

1. **Norway Spruce - on left.** Planted in 1937 for lumber. 4 sided needle, 4-6 inch cone. Self-pruning: as tree grows up, lower branches die. Due to row planting, the dense canopy blocked sunlight, preventing undergrowth and creating an impoverished environment. Some trees have been thinned to allow more light to reach the ground, which allows for more plant and animal diversity.

2. **Natural Forest - on right.** Mixed hardwoods, mostly native species. Diversity allows more light to reach ground, allowing more undergrowth, providing a healthier environment for plants and animals.

3. **Pine Cone Collection - on left.** Red squirrels collect the pine cones for the winter. They peel the outer pieces to get to the seeds inside. Look for the skinned ones to compare to whole cones.

4. **Starflower - on left.** Tiny, seven-petaled, white blossom, ½ inch wide. Shade-loving, blooms in May. Star-shaped foliage, pointed leaves, up to 8 inches tall. There are a few of them scattered along the trail.

5. **Pyrola (Shinleaf) - on left.** 4-6" tall, white, waxy, nodding ¾" flowers on slender stalk; shiny green, oval leaves, in cluster at base of plant.

6. **Canada Mayflower - on left.** Very common, especially along first part of trail. 2-6 inches tall. Oval or heart-shaped leaves, 2-3 to a stem. Blooms mainly in May, forming a dense spike of white flowers, ¼ inch wide. Red speckled berries.

7. **Partridgeberry - on left.** Common along first part of trail. Creeping plant, round leaves, in pairs, white markings. Tiny, trumpet-like blossoms, ¼ inch wide, in May. Red berries in pairs; important food for birds and small mammals.

8. **Gaywings - on left.** 1-6 inches tall, blooms in May. Blossom is pink to purple, fringed, with 2 wing-shaped petals. Leaves egg-shaped and clustered near flower. A few are along this trail.

9. **Holes in tree - on right.** May have been made by a pileated woodpecker, 14-18.5 inches tall, black with red and white head ("Woody Woodpecker" type) looking for carpenter ants. Wood chips often found at base of tree.

10. **Ferns.** Many types are found along this trail. Carefully turn over a few fronds to look for dots on the underside of leaves. These are spore cases. When ripe, the spores will be dispersed by wind or animals to begin new plants.

11. **Black birch - on right (tag #2).** Also called sweet birch. Twigs smell like wintergreen when cut. Sweet taste of sap led to development of "birch beer". Good food source for grouse, rabbits, deer.

12. **White Oak - on right.** Grows 80-100 feet tall. Bright green leaves with 7-9 rounded lobes. Acorns are shallow with knobby scales; produced yearly.

13. **Indian Pipes - on right.** 2-12 inches tall, waxy white, scaly, sometimes pink or purple-tinged. Flowers ½" to ¾" wide, nodding, cup-shaped, bloom May to September. Do not contain chlorophyll, so cannot make own food. Rely on small mycorrhizal fungi in soil to release nutrients for their use. More common in wet conditions.

14. **Bracket Fungi - on left.** (also called Pore Fungi) Look like a half-circle shelf, attached to the side of a tree. Face horizontal to the ground. Usually tough and woody; sometimes used by artists.

15. **Moss.** Many species found in many places along the trail. Special category of plants that do

not have stems. Pass water and nutrients from cell to cell, thus small and low to ground. Reproduce with spores, usually found in spore cases (sporangia) at end of tiny stalks.

16. **Cracked Shield Lichens.** Found on trees and logs along the trail. Organism made up of a fungus and an alga, working together in a relationship called symbiosis. Fungus provides shelter, water, and minerals for the alga; alga contains chlorophyll and makes food for the fungus.

17. **Eastern Newt (red eft).** A commonly seen salamander in the park. 2.5-5.5 inches long and orangey-red in color. Starts as egg in water in spring. Spends first 1-3 years as a land dwelling organism. Then turns olive green to brown and returns to water to mate and live out life.

18. **Hemlock.** Conifer with flat needles, with 2 white lines on back side (stomates, cells that open and close during photosynthesis and respiration to let gases in and out). Small cones at tips of branches. Shade tolerant. 60-70 feet tall. In 2009, 2010, threatened by woolly adelgid, an insect pest.

19. **Red Maple (# 5 tag).** Dark red flowers in early spring. Petioles, slender stalks that attach leaves to stems, also red. Grows 50-70 feet tall.

20. **Hole at base of tree - on right.** May be "heart rot", caused by an injury, such as logging. A fungus got into the injured spot, causing decay of inner heartwood.

21. **Bark Beetle damage - on right.** Tree bark has peeled away, exposing winding tunnels of the beetle. Wood looks flaky.

22. **Black Cherry.** (red paint trail markers on it) Broken, dark gray to black bark. Simple, long, shiny

leaves. Fruit is bitter and loved by birds. Almond-like smell from young twigs when scratched. Grows 50-60 feet. Leaves that fall in autumn produce cyanic acid, which is poisonous to cattle.

23. **Large nest - on left.** High up in fork of tree. Probably a hawk's or crow's nest.

24. **Red Pine (#6 tag) - on left.** Young tree has red bark; later becomes gray and flaky. Needles 4-6 inches, in bundles of 2, break readily when doubled over. Give tufted appearance. Cones 1 ½" to 2 ½".

25. **Eastern Chipmunk.** Makes sharp "cheep" sound. Ground-dwelling squirrel, 5.5-6.5 inches long, not including the 3-4.5 inch tail. Carries nuts and other food in its cheek pouches.

26. **Striped Maple.** Found here and there along trail, especially along small gully. Common understory tree. Large, broad, finely-toothed leaves shaped like goose feet. Young bark is smooth with white stripes. Produces yellow flowers in long clusters in May and June.

27. **Northern Red Oak (tag # 7).** Gray to reddish-brown bark with flat-topped ridges and furrows that resemble ski tracks. Leaves are shiny green with 7-11 bristle-tipped lobes. Acorns nearly round, 3/4" to 1" long, with flat, thick caps, produced every other year. Grows 60-80 feet tall.

28. **Gully (behind tag #7).** Provides more moisture to this part of the understory. Damage to trees, caused by an ice storm several years ago, allows more light in. Thus, more diversity of plant life here.

29. **Burl - on left.** Large, knot-shaped growth on cherry tree. May be genetic defect, tumor, or reaction to injury. Results in a swirly grain in the wood.

30. **Compare.** As you walk back to the main park area, watch for areas of the forest that are healthy vs "impoverished". Look for reasons why.

31. **Eastern White Pine.** 5 soft, blue-green needles in a cluster, 3-5 inches long. Cones 4-7 inches long and full of resin. Grows 80-100 feet.

32. **Dendrochronology.** (Tree-ring dating) You may see some stumps that show the rings clearly near the end of this trail. Each ring usually shows new growth in the vascular cambium of the tree for a year. Each ring usually has 2 parts, early (spring) and late (summer/fall). The ring pattern reflects climate conditions. Wider rings indicate more rainfall. Thinner rings show drought. Alternating patterns can result in more than one ring for a year.

33. **Common Blue Violets - near end of trail.** Bloom from March through June, but mainly in May. Heart-shaped leaves are food for the caterpillar of the great-spangled fritillary butterfly.

34. **Wild strawberry - near end of trail.** Blossoms in May and June. Fruit develops in late June.

35. **Stump Garden - at end of trail.** Good example of nature's interaction with human activity.



This **concludes** the Spruce Trail/Red Trail tour. You should be back in the main activity area of Mossy Bank Park.

If you have no further use for this trail guide, kindly **be "green"** and help our park and planet by either **returning** it to the nature center or **recycling** it.

# Mossy Bank Park

## The Spruce Trail (The Red Trail)



### A Self-Guided Tour

**Directions:** From the nature center, follow the roadway to the right, then bear left, past the play area and the restroom building. Enter the meadow that is straight ahead. The entrance to the trail is in the far left corner. Look for red paint markers on the trees to indicate this trail.

