McConnell Springs Overview

Introduction

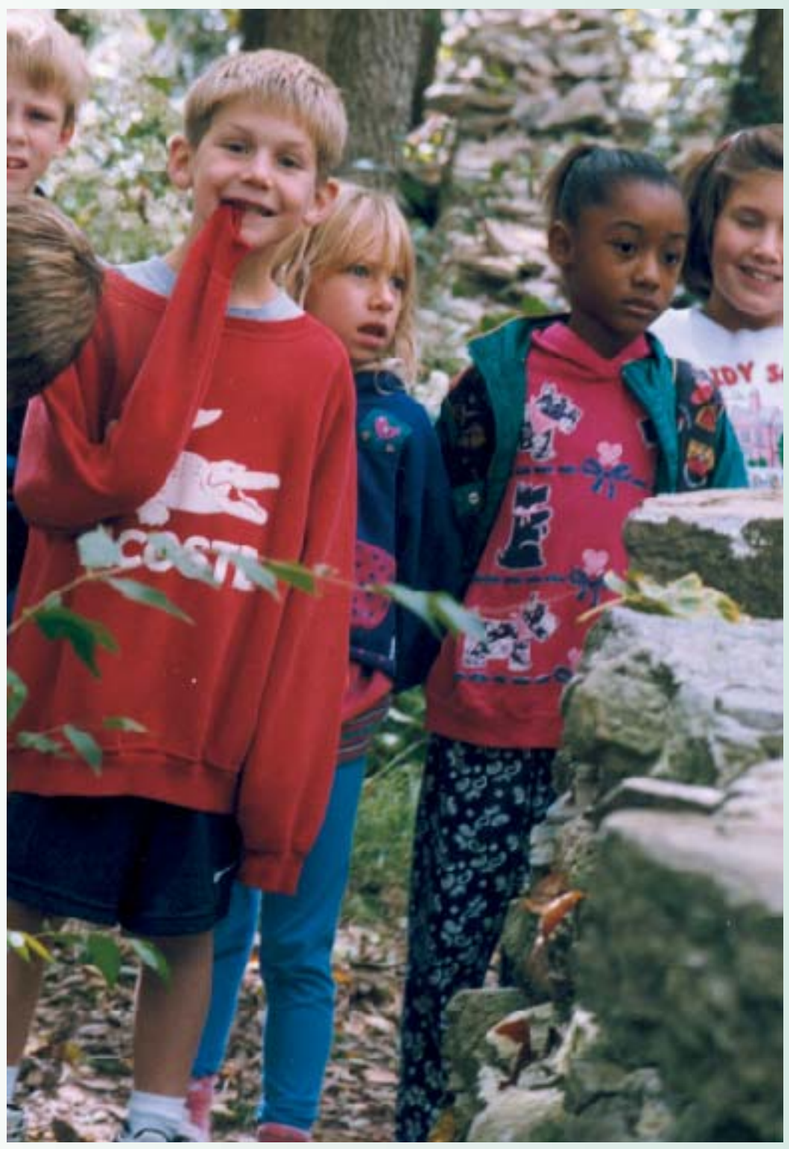
Welcome to McConnell Springs! This beautiful place is best known as the site of Lexington's naming in 1775, but it is much more than that. McConnell Springs offers a close look at some of the most unusual geological features of Fayette County -the rising and sinking springs. Native and non-native plants show wide diversity through the site, and wildlife of all kinds abounds. As you walk through the Springs, you will see what drew the first Native Americans here, and the many ways history has shaped this site and has, in turn, been shaped by it.

This guidebook and the other ones that are stationed at other important site features will explain the physical characteristics, culture history and flora and fauna (plants and animals) which are found here.

Trees and flowers surround the shelter area of the McConnell Springs Visitors Center, pictured prior to the construction of the Kentucky American Water Education Center.

This is a passive recreation area. It has been reserved for the enjoyment of everyone. To preserve its beauty, please observe the rules posted at the entrance. Much as Robert Frost observed that "good fences make good neighbors" it is also true that "good trails make good visitors." Stay on the trails; roaming destroys habitat. Leave pets at home - they make the residents nervous. Pack out what is carried in. Take only pictures.

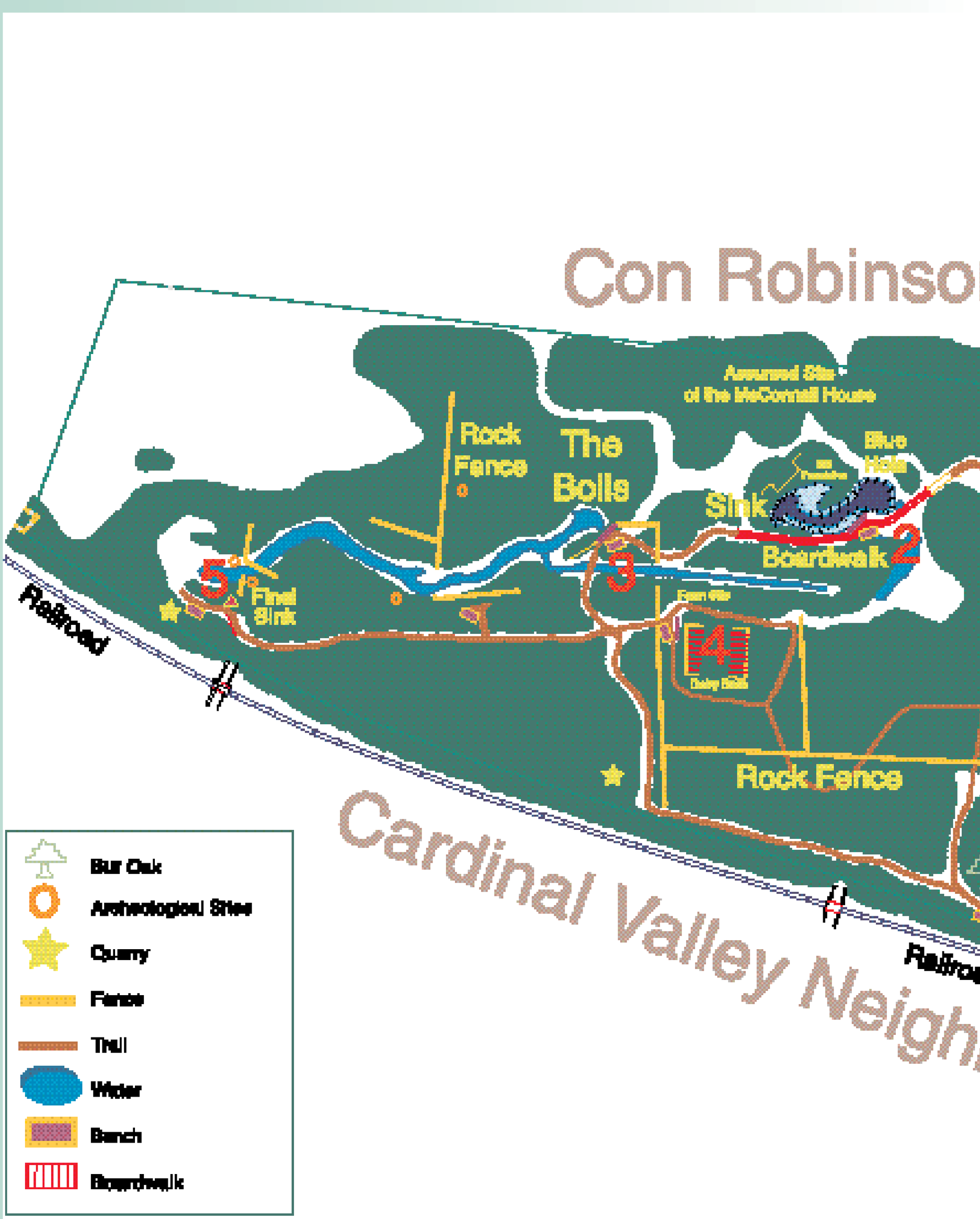
The Friends of McConnell Springs, with the help of thousands of volunteers, have rescued this once neglected site so that future generations could form an attachment to Kentucky's history, its native species and its Eden-like beauty. Enjoy it for yourself. Preserve it with us for the future.

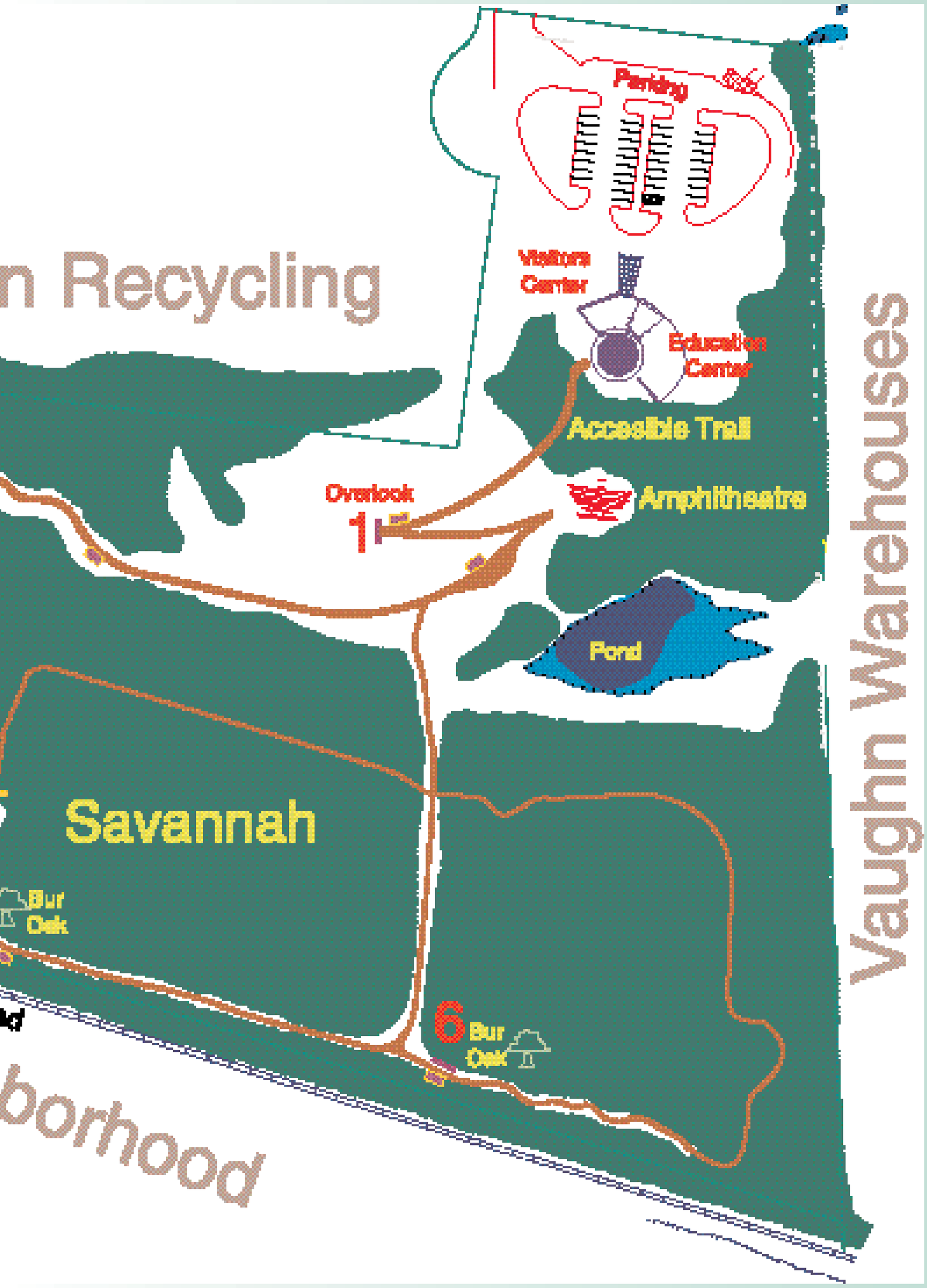


Schoolchildren explore the springs. Staff members lead many tours of schoolchildren through the park during the school year, and teachers are encouraged to use the Springs site as an outdoor classroom/laboratory.

McConnell Springs Overview

Map of the Site

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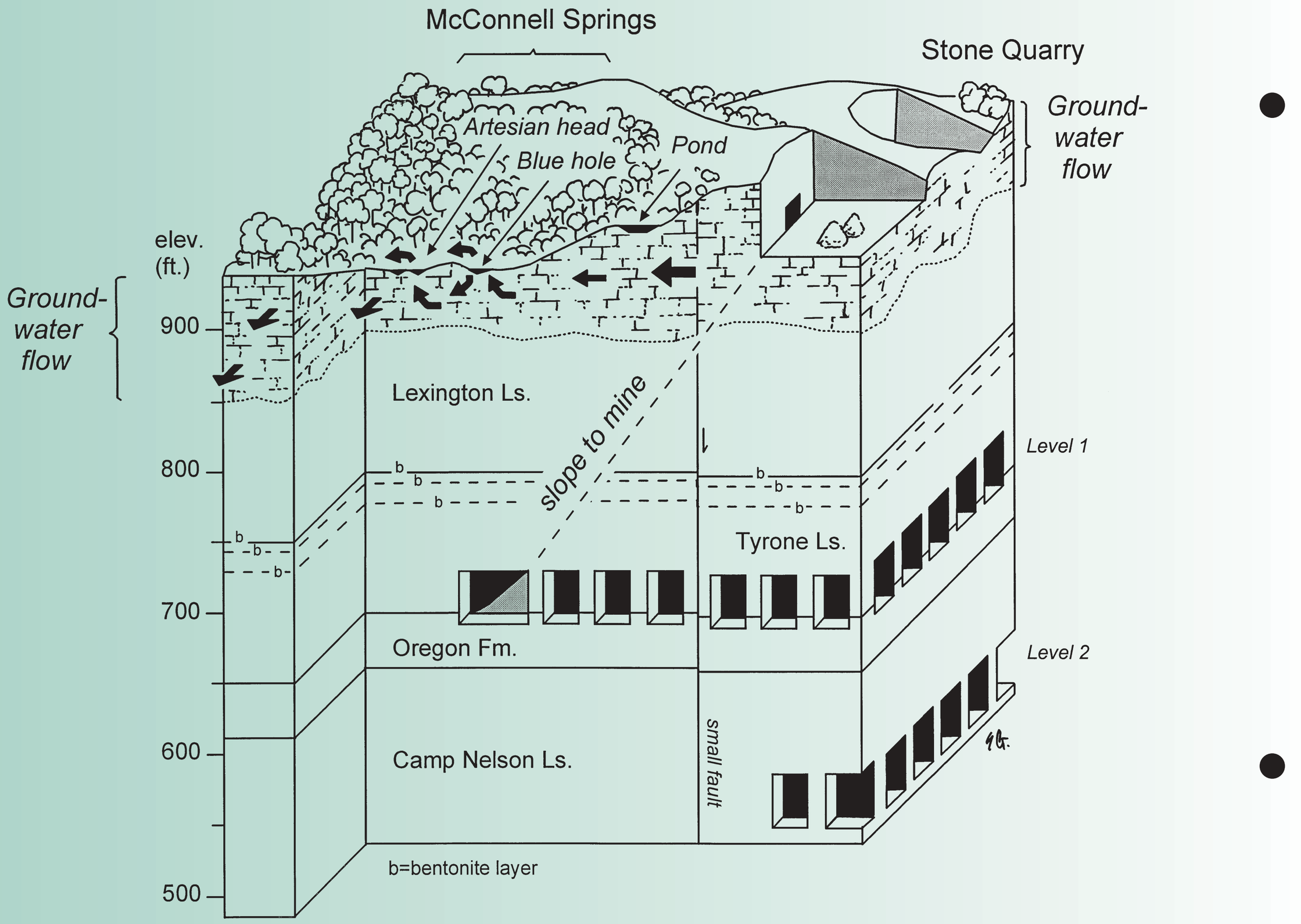
McConnell Springs Overview

Physical Characteristics

In the 18th century settlers from the east first entered the land now called Kentucky. They were impressed by the many springs pouring from the limestone in this fertile new country. Major springs served as landmarks in the wilderness, as well as valued water sources. The springs of Kentucky became focal points for the establishment of both individual homesteads and forts.

McConnell Springs are the visible portion of an underground drainage system that underlies part of central and south Lexington.

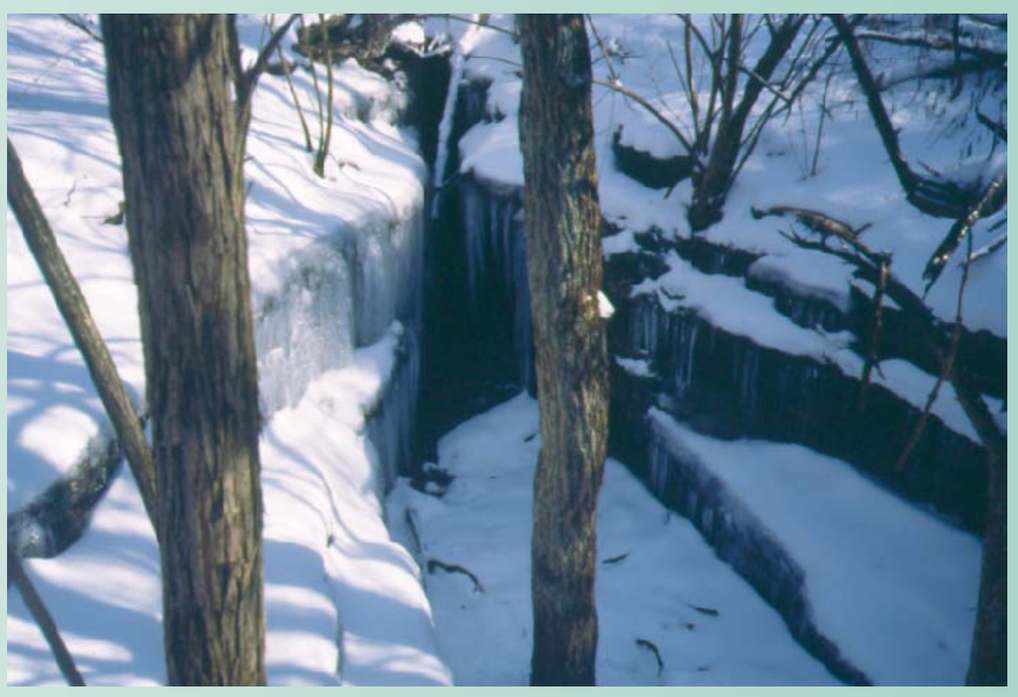
When limestone bedrock is near the surface, rain and melted snow pass through the soil into the limestone, finding horizontal and vertical cracks in the rock, gradually enlarging them over thousands of years. The resulting landscape, usually characterized by sinkholes, springs and caves, is called karst topography. The sinks and rises of McConnell Springs form windows along the flow path of underground streams, where the subterranean conduits are briefly exposed before vanishing again into the rock.



Summertime spreads its green leaves and lush water plants around the Boils, one of several geological formations on the Springs site.

The first evidence of the hidden watercourse is a deep blue-green pool, known as the Blue Hole, that flows perhaps a hundred feet to vanish again beneath a rock ledge. About an equal distance further along the trail, the flow again breaks loose from the earth, bubbling up through gravel in an artesian fountain: the Boils. The visitor who follows the parallel trail along the resulting stream course will arrive at an abrupt end where the water plunges underground once more (the Final Sink). Beyond this, the water remains invisible below ground, emerging for the last time nearly 2,000 feet away at Preston Cave before finally joining other streams on the long trip to the Gulf of Mexico.

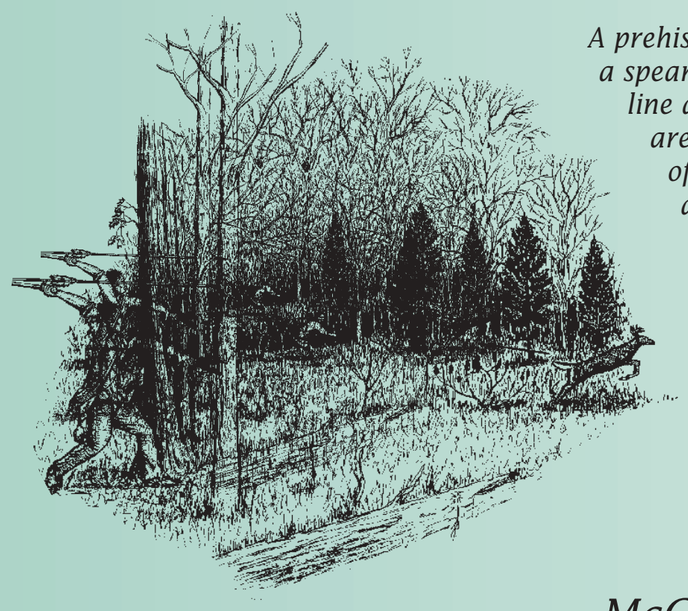
One of the unique features of the Springs is its location atop a large industrial operation unseen on the surface. More than 435 feet beneath where you are standing is a large limestone mine operated by Vulcan Materials. The geologic units being mined are limestone (calcium carbonate) of the Tyrone, Oregon, and Camp Nelson geologic formations. Limestone is used for cement, concrete, crushed stone, fertilizer and acid water treatment, among other applications. Limestone is second only to coal as Kentucky's most important mineral product. And why doesn't the water we see at McConnell Springs leak through into the mine? The reasons are complex, but numerous thin shale layers, originally mud on the bottom of an ancient sea bottom covering the Bluegrass, block downward movement of the water. Probably other important reasons are the layers of volcanic ash that were spread across the region by volcanoes to the east during the formation of the Appalachian Mountains. These thin layers, far below the surface, contain a clay material called bentonite, which can absorb large amounts of water, swell and block the downward flow of water to the mine. Very little water moves all the way down to the mine.



A crack in the limestone bedrock widens through erosion to form what geologists call a "joint". Water trickling into this joint during wintertime has formed a small ice floe.

McConnell Springs Overview

Culture History



A prehistoric hunter draws back a spear to kill a deer in this line drawing of the Bluegrass area before the arrival of settlers of European descent. The consistent water flow and fertile land have made this site popular for both humans and animals.

McConnell Springs as it appears today is as much a product of human intervention and modification as it is derived from natural forces. Beginning with visits by Native American groups thousands of years ago, McConnell Springs has been a magnet for human interactions of all kinds. The Native American hunters and gatherers that lived in Kentucky as early as 10,000 -12,000 years ago were attracted to the pure, fresh spring water and hunted the animals that also frequented the springs. With the arrival of settlers from the East, the landscape in and around McConnell Springs proved useful for both industrial and agricultural purposes.

During the summer of 1775, several parties of surveyors explored in the area that is now Fayette County. Their mission was the selection and marking of land to qualify them for land grants from the British colony of Virginia, which then governed this region. William McConnell led one of the groups from Pennsylvania. They canoed down the Ohio River and up the Kentucky and Elkhorn, then came overland from North Elkhorn to the "waters of the Middle Fork", as the region around Lexington was then known.

The McConnell party set up a base camp at the sinking springs that William McConnell had selected for himself the year before. They explored and surveyed in the area for several weeks, selecting sites for land claims. The lush vegetation, deep fertile soil, plentiful water supply and gently rolling land made central Kentucky the first claimed and most highly-prized of any land west of the Allegheny Mountains. The abundant springs and powerful fast-flowing streams were valuable assets and these features defined first-choice land. The surveyors marked the best locations and drew for them by lot.

In 1776, the group returned to Pennsylvania and came back with more men, supplies and building tools, and proceeded to build cabins and plant small crops. By fall, confrontations with the Indians caused the men to move to Harrod's fort, now Harrodsburg, for safety. In April 1779, they

A drawing of an old-style gunpowder mill gives some idea of what the workings of the mill at McConnell Springs would have been like. Working in the mill was dangerous; when the one at McConnell Springs closed, efforts to clean it out turned tragic when the gunpowder remaining in the building ignited and blew up the building.

A member of the archaeology team carefully exposes an artifact during an archaeological inventory of the McConnell Springs site. Use of the site goes back to the founding of Lexington, and into prehistory.

Re-enactors give a taste of what camping would have been like during the time Lexington was undergoing set-tlement.

Splitting logs for fences was a hot and difficult task for early farmers at the McConnell Springs site, as it is for this re-enactor.

returned and built a blockhouse on what became the Town Branch; they gave the settlement the name chosen in 1775: Lexington.

The site of McConnell Springs not only is credited with having been where Lexington was named, but also provided water for the operation of an important gunpowder mill, and the production of whiskey at a nearby distillery. At one point it was even considered as a possible source for water for Lexington's citizens. For many years, McConnell Springs was used for farming as well as being home to a trotting horse stock farm and a family-run dairy. In more recent years, the land lay fallow while industry and residences grew up around it. Children played in its waters and ran through its woods. It became overgrown and was ill-used as a dumping ground.

In 1993, The Friends of McConnell Springs was formed to preserve the site, first by raising money to purchase part of the property, and then to oversee its development as a valuable historical and environmental resource for Fayette County.

Today, the paths overshadowed by trees offer a quiet walk for a mother and her children, where once hunters stalked their prey and workmen made gun- powder and whiskey.

McConnell Springs Overview

Environmental Introduction

McConnell Springs stands within Lexington as a unique pocket of greenspace surrounded by industry and development. Within the 26-acre park, visitors can wander through lush native vegetation, enjoying unique geological features and hundreds of species of plants and wildlife, from ancient trees to butterflies.

From here you can see some of the different ecosystems preserved at McConnell Springs. Surrounding you is an open grassland ecosystem, similar to the savanna ecosystem of the bluegrass prior to European settlement. Two ancient bur oaks along the southern border of McConnell Springs stand as reminders of this now scarce environment; plans for the park include its restoration.

To the east is a recently-formed pond, a man-made feature. Surrounding this pond and running to the west is an area of marsh-like wetlands. Cattails and sedges grow here, and migrating waterfowl stop to rest in its waters.

Ducks glide lazily in the brown waters of the pond during a late fall afternoon. Although the pond is not original to the site, it has been here for decades and provides a wetlands ecological system for many forms of wildlife and plants.

The Blue Hole is another wetland area, a permanent geological feature that is a constant source of moving water. There, underground water has found a way to the surface through the limestone bedrock. The clear blue pool is a crucial water source for the inhabitants of the preserve.

Safe within the young forest, water flowing from the Blue Hole and the Boils form a corridor to the Final Sink. The streamside ecosystem formed by that corridor is of particular importance, combining food, shelter, and water for a wide variety of

Trees stand tall against a cerulean sky where one of the many sections of rock fence on the Springs site borders the Boils. The interaction of plants, natural springs and limestone soil show the kaleidoscope of nature as the year progresses.

Two volunteers with the Friends of McConnell Springs work to protect a large sinkhole at the Springs. The geological features at McConnell Springs are dynamic, changing constantly and needing attention to prevent erosion.

wildlife.

To the south is an example of old field succession; the property was cleared pasture as recently as the 1970s. In this area, an agricultural field has given way to a young forest of black walnuts and blackberry thickets that compete with non-native invading plants like bush honeysuckle and winter creeper. To the east and west of this old field lie more mature woods. This delineation indicates a change in previous land use, from agricultural fields to pasture. In this wooded area one can find Kentucky coffee trees, American elms, restored spring wildflowers like Virginia bluebells, and eastern gray squirrels.

Most of the animals at McConnell Springs are species of urban wildlife, those animals that adapt readily to the presence of humans and development. Although many of these species can be found in backyards, it is not uncommon to discover a migrating songbird, a rare butterfly, or other uncommon plants or animals within McConnell Springs. With carefully planned greenspace like McConnell Springs, urban areas can support a healthy population of native plants and wildlife.

A pokeberry bush stands out with its bright red stems and purple berries as summer becomes fall. Many of the plants at the Springs, like pokeweed, are native to the Central Kentucky region; a few exotics brought in by settlers and later residents of the area continue to take up large sections of the site.

McConnell Springs Overview

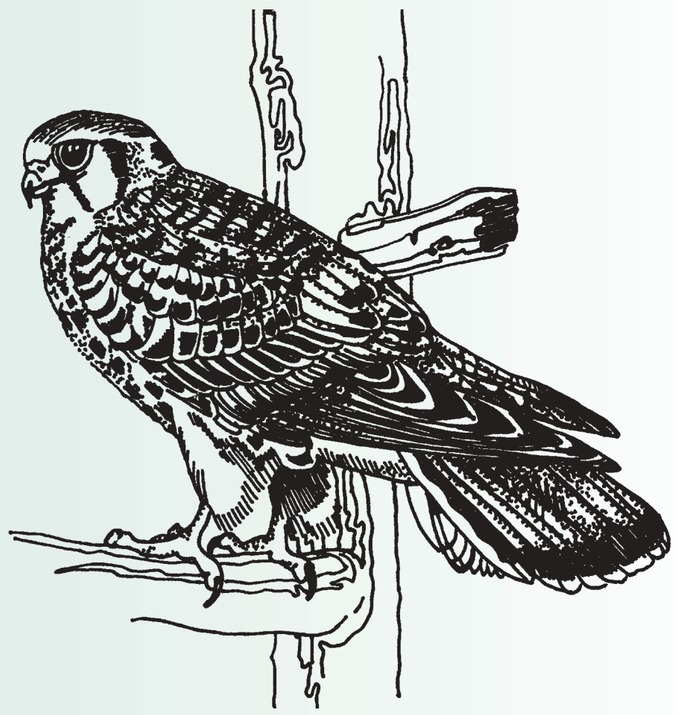
Field Guide

Song sparrow
(Melospiza melodia)

- *common sparrow of pastures, parks and gardens*
- *small bird (5”-7”) with heavily streaked breast and large central spot*
- *identified by pumping tail in flight*
- *song is three short notes*

American kestrel
(Falco sparverius)

- *frequently found in cities, along roadsides, often perched on high wires along country roads*
- *small falcon 9-12” with distinctive rusty tail and back.*
- *males and females have two black stripes on face*
- *song is three shrill notes*
- *in cities the kestrel preys primarily on urbanized birds like the house sparrow, in the countryside it preys on birds, insects and rodents.*



Indigo bunting
(Passerina cyanea)

- *found in abandoned farmland, pasture and field*
- *appears to be iridescent blue in sunlight (black in shadow)*
- *females brown*
- *song is an excited warble*
- *blue color of the indigo bunting is not a pigment but the refraction of light through the structure of their black feathers (similar to colors of an oil slick)*

Black rat snake
(Elaphae obsoleta)

- *found from farmlands to rocky wooded hillsides*
- *black snake approximately 3’ long*
- *belly often checkerboarded or mottled gray*
- *dark line extending from eye to mouth line*
- *lives on a diet of mice, birds, lizards and frogs*
- *can appear quite menacing when confronted, “standing up” to fight*

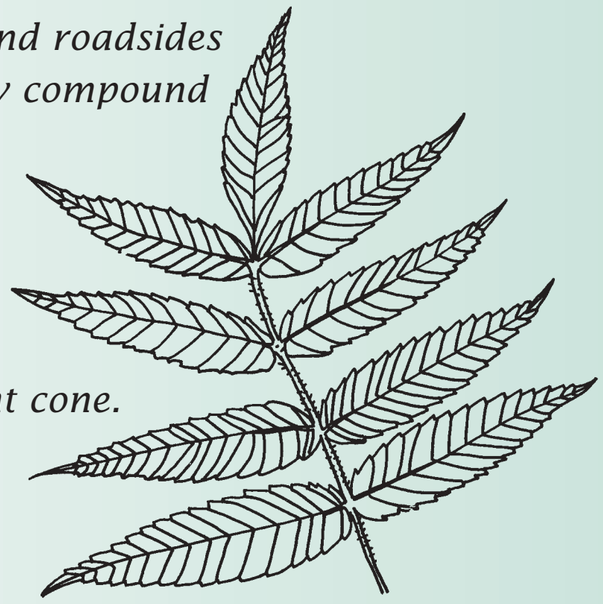
Meadow vole
(Microtus pennsylvanicus)

- *this is a common vole throughout the Bluegrass area.*
- *small brown rodent (3-5”) with shorter tail than a mouse*
- *meadow vole typically lives inside the thatch of grasses where they create small trails*
- *survives on a diet of grass and other plant matter.*

Queen Anne's lace
(Daucus carota)

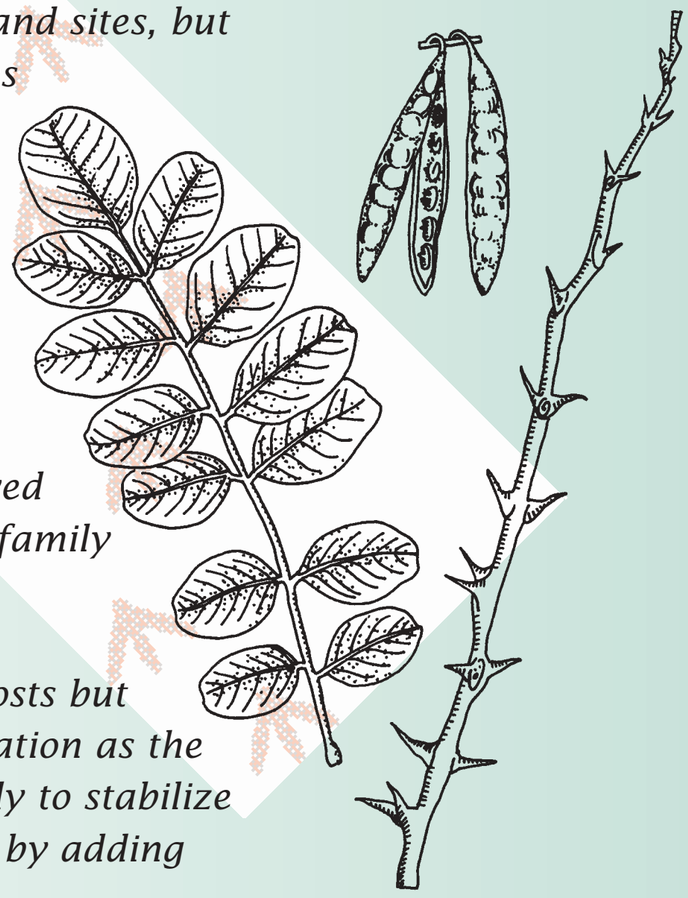
- *abundant weedy plant, commonly found along roadsides and waste places*
- *flat-topped umbrella-like clusters of small, lacy white flowers (umbels)*
- *also known as the wild carrot, as the cultivated carrot was developed from this species*
- *occasionally a single reddish flower can be found in the center of the umbel, "where Queen Anne pricked her finger while sewing"*

Staghorn sumac
(Rhus typhina)



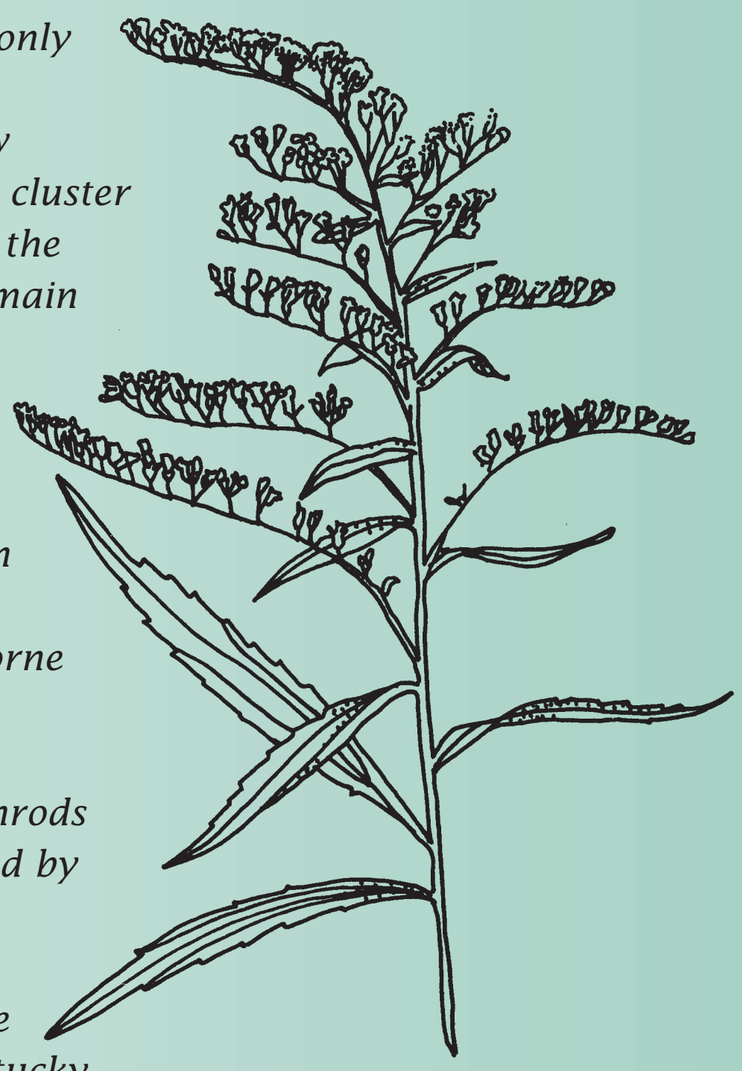
- *pioneer species of fields and roadsides*
- *leaves alternate, pinnately compound with 11-31 leaflets*
- *twigs and buds both hairy (like the velvet on young antlers)*
- *fruit is a cluster of red, hairy berries in an upright cone.*
- *sumac is a dioecious plant, which means the sexes of the plant are on separate plants; most plants have both sexes on the same individual specimen (monoecious)*

Black locust
(Robinia pseudoacacia)



- *found in a variety of soils and sites, but commonly a pioneer species*
- *leaves alternate, pinnately compound with seven to eleven leaflets*
- *twigs have zig-zag appearance with a pair of spines at each bud*
- *young bark has thorns, older bark thick and furowed*
- *this plant is in the legume family and has the characteristic pod-shaped fruit*
- *commonly used for fenceposts but also useful in mine reclamation as the trees grow relatively quickly to stabilize the soil and enrich the site by adding nitrogen to the soil.*

Tall goldenrod
(Daucus carota)



- *our most abundant goldenrod is commonly found in old fields*
- *yellow flowers grow on a branching cluster called a panicle, in the tall goldenrod the main stems of the panicles have an outward arching appearance*
- *this plant flowers in late summer and produces a wind borne fruit in fall that is very downy*
- *the pollen of goldenrods is heavy and carried by insects; it does not cause hay fever*
- *the goldenrod is the state flower of Kentucky*

Passionflower
(Passiflora incarnata)

- *found in Kentucky in open, dry, sunny places*
- *grows as a vine with 3-lobed leaves*
- *spectacular flower appears in June or July*
- *edible yellow-green fruit hangs to the ground*

McConnell Springs Overview

Friends of McConnell Springs

The Friends of McConnell Springs began in October 1993 with the goal of preserving McConnell Springs, the site where Lexington was named in 1775. As you will see in other books on this trail, it has been a long but exciting process. In 1997 we completed the first section of our trail loop. We debated many ways of aiding in our visitors' understanding of the site, and decided these notebooks would be the best method of sharing the wealth of history and environmental diversity you will find here.

The notebooks themselves serve as a microcosm of the Friends' experience with preserving this site. The books began with the promise of funding from one of our consistent supporters, Kentucky American Water Company. Community volunteers, professionals and parks staff met to discuss the contents for the book, then each section was written by an expert in that area of knowledge. All donated their time. Lastly, Hammond Design Associates, another company that has helped us many times, contributed its staff and resources to do the design and camera-ready layout for the books. It is a truly collaborative effort, as is the preservation of the Springs itself.

We hope you find the books as interesting to read as they were to produce.

A group of volunteers pose after pulling a six-foot tractor tire out of the Blue Hole. It is through the dedication of such volunteers that McConnell Springs has been preserved for future generations. From right, Greg Johnson, Jim Rebmann, Tammy Johnson, Todd Johnson, Elizabeth Rebmann, Tom Hickey and Stuart Butler.

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