

DISCOVERING THE PAINT MINE

A Self-guided Tour of the Paint Mine Conservation Area in Lexington.

by Fran Ludwig

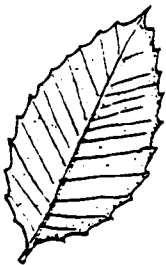
Illustrated by John Andrews



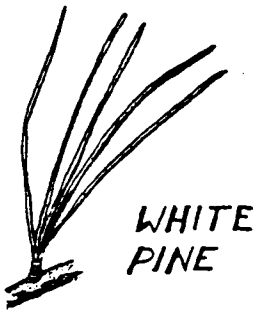
WHITE OAK



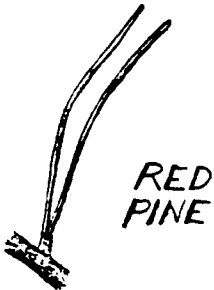
RED OAK



BEECH



WHITE PINE



RED PINE

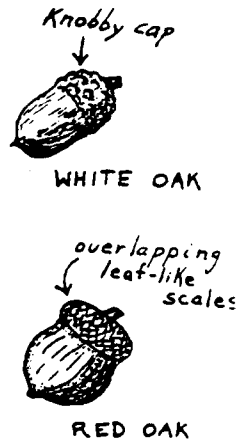
This self-guided tour of Lexington's Paint Mine Conservation Area provides an introduction to the varied natural history of the 35 acre parcel. The tour begins at the end of Robinson Road. You may wish to park in the parking lot of the Estabrook School off Grove Street and walk across the school playing field to the starting point. **BE PREPARED:** Waterproof footwear is desirable. Insect repellent may be necessary in the warmer months of the year.

In order to locate the points of interest described below, match the paragraph numbers with those shown on the map provided at the end of this guide.

1. WELCOME TO PAINT MINE! The Paint Mine area is unique in that it contains many plant species which are more commonly found much further north. This trail will carry you through a variety of plant and animal communities. Be prepared to use all your senses as you discover "Lexington's North Woods".

2. HILLTOP TREES. The trees along this old road are typical of a dry hilltop. Several types of Oak may be found. The White Oak has rounded lobes on the leaves, while Red Oak and Black Oak have points. White Oaks produce sweet acorns which were used as food by Indians and early settlers. Other oak acorns are bitter, but can be eaten by wildlife. Search on the ground for these winter provisions. Take a small bite of each type of acorn and see which suits your taste.

3. YOUNG FORESTS. As you proceed down the road you will soon come to a small grove of White Pines on the left. Note the five needles per bundle (Red Pine has only two). About 50 yards further on the left you will find a grove of young American Beech trees. Feel the delicate texture of their toothed leaves and run your fingers across the smooth gray bark. Directly across the trail from the Beeches you will find some large White Ash trees at the edge of the meadow. Their leaves are similar to Hickory, but are arranged on stems which are opposite, not alternate, on the branches (see figure).



Note: Town regulations prohibit the removal of plants from Lexington Conservation land. They must remain to grow and be enjoyed by all citizens.

4. THE POWER LINE SWATH. At the Paint Mine Conservation Land sign bear left away from the stone wall. Soon you will emerge from the woods into the open area under the power line right-of-way. Before the 1940's this hillside was similar to the woods you have been walking in. Today, the power line swath is a meadow with an interesting diversity of wet and dry habitats. The many boundaries between different environments (wet and dry, field and forest) promote an abundance of wildlife here.

The tall shrub in the center of the swath (with the toothed leathery leaves) is the American Hazel. In spring the thread-like red flowers are among the first to bloom. The hanging catkins provide pollen to produce clusters of the delicious hazelnuts (or filberts).

This meadow is host to many attractive insects. With the first hint of a thaw in late winter, you may see our earliest butterfly, the Mourning Cloak, with dark brown velvety wings edged in blue. In summer, look for beautiful red dragonflies. Late into fall you may see the Buck Moth, black-and-white wings with a brilliant orange body.

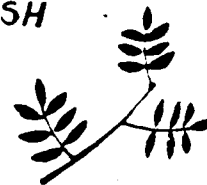
5. GLACIAL DEBRIS. From the far side of the power line swath look back up the hillside to the eroded gully. The mixture of large rounded rocks with sand-sized grains is evidence of debris which was deposited here as glacial ice melted over 10,000 years ago.

6. THE PAINT MINE. Proceed across the power line swath and enter the woods again. The low reddish brown pit in the cliff to your right marks the site of Lexington's historic paint mine. In the 1870's the mine was a valuable source of ochre, a paint pigment. The reddish color comes from the oxidation of iron-bearing minerals in the rock. One older Lexington resident recalls a clause in the deed to this property that gave Indians in the area the right to obtain pigments for face paint. (The term "redskin" originally referred not to the bronzy skin color of Native Americans, but to their use of red face paint). You can make some face paint for yourself by grinding up a small piece of the soft rock.

7. WITCH HAZEL. Continue down the path to where several Witch Hazel trees arch over the trail. Look for the scallop-edged oval leaves which come together asymmetrically at the base. The special attraction of Witch Hazel is its habit of flowering in the late fall. You may find some of the spidery-looking green blossoms or some seed capsules. These capsules release seeds explosively with a sound akin to a rifle shot. The famous all-purpose witch hazel remedy is made from the distilled extract of Witch Hazel twigs.



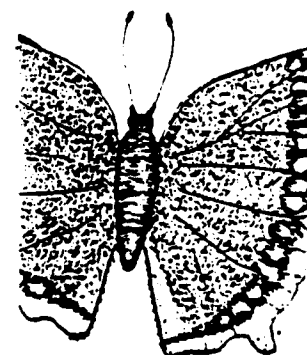
ASH



HICKORY



HAZELNUT



MOURNING
CLOAK



asymmetr
WITCH HAZEL

8. HEMLOCK. A few paces down the road to your right is a cool north-facing slope where a dark grove of Eastern Hemlock can be found. Go in and experience the deep shade and fragrance of the lacy foliage. Find the "racing stripe" on the lower leaf surface. Through these openings oxygen is released when the tree is making food. We animals need this plant-produced oxygen to survive (Thanks, hemlock!).

Some early French explorers, deathly ill from scurvy, were saved by Native Americans who introduced them to a tea made from hemlock needles. The high vitamin C content of the tea cured the white men. (Don't confuse Eastern Hemlock with the hemlock which poisoned Socrates - it is quite a different plant).



EASTERN
HEMLOCK

9. YELLOW BIRCH. Because of the cool moist conditions here we can enjoy the golden, curly-barked Yellow Birch on the right. Uncommon in Lexington, this relative of the White Birch is usually found in more northerly forests. Locate the Yellow Birch saplings next to the mother tree. The twigs of the Yellow Birch release a pleasant wintergreen fragrance if a tiny section of bark is scraped away. Before advances in synthetic chemistry, this species was tapped for sap to make flavoring for candy, gum, and toothpaste.

10. Pass through the stone wall and you will soon come to a stand of towering White Pines. Each whorl of branches along the trunk represents one year's growth. The age of these trees can thus be estimated at over 100 years. The stone walls nearby offer a clue to the babyhood vista of these giants. In the past two centuries, most of Lexington was farmland and not forested. These trees were probably the first to grow in a sunny abandoned farm field. In time, other more shade-tolerant trees joined the pines to make the peaceful mixed forest we see today.

If you find a White Pine cone, you may wish to peel back the woody petals to look for a winged seed inside. These seeds are food for small mammals and birds who live here.



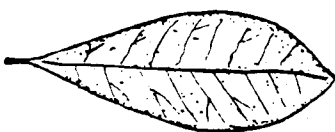
WHITE
PINE

11. SWAMP WOODS. Turn left and follow the trail through another gap in a stone wall. The swamp forest on either side of the trail is quite different from the hillside forest. Shallow-rooted trees such as Red Maple and Hemlock are the only ones to survive the low-oxygen environment of the standing water. The soft wood of dead trees here has been pockmarked with the nesting cavities of Downy and Hairy Woodpeckers and White-breasted Nuthatches.

Typical swamp shrubs such as highbush Blueberry and Spicy-scented Swamp Azalea dot the area. In the spring yellow Marsh Marigolds brighten the water and the air is filled by a chorus of the tiny frogs known as spring peepers.



HAIRY
WOODPECKER



SWAMP AZALEA



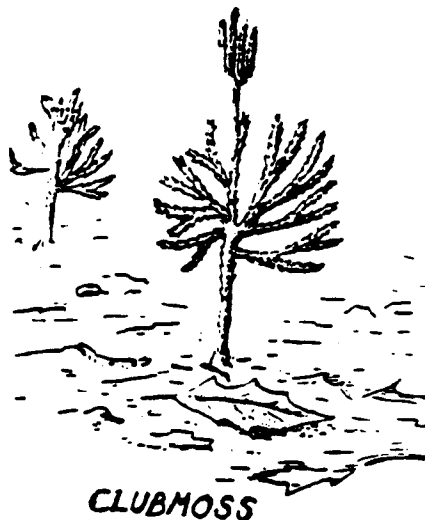
RED MAPLE

12. CATTAIL MARSH. Continue on the trail until it again emerges from the woods under the power lines. At the foot of the hill the land is wetter than in the swamp. Note the difference in vegetation. The abundant cattail can be called a "green supermarket" for good reason. The familiar brown seed heads are edible in spring while the female flowers are green. The yellow pollen is a nutritious food. Young leaf sprouts provide a celery-like raw vegetable. The starch from the tuberous rootstock was a mainstay of Native Americans long ago. Mats were woven from the leaves and the fluffy seed silk was used as the first disposable diapers!

13. SEWER LINE. Follow the trail across the power line swath again. The metal sewer cover in the grass indicates the origin of the straight path you have been walking on from the pine grove. In 1974 a sewer line was installed through this land. Concern over the environmental impact of the line led to stringent restoration conditions which have allowed the scars of the construction to slowly heal. Note however the difference between the plants along the edge and the plants found on the path. Non-native pioneers on the sewer line path include Dandelion and Plaintain. Native Americans called Plaintain "white man's footprint" since it seemed to spring up everywhere Europeans travelled.

14. EVERGREEN GROUNDCOVER. Reenter the woods. To the left To the left of the trail visit the carpet of low plants which grow under the taller trees. Acidic accumulations of Oak leaves and Hemlock needles decompose very slowly, reducing the plant nutrients available in this spot. Thus many plants growing here have special tricks for survival. Because they can't afford to lose the hard-won nutrients in their leaves, they remain green all year.

Clubmosses look like chains of 6 inch high Christmas trees with club-like tassels on top. If you flick one of these capsules after it has ripened, a cloud of spore-like dust comes out. This dust was used in the early days of photography as "flash powder". If you search carefully (watch out for Poison Ivy!) you will find at least three species of clubmosses here.



15. MUSKRAT PONDS. After walking another 100 yards or so you will notice the first of a series of water-filled meanders on the right side of the trail. One story claims that a former owner of this land dammed the Simmond Brook in several places, creating these ponds in order to raise muskrats. There have been sightings of muskrats in the area, so the local name of "muskrat ponds" is not unfounded. The water here is also home for an entire aquatic community of turtles, frogs, dragonflies, leeches, and many small insects.



16. BOG ENVIRONMENT. In some of the more sluggish reaches of the muskrat ponds, one may find signs of unusual environmental conditions. The black color of the soil indicates a high organic component. If the mud at the edge of the pond is stirred, a distinctive "rotten egg" smell may be noted. This odor arises from the incomplete decay of plant material deposited in the water. Under these conditions, few of the normal nutrients are available to plants, and boggy conditions are said to exist. A search in this area may reveal spagnum moss and other plants associated with bogs.

17. WHITE BIRCH. On the opposite site of the path from the first of the muskrat ponds is a diverging trail which is marked by yellow-green spots painted on tree trunks. Follow this path for a hundred yards or so until you see two large White (or Paper) Birch trees. Feel the smooth bark and note how the bark is peeling in large segments in contrast to the thin strips of the Yellow Birch. This variety of birch is more common further north, but because of the extra cool conditions on this north-facing slope, we have here some of Lexington's few native White Birches.



WHITE
BIRCH

Nipmuk Indians who formerly inhabited the Concord area must have rejoiced at finding such fine birches. The bark was prized as a material for making canoes and cooking pots. But because it was so scarce in this region, most Indians had to settle for unwieldy dugout canoes made from White Pine.

18. AMERICAN BEECH. This slope hosts a number of graceful American Beech. The leaves are oval with small widely spaced teeth (see illustration on page 1). The silver-gray trunks are smooth and straight. Look under a large beech to find a 4-lobed prickly husk with beech nuts inside (it looks just like the picture on the wrapper of the gum with the same name).



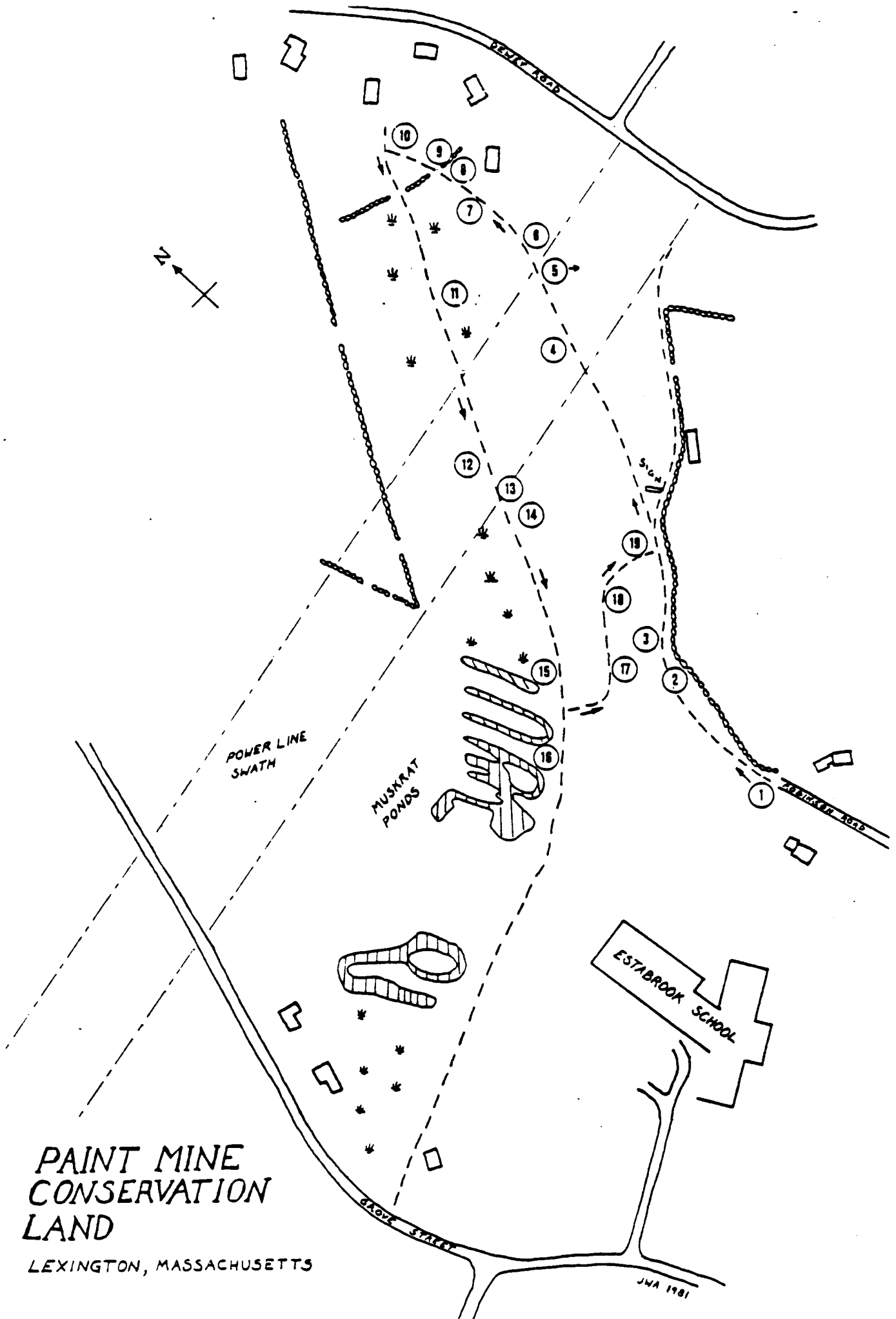
beech nut

19. RETURN. Follow the trail up the hillside and through the hollow where the hemlocks are growing. Turn right on the dirt road and retrace your steps back to the starting point.

Check your clothes to see if you have unwittingly become a participant in the living community here by spreading the sticky seeds of Burdock or Beggartick. We hope you have enjoyed the beauty and variety of the Paint Mine Conservation Area. Having such a public treasure doesn't just happen. It is the result of the time and interest of many Lexington citizens like you who make it possible for the Conservation Commission to preserve such land. Each week it changes, so come back soon.

This guide was prepared by

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**PAINT MINE
CONSERVATION
LAND**

LEXINGTON, MASSACHUSETTS

JWA 1981