



# The Bur Oak

## Introduction

This large bur oak tree, estimated to be at least 250 years old and its equally old companion to the east are living witnesses to the events of June 1775 when the naming of the future Lexington was being decided. These two trees were old long before the first non-native Americans arrived in this part of the world. "Fort Ancient" native tribes may have seen them as seedlings.

The history (physical, cultural, botanical and zoological) of McConnell Springs extends back in time for millions of years. Of special interest is the recent period (from 10,000 BC to present day) which encompasses the appearance of humans who have dramatically affected the character of McConnell Springs. The changing flora and fauna occupation of the site, especially since 1775, has been greatly modified by human intervention.

With the exception of these two bur oaks, what is seen today at McConnell Springs is not like what William McConnell saw here in 1775. Then, it was reported, the central Bluegrass area comprised open fields of tall grasses with isolated bur oak trees: the Bur Oak Savannah.





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## Physical Characteristics



A single lackberry stands atop our grassland area.



This young bur oak might one day replace his ancient relatives.



Weed or Wildflower.

### Evolution of the Landscape

As the pioneers traveled west from the east coast to explore the interior of this new world, they found heavily forested mountains stretching for hundreds of miles. Finally they emerged into a grassy savanna, the land we now call the Bluegrass.

Huge old trees standing in isolated splendor throughout the area tell the region's history. They were there when the first settlers from the eastern colonies came into Kentucky. Their widely spreading branches indicate that these trees were spaced some distance apart, in a savanna-like environment rather than in a forest. Another strong clue of the pre-settlement character of the region is the common presence of bur oaks. Their seedlings will not germinate and grow in heavily shaded environments, so the many bur oaks of the Bluegrass suggest a grassland rather than a forest.

One of the first accounts of the Bluegrass, published in 1775, described the landscape between present-day Frankfort and Lexington. According to this traveler, James Nourse, the countryside was "light with timber...a little oak, ash, sugar, buckeye and locust...the surface of the ground is covered with grass...what would be called a fine swarth of grass in cultivated meadows."

Some of the larger animals present when Kentucky was first settled included wapiti (elk), bison, wolves, cougar and beaver. Many thousands of years before, stranger animals roamed the Bluegrass. The remains of Pleistocene (2,000,000 to 10,000 years before present) mammals discovered at Big Bone Lick and in local caves include mammoth, mastodon, giant sloth, caribou, camel, musk ox, peccary, giant beaver and a moose-like animal. Horses once galloped across the ancient Bluegrass savanna, but like all these others, disappeared long before settlers crossed the mountains and floated down the Ohio to reach the Kentucky lands.

# Influx of Exotics

During the five centuries since the Americas were discovered by Europeans, the immigrants to the New World brought with them all manner of plants and animals. These were familiar to them, reminders of their former homes, and seemed likely to prove necessary, useful or at least decorative in their new home. Sometimes the exotics, as such non-native imports are known, failed to thrive despite repeated attempts at introduction. Others took root successfully and spread throughout the new country.

Perhaps the best known example of a successful introduction is the horse. They were extinct in the Americas thousands of years before Columbus, but flourished when reintroduced by the Spaniards. It was a happy match, but that is not always true. Often successful introduction of one species means that another is displaced, possibly even to vanish forever. When different species compete for the same places, or niches, in an ecosystem, the one with the most advantages will usually prevail. Non-native species may have advantages, such as faster growth rates, faster reproduction, or fewer predators or parasites, than the native species.

A large proportion of the flora and fauna found at McConnell Springs is non-native species, introduced to the area during more than two centuries of settlement and occupation by non-native peoples. One of the major goals for the site is the gradual removal of exotic species and establishment of an ecosystem resembling as much as possible the sight the first colonists saw when they arrived in the Bluegrass.



Bush honey suckle (left) is an aggressive exotic species that dominates the understory ousting native understory species such as Eastern Redbud (above).





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## Fauna

McConnell Springs is home for many types of animal life. An urban oasis, McConnell Springs attracts species that naturally tend to thrive in and around human development. Once the landscape around Lexington, like most of Kentucky, was filled with wildlife. Elk, red wolves and panthers once common in the Bluegrass are now no longer found in Kentucky (though elk re-introductions have begun in parts of the state.) Other species such as the brown bear and the river otter are seen much more scarcely than when the area was settled. The “happy hunting ground” of Kentucky was revered by Native Americans primarily for its wealth of wildlife. The abundant game and rich soils of the Bluegrass made settlement an eventuality.

As development and settlement increased and expanded, the landscape was changed. The Bluegrass has changed, but the ever-flowing springs at McConnell Springs still make the park an attractive location for wildlife. Raccoon, opossum and groundhog are common backyard visitors that find McConnell Springs particularly attractive. Most days, visitors will see a groundhog, AKA the woodchuck, scurrying for cover as they walk our trails. At night, raccoons and opossums scavenge for food. Both opportunists, these omnivorous mammals will eat almost anything, from fruit to carrion. In the springs and creeks, muskrats swim from burrow to burrow that they create in the banks of the water. In the trees above is the eastern gray squirrel, most common of the urban wildlife species.



A resident American Robin hops along our trails.



A pair of mallards swim amongst the watercress near the blue hole. Male is on the left.

Most rarely seen are two members of the canine family, the gray fox and the coyote. Although never seen at McConnell Springs, the coyote's numbers are increasing and they are now occasionally found in urban areas. Birdwatchers too, find the object of their attention at McConnell Springs. While the park supports a healthy population of resident birds, the best time for bird-watching is early spring and early fall. Many migrating birds pass through Kentucky on their journey north or south. Birds seek out pockets of urban greenspace. Waterfowl, especially, seek ponds, creeks and even springs to stop along their migration path. Reptiles and amphibians have a home at McConnell Springs as well. Reptiles can live terrestrially, spending their entire lives away from water. Many snakes and lizards as well as tortoises (like the box turtle) move about on land, frequently seen by visitors. In our creek and springs more aquatic turtles, like the common snapping turtle, are seen for a short while before diving back into the water. Amphibians, on the other hand, are tied to the water for at least part of their lives. The springs running through the park create some excellent habitat for frogs, toads, and reclusive salamanders.

McConnell Springs provides the casual nature observer with ample opportunity to view wildlife. Remember that the animals will try not to be seen. Unnecessary noise will ensure that they stay hidden, so keep your eyes peeled and your mouth closed for the best wildlife viewing experience.





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## Fieldguide

### Bur Oak

(*Quercus macrocarpa*)

- Found on dry, limestone soils, an important bluegrass tree.
- Leaves alternate, simple, with 5-9 lobes with rounded tips.
- Fruit a large (1") acorn mostly covered by large furry cap, a good wildlife food.
- Bark is characteristically thick, dark gray-brown, that extends to the tips of even the smallest braches.
- Branches have twisted appearance.
- An important member of the oak-savanna ecosystem where tall prairie-type grasses and large trees coexist in fire-driven ecosystem. The savanna ecosystem is scarce today; most of the rich savanna soils have been converted to farmland.



### Chinkapin Oak

(*Quercus muehlenbergii*)

- Found on dry, shallow, limestone soils.
- Leaves alternate, simple, coarsely serrate but still with rounded tips, and longer than wide.
- Fruit an acorn, dark brown to black, with a furry cap covering one-third; a good wildlife food.
- Bur and chinkapin oaks are white oaks. Red oaks (for example Northern red oak) have bristle tips at the ends of each lobe on the leaves.



### Morning Dove

(*Zenaida macroura*)

- Abundant bird of rural and urban areas including farms, parks, back yards and forest openings.
- Medium sized (12"), soft, pastel-colored (usually gray-brown to pinkish gray), with long pointed tail, and black spots on ground.
- Hunted as a game bird in Kentucky.
- Adults eat grains and seeds, often at birdfeeders, young are fed regurgitated food, known as pigeon milk.
- Demonstrates unique "pigeon-walk" with head bobbing in stride like all members of the pigeon family.
- Very easily identified soft "cooing" call.



### Blackberry

(*Rubus sp*)

- Common bush of thickets, fields and forest edges.
- Alternate, simple leaves with serrate margin; white flower appears early summer.
- Easily identified by thorns that cover the stem, or by the deep red-black cluster fruit that the plant produces in late summer.
- Very popular for jams and cobblers, often picked even in nature preserves!
- Differs from the closely related raspberry in that the raspberry's stem is smooth (blackberry is 5-angled) and covered with purplish dusty sheen
- Very difficult to differentiate between species.



## Miami Mist

(*Phacelia purshii*)

- This annual wildflower is common in the bluegrass but rare in Eastern Kentucky.
- Pale blue flowers have characteristic fringed margin which makes them seem blurry. The fringe is easily seen with magnifying glass.
- Leaves are pinnately lobed.



## Rough Green Snake

(*Opheodrys aestivus*)

- Commonly found foraging in vegetation or found in shallow water.
- Small, slender snake is solid green above with white or pale green below; scales are keeled and plate is divided.
- Tends to blend into the background as it climbs vegetation looking for crickets, grasshoppers, caterpillars and spiders.

## Downy Woodpecker

(*Picoides pubescens*)

- Our smallest woodpecker is also the most abundant in Kentucky, readily approaching feeders and making homes in many urban yards and parks.
- Small (6") woodpecker with black and white coloration. Male has small red patch on nape of neck.
- Digs into trees looking for insects, its only diet.
- Very similar to larger hairy woodpecker.
- Woodpeckers have a distinctive flight pattern which appears as a series of dips along their path.
- Call is a quiet single "pic" syllable, or a descending rattle.



## Woodchuck (groundhog)

(*Marmota monax*)

- Common in open woods, brush and rocky ravines; very well adapted to urban areas as well as farms.
- Large (body 16-20", tail 4-7") brown rodent with fur which often has a "frosted" appearance.
- Den is an extensive system of burrows that, when abandoned, often form homes for other creatures.
- Feeds on succulent vegetation, and can do considerable damage to crops.



## Eastern Meadowlark

(*Sturnella magna*)

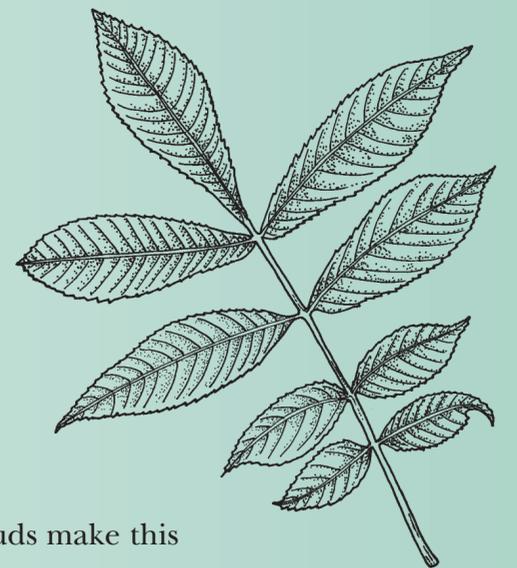
- Common farmland bird, also found in prairies.
- Medium-sized (9-11"), with white-tipped tail, bright yellow throat, and yellow breast with black "V".
- Nests on ground enclosed dome-like nest, concealed in the grass.
- Meadowlarks often live a polygamous lifestyle, where multiple nesting females may exist with a single male.
- Very easily pitched melodic whistle "see-you, see-yeeeee".



## Bitternut Hickory

(*Carya cordiformis*)

- Grows on many soils, but prefers well-drained soils.
- Alternate, pinnately compound leaves 7-11 lance-shaped leaflets with serrate margin.
- Characteristic sulfur yellow buds make this hickory easy to identify.
- Produces 4-winged fruit which contains a single seed (hickory nut); nuts are good wildlife food.





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## Leaving with empty hands and a full heart

From where you stand, you can see the old and the new of McConnell Springs - 300-year-old bur oaks towering in height and history over trees and underbrush here for a few decades. You have seen, through your travels in our beautiful McConnell Springs, the wonders of nature - natural springs, small animals, insects, many varieties of plants both exotic and native - and the footprints of man - rock fences, barn foundations, dam remnants, modern bridges and benches and paths. We hope you have enjoyed your visit with us.

As you leave, we wish to encourage you to take with you memories and impressions of nature that will sooth you as you live your busy life. We hope you will leave behind the physical things you found here, like the wildflowers, rocks and evidence of mankind on the site. To preserve our Springs - your Springs - as the vibrant and enriching natural environment that it is, we need your help. Leave with a full heart - and empty hands.

And come back soon.

The Friends of McConnell Springs

