

## **Guide to Cannon River Wilderness Area Nature Trail**

1996 by Friends of the Cannon River Wilderness Area

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**and**

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**1 HACKBERRY** - Near Post #1 you will see a tree with raised ridges on the trunk. It has elm-like leaves that are highly parasitized by insects. The undersides of the leaves may have nipple or other galls (contain fly maggots or little cicada-like insects); cut a gall open. The fruits of the tree (summer and fall) are edible but not very tasty. They were gathered and eaten by *Homo erectus* hominids (evidence from archeological digs in China) who lived 100,000-500,000 years ago, and by modern American Indians. You may have passed **MULLEIN** in sunny, open spots at the beginning of the trail. This introduced weed, which is identified by the large velvety leaves in a cluster on the ground, will be seen scattered in sunny spots on the trail. The leaves are a veritable insect hotel. In the summer the tall flowering stem is visited by a variety of moths. Why do weeds (from foreign lands) often become superabundant?

**2 SPRING EPHEMERALS** - Those who visit in April and May enjoy the abundant and beautiful flowers on these slopes. Spring ephemerals are perennial plants that emerge early, bloom, produce seed, and die back to their underground parts by the time the trees come into full leaf. Because bees are not yet out in early spring, moths and beetles are the main pollinators for these flowers. Later in the year, both flowers and leaves of these plants disappear. The ephemeral flowers include Bloodroot, Dutchman's Breeches, False Rue Anemone, Spring Beauty, and Trout Lily. Other early bloomers include Bellwort (*U. grandiflora*) and Purple and Yellow Violet. **Rotting tree logs** - wood decays and becomes part of the humus of the forest. This decay is dependent on boring beetles, millipedes and, most importantly, on molds, fungi and bacteria. In Minnesota the rotting takes much longer than in the South. Wood contains almost no nutrients other than cellulose; the decay process is dependent on the influx of magnesium, calcium, etc. from rain (containing dust) and from leaching of the canopy trees of their nutrients.

**3 JUNIPER (RED CEDAR)** - This is an evergreen tree with small, spiny needles. Rather than cones, it has a berry-like fruit later in the season. Found throughout the eastern U.S., in our area it can be seen up and down the Cannon River on high dry slopes. Some hills are covered solidly (see hills below Cannon Falls), a consequence of the cessation of fire with the settlement of Minnesota. Previously prairie grasses and flowers covered these hills. Where solid stands of JUNIPER are seen, often there will be some undisturbed bit of prairie. Small tree with good wood. Berries eaten by many kinds of birds and animals.

**4** If you see rows of small holes drilled in the trunk of a tree, you have seen the work of a SAPSUCKER, a kind of woodpecker. The bird drinks the sweet sap, and then eats the insects that also are attracted to the sugar. It gets both its dessert, and its main course! Look around at the trees - some tower above us, and some are growing in the shade of their taller neighbors. Most of the taller trees are OAKS that got their start when this hillside was more open. The smaller trees are mostly maples and hackberries, which are more tolerant of shade. Over many years, as the oaks die out, it is likely that this patch of forest will be dominated by the maples and other shade-tolerant trees.

**5 TROUT LILY** - a single plant can (vegetatively) give rise to a large patch of plants which can be older than any tree in the forest (look down hill). Seeds are spread by ants, which are attracted by special nutritious growths on the seeds. **BLOODROOT** - flowers with large scalloped, round leaves clasping the stem. Large white flowers early in spring. Seeds also spread by ants. The plant name refers to the color of the plant sap. The grasses you see are not grasses but sedges. The triangular stems identify a sedge. Any evidence that anything has eaten any of the sedge leaves?

**6 IRONWOOD** - a small understory tree (on path). Notice that the leaves and branches are in flat horizontal planes for maximum exposure to sunlight filtering through the taller trees. Also called **HOPHORNBEAM**; “hop” for its fruits that look like those of the hop plant used for the making of beer. In spring you may see the **DUTCHMAN’S BREECHES** growing on both sides of the path near the pole.

**7** Take a break here to enjoy the view, but please don't walk out on the patch of grass below you! This is a remnant patch of prairie. Notice (on the edges of the prairie) **BUR OAK** trees with their twisted branches. Without doubt the hill you are on was once a frequently burned **OAK OPENING**, i.e., a prairie with a dotting of **BUR OAKS**. Now that it is no longer burned, **RED JUNIPER** trees are filling in the area. The small grassy area contains prairie spring flowers including **PASQUE FLOWER**, **PUCCOON**, and **BIRDSFOOT VIOLET**, and a variety of prairie grasses. A drive toward Albert Lea will show you large patches of **OAK OPENINGS** that have not been burned in years. Even so, some still have prairie flowers. Watch for the twisted branches of **BUR OAKS** as you drive along. This is a great place to look for **SCARLET TANAGERS** (in June). You are at eye level to the treetops where they like to hang out. Look for deer across the way among the red-stemmed **OSIER DOGWOODS** in the meadow.

**8 SUGAR MAPLE** - Here is a sapling of the sugar bush tree. The finest of our trees, it is valued for maple syrup, shade, fall color, and timber. Maples are full of bees when flowers bloom in May. Listen for the buzzing. The saplings have pale bark with oval spots; older trees have darker bark with scattered ridges going in different directions, and flat plates between. Note the spiny shrub nearby, a **GOOSEBERRY**. Its green berries are edible and make great jam.

**9** Notice the dead trees with large and small cavities - these are homes for **RACCOONS**, **OWLS**, **FLYING SQUIRRELS** and **WOODPECKERS**. If you were to climb up (don't) you might even encounter a snake peering out at you. Watch for trees with piles of wood chips beneath them or with large square openings. These are the work of crow-sized **PILEATED WOODPECKERS** searching for carpenter ants, a favorite food. **PILEATEDS** will also nest in such holes. You may see other cavity nesting birds. Dead trees are valuable real estate for many animals and birds!

**10** Post #10 is very short; look carefully for a post that is about knee height) **BITTERNUT HICKORY** –is back of sign. Note tight, smooth pale bark. The nuts are not edible unless you are a squirrel. This tree furnishes a fine kind of wood for baseball bats and other uses. Note the yellow-orange buds. About 30 feet to the left there are some basswood-tree sprouts.

**BASSWOOD** is notorious for sprouting from the stump, forming a circle of saplings that indicate the size of the original tree by the diameter of the circle. Both are fine timber trees. The basswood clumps here are young and small, with a 5” trunk surrounded by several “saplings”, but they can be much bigger.

**HICKORIES** are golden yellow in the fall, **BASSWOODS** a duller yellow.

**11 RED OAK** -rugged bark, smoothing out above, identifies this tree; leaf lobes are pointed. Leaf turnover: Tree leaves are an important source of nutrition for many forest animals. They don't contain enough nutrients to allow deer or other large animals to live on them. Look in the summer and see how many leaves have been chomped on. Usually less than 5% of the fresh leafage is eaten. The rest is consumed by earthworms, insects, and millipedes on the ground. Notice all the oak leaves on the ground. Are there any sugar maple leaves? Which leaves of different trees are preferred?

**12** Rocks - the scattering of rocks you see is from the Platteville limestone atop the St. Peter sandstone. The sandstone is under your feet and is visible as a yellow sandy layer here and there in the park. The limestone can have (not here) good salt water fossils, and is from the Ordovician period 400 million years ago. Notice BLOODROOT, COLUMBINE, SEDGES, and TWISTED STALK (a kind of a SOLOMON'S SEAL).

**13** In the original 1996 version of this guide, post 13 identified a large limestone boulder. The post is no longer near the boulder, which is behind you on the path. Did someone move the post? Surely no one moved that boulder! In any case, the limestone boulder rolled down the bank from the Platteville layer above. Notice the luxurious bed of moss on the rock. A hand lens would show a host of creatures living in the moss. Patches of concentric color indicate the presence of lichens on rocks and trees. Lichen = algae + fungi. On cliffs or trees huge areas can be covered by lichens in circular patches of gray, red, orange, or black. The algae capture sunlight to produce foods on which both the algae and fungi live. COLUMBINE may be growing on the rock.

**14** Lots of DUTCHMAN'S BREECHES bloom here in the spring; there is also wild ginger and jack-in-the-pulpit. GREEN ASH is common in this area. Ash has a compound leaf similar to that of a walnut, and has alligator bark on the trunk. It is affected by the invasive emerald ash borer, an insect that destroys ash trees. This insect had not arrived in our area at the time this was written, but may affect our forest in the future.

**15** This limestone rock tells a tale about this park. Observe the enameled surface of the rock. This arises when water penetrating the rock in a wet period is followed by a dry period; the water, now loaded with dissolved calcium carbonate, is drawn to the surface where the calcium carbonate is reprecipitated to form the glossy, bumpy crystals you see. The process of solution is aided by acid leaves; limestone is dissolved by acidic water. In caves a similar process will form stalactites and stalagmites.

If you enter the park by its other entrance on Cannon City Blvd/Highway 20 and hike to the bottom you will see an extensive marsh that has a different chemistry. The water in the marsh is loaded with calcium and magnesium carbonate. These minerals were dissolved when the water flowed through an underground layer of limestone, the Shakopee dolomite (also Ordovician). This kind of wetland, called an alkaline fen, contains a unique set of plants adapted to these conditions. The fen is a very rare plant community.

**RAVINE EROSION** - the St. Peter sandstone of the bluffs above you is a highly decomposable rock. Once a gully is established, the concentration of water can very quickly produce a gully. Stay off steep slopes in this Park or you may be guilty of producing real damage. **This is a good turnback point if you are feeling very tired. Otherwise continue.**

**16** This post has disappeared. After all, this trail was created 20 years ago! Many other things have changed in these woods over that time. Most notably, the original trail guide noted the dead elm trees at certain places along the path. The elms are long gone, but other trees have grown in to take their place.

**17** Scattered on the forest floor are SPRING BEAUTIES, an early wild flower. There is a GOOSEBERRY bush also. Some of the trees are IRONWOOD, as well as MAPLE saplings.

**18** Stop and look - and listen - WILD TURKEY calling? or RUFFED GROUSE? Or PILEATED calling or WOODCOCK-calling down in bottoms? or--or--or? CRICKET FROGS?

**19** TRASH? Somewhere near here on the path you are likely to see plastic bags and other rubbish spilling down the hillside above you. The Park is next to a landfill. From time to time, crews clean up the unsightly mess, but is that the best solution? The plastic you see takes a very long time to degrade. It is a set of molecules new to nature. There are a few water-born creatures which can break it down fairly efficiently but none are up here. It must be collected and burned at very high temperatures or reburied in the landfill where it will exist for centuries. What else is coming out of the landfill? Some nasty chemicals? There are wells

placed in the valley below you so that county staff can test the ground water to check for contamination from the landfill. We must learn to make things that can cycle naturally. An old rule of the Ecologist is that anything must cycle (i.e., break down to its 'raw materials' and be re-used) or we will be up to our armpits in the stuff in no time.

On a different note, you may also notice bare ground on the hill above you; this indicates recent erosion. This is a natural process but it can be increased when changed land use causes increased runoff. In addition, the frequent 'gully washer' heavy rainstorms of recent years also cause increased erosion. More frequent extreme rain events are one of the results of a changing climate.

**20** Large SUGAR MAPLE; the branches are spreading; therefore the tree grew in the open. What leaves do you find under the tree? Why? Red oaks, basswood, and hickory also visible.

**21** LARGE TOOTHED ASPEN - easily recognized by the dirty white blotched bark and by the leaves whose twisted stems result in a trembling with any vagrant breeze. A grove of ASPEN may have started from one initial windblown seed. It then spread via sprouts from roots, resulting in the grove being all one sex. ASPEN buds are a most important winter food source for GROUSE. Aspen also sprouts profusely after fire.

**22** There is a small patch of HORSETAILS to your left. These are very rough jointed plants that stick straight up, with no leaves or branches. These ancient plants are leftovers from the forests of the Triassic (100 million years ago). Dinosaurs grazed on the ancient relatives of these plants. Much larger patches of horsetails can be seen lower in the park, in areas with more soil moisture.

**23** This post and post **24** have disappeared. #23 described the GRAPEVINE that expands for acres around you. Much of it appears to have died, but it is still impressive. Notice the size of the stems. Wild FOX GRAPES are tasty and make good wine. The fruits are indeed eaten by foxes and practically every other creature in the forest. Note the large maple-like leaf. If the leaf is divided into five leaflets it is not grape but rather VIRGINIA CREEPER (fruit not tasty). Grapevines can become very large, with trunks as much as three inches in diameter.

**25** WALNUTS are our most valuable tree, used for furniture veneer. Nuts are eaten by squirrels and people. Mature walnuts of 70-80 feet can be found throughout this valley. Notice the lack of growth beneath the tree. Walnuts produce a chemical, juglone, which is toxic to other plants. Not many plants can tolerate the stuff. It was once used as a hair dye. It is a weak mutagen and carcinogen (produces mutations and cancers). If you gather the nuts, your hands will be turned purple by the dye. Worry? No, we encounter all kinds of nasty chemicals in our lifetime which our bodies are able to overcome.

**This is the end of the trail! At the bottom of the hill, turn right and walk back to the parking lot.** You will be walking through floodplain forest on the valley floor. Few bur oaks grow on this wetter ground. You may see SILVER MAPLES and BLACK WILLOWS, especially near the river. The bluffs above the river are composed of St. Peter sandstone.

Originally written in 1996, copies of this trail guide were for many years unavailable. In 2016 it was re-written to reflect changes along the trail. For more information about Cannon River Wilderness Area, please visit <http://friendsofcannonriverwildernessarea.org/>

View photos of the spring wildflowers described at <http://friendsofcannonriverwildernessarea.org/photos/spring-ephemerals/>