our biologists must determine the biological boundaries needed to protect whatever is important at the site. Stewardship staff must determine the management needs of the site and identify any problems such as hazardous materials dumps or current "public" use. Our protection specialist must collect data on ownership information and prepare the preserve design packages.

Projects that remain feasible are referred to the Commissioners for their approval, and if approved, staff attempt to acquire or otherwise protect these natural areas. Since KSNPC buys land only from willing sellers, we must work on numerous projects in order to find high quality natural areas that can be added to the state nature preserve system. In addition, the existing 39 preserves and one state natural area (totaling 10,272 acres) require an additional 16,250 acres in order to complete their preserve designs.

The entire preserve selection process is thus based on data collected and stored by Natural Heritage Program methodology. However, any database is only as good as the data in it. While we have an exceptional data collection staff of botanists and zoologists and an exceptional data management staff, our flaw is the amount of information with which we have to work. We clearly have the best rare species and communities database in Kentucky, but that data is lacking much needed information. This is due to the fact that the county-level natural areas inventory is complete for only 20 counties, and another 40 counties are partially inventoried. That leaves 60 counties without any study for natural areas, and almost all counties have not had any type of organized rare species study. A county natural areas inventory costs roughly $17,000 to $21,900 per county and requires skilled staff. KSNPC currently is able to conduct these inventories in only a few counties per year. This year we will finish work in Todd and Christian counties and start work in Clinton and Wayne counties.

Since KSNPC only buys land from willing sellers, we must work on numerous projects in order to find high quality natural areas that can be added to the state nature preserve system.

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NATURALLY KENTUCKY • 5
Earth Day
and every-
day--the
time has
come to...
Stewardship News & Views
by Cindy Campbell

Sprig is here and the state's natural habitat preserves (and their resident bugs) beckon us all. It's a beautiful time at the preserves. The land is greening, wildflowers are blooming, and the songs of returning migrant birds fill the air. One would like to linger and absorb as much of this dynamic unfolding as possible, but spring has additional meanings for land stewards. The first warm days herald the approach of the many visitors that are sure to come. Trails must be inspected to ensure hiker safety, directional and interpretive signs must be replaced or repaired, and rapidly growing weeds have to be removed from the trail. It's also at this time that previously constructed firebreaks are being readied in preparation for the Commission's spring prescribed burning season.

We are greatly indebted to our volunteer preserve monitors and other volunteer groups that help us to get these many tasks accomplished during this very busy time. Members of the Bluegrass Group of the Sierra Club assisted with brush removal from the power line right-of-way at Quiet Trails State Nature Preserve in Harrison County on March 18. This same day found approximately 100 volunteers removing litter from Beargrass Creek State Nature Preserve in Jefferson County during the Louisville Nature Center's Spring Equinox Festival.

On March 25, eleven students from the Human Ecology class at Lexington Community College assisted KSNPC and The Nature Conservancy (TNC) staff with brush removal and firebreak construction at TNC's Buffalo Trace preserve in Fleming County. Ten members of this class attended an April 1 workday to complete the brush removal project started previously by the Sierra Club at Quiet Trails State Nature Preserve. A special thanks to each of you who participated in these workdays.

Back at the office, stewardship staff have been busy writing management plans, interviewing candidates for summer seasonal preserve management worker positions, and tending to the many routine responsibilities (and those not-so-routine SURPRISES) involved with managing 31 state nature preserves. To further our education and expertise in our profession, we have attended several conferences, workshops, and training sessions over the past few months. By far, the most challenging and rewarding experience was our participation in the Ecological Burning Workshop (see story on page 1). We look forward to applying our new-found knowledge and skills on the fire-dependent communities located on several of the preserves.

So with our minds set like land stewards, we will purposefully make ready for your visit to your favorite state nature preserve. Be sure to find the time to enjoy the splendor and vibrancy that is unique to spring on a natural area; we will.
Natural Areas Selection—Continued from page 5

KSNPCC's an effective system for identifying and classifying national areas, but we currently lack the resources to find them quickly enough. Our greatest concern is that other areas like Blanton Forest will be destroyed before we even know that they exist. In 1980, Blanton Forest was a 7,000+ acre old-growth forest; today it is a 2,350-acre old-growth tract, but it is still the largest old-growth area that we have in Kentucky. In order to fulfill our mission of protecting the best known occurrences of natural areas, they must be identified, assessed, ranked, approved, acquired, and often restored (for example the removal of exotic species such as kudzu). These tremendous undertakings form the core of the Commission's purpose—to ensure that the natural beauty and bounty enjoyed by those before us will be there for those who follow.

April 23-29 is National Volunteers Week.
A very large, appreciative “THANKS!” to all KSNPC volunteers

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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 conservation.

The Kentucky State Nature Preserves Commission 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.

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