

Here on a south-facing slope it is not only warmer but drier because the slope is exposed more to direct rays of the sun. The species found in this forest community include chestnut oak, black oak, red maple, Virginia pine, shortleaf pine and pitch pine.

9 pine-oak forest

The pine-oak forest is one of the main forest communities found on south slopes. It generally produces an open stand that allows a well-developed heath shrub to dominate as undergrowth. In this instance mountain-laurel is dominant.

Look around you. Would you say this forest is successfully reproducing itself? Are dead pines being replaced by young ones? Do you see any young oaks? Since there is no discernable reproduction of these trees, and with the good shrub cover present here, it is probable that this will become a future laurel or heath "slick."

Other members of the heath family present here are: rhododendron, trailing arbutus, huckleberry, sourwood, dog-hobble, spotted wintergreen and blueberry.

10 agents of change

Fire and insects are agents of change that can drastically alter natural ecosystems. When they are naturally occurring they are an important part of the life cycle of a forest community. Fire opens up the dense forest canopy permitting sunlight to warm the forest floor. New plant growth provides food for deer and other



downy woodpecker

forms of wildlife that are adapted to open areas.

Native insects are also an important part of life of a forest. Although man may generally view them as destructive, they provide an important food source for many creatures. Insect-killed trees provide homes for woodpeckers, bluebirds and other hole-nesting birds, and eventually the decaying logs become humus, which provides nourishment for the growth of new plants.

Look around you at the numerous fallen logs and stumps. Many of these trees have been killed by the Southern pine bark beetle. The beetle grubs (larvae) feed on living pines, destroying the inner bark of the tree by girdling and thus cutting off the flow of sap. Since this is a native insect, no attempt is made to control its numbers. Here in this natural area, the Southern pine bark beetle is an important part of the forest community.

As you travel through the Park, watch for other signs of agents of change such as fire, wind, landslides and erosion.

11 exotics

Since this is a natural area the National Park Service tries to eliminate non-native plants and animals. However, occasionally exotic plants, animals and diseases are introduced which tend to disrupt normal processes. For example, in the Smokies most of the low elevation forest at one time was oak-chestnut. The American chestnut was a dominant tree up to about 4,500 feet elevation. Now, some of the large stumps you have observed along this trail are all that remains of old chestnut trees.

About 1904 a fungus disease was introduced into the United States which eventually killed almost all of the American chestnuts. It reached this area about 1920. Since the fungus does not damage the root system new shoots continue to sprout, but they seldom reach any size before spores carried by the wind and insects infect them.



rhododendron

12 little things

As you have walked this short trail there have been signs of different microclimates or miniature ecosystems all around. Discovering and observing these can become a learning adventure. Microclimates may be found in such places as a small pool of water, the shade of a rock or a rotting log. They are caused by many things, including various degrees of shade, exposure to wind and run-off, as well as in-

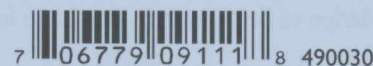
fluences of nearby water, rocks and soil. Microclimates create a special niche or habitat for certain animals and plants. The forest is made up of many combinations of different habitats such as rotting logs, leaf litter, tree trunks, high and low branches, stream banks, etc., each affording a home for its own group of individuals.

The forest's great variation in size and form permits us not only to read the woods, but also to sense a mood or feeling for each plant community. There is a pattern of life within each community that makes it a mosaic of beauty and wonder.

13 rest and reflect

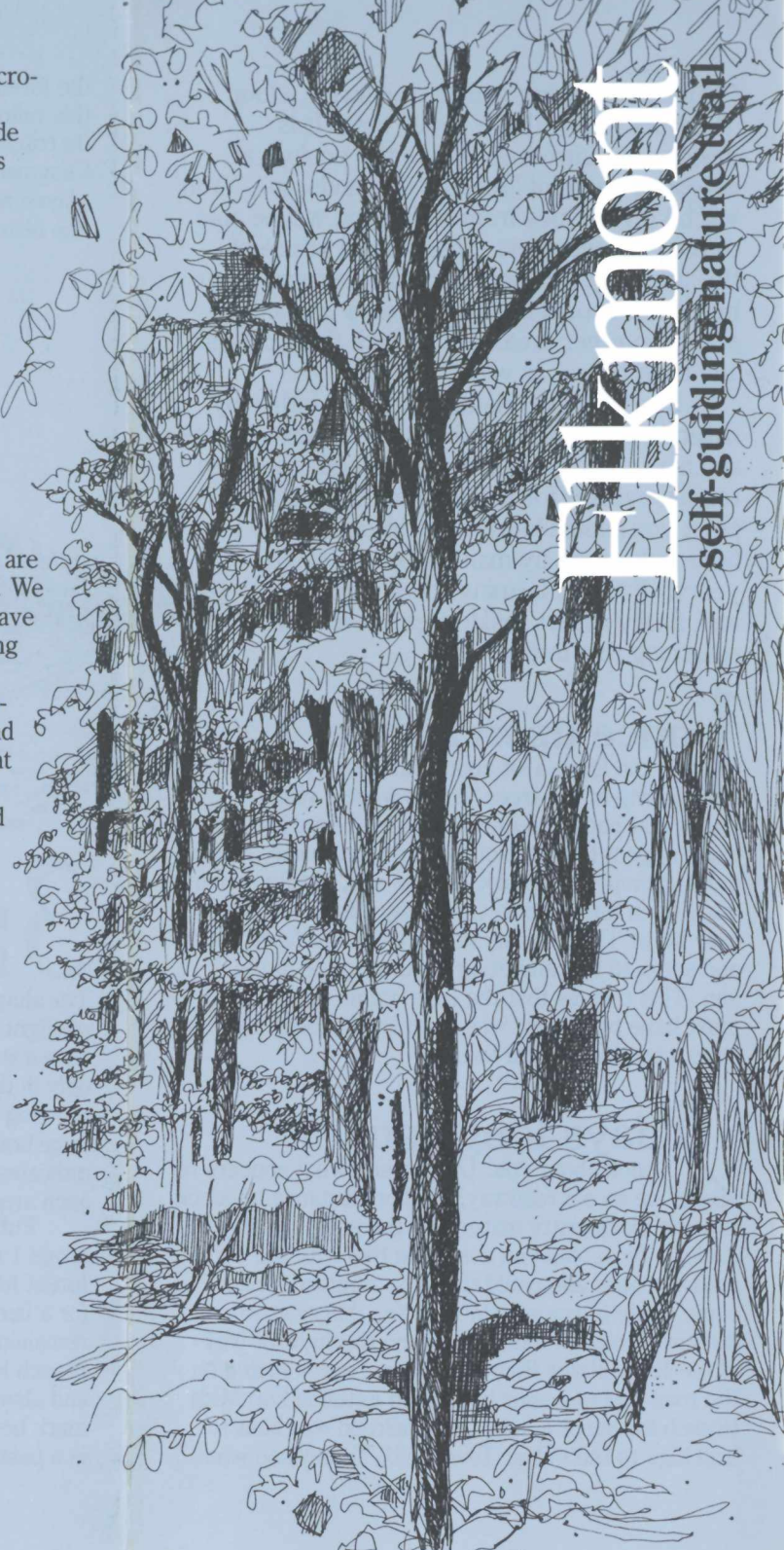
You have completed the trail and are almost back to the starting point. We hope that you have enjoyed your walk and have discovered the fascinating pastime of "reading the landscape." Take these clues away with you and develop your awareness of the natural and unnatural processes that go on around you every day — no matter where you might be. I wonder what happened here? — stone steps, a terraced area, a flagstone patio, and an excavation in the hillside behind the log bench.

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Elkmount

self-guiding nature trail



This self-guiding nature trail forms a loop about four-fifths of a mile long. It is designed to introduce you to the ecological detective game of “reading the landscape.” You will be given clues from which you will be able to read changes past, present and future of this area. By applying the skills that you learn here, you should be able to “read the landscape” in other areas of the Park that you visit and back home, as well.

Landscapes constantly change either by natural causes or a combination of these causes and man. Subtle clues are produced that often remain evident for many years. As a starting point you should know that this area has been influenced by man for over 100 years. First by farming, then logging and finally resort residences. It is now returning to a forest.

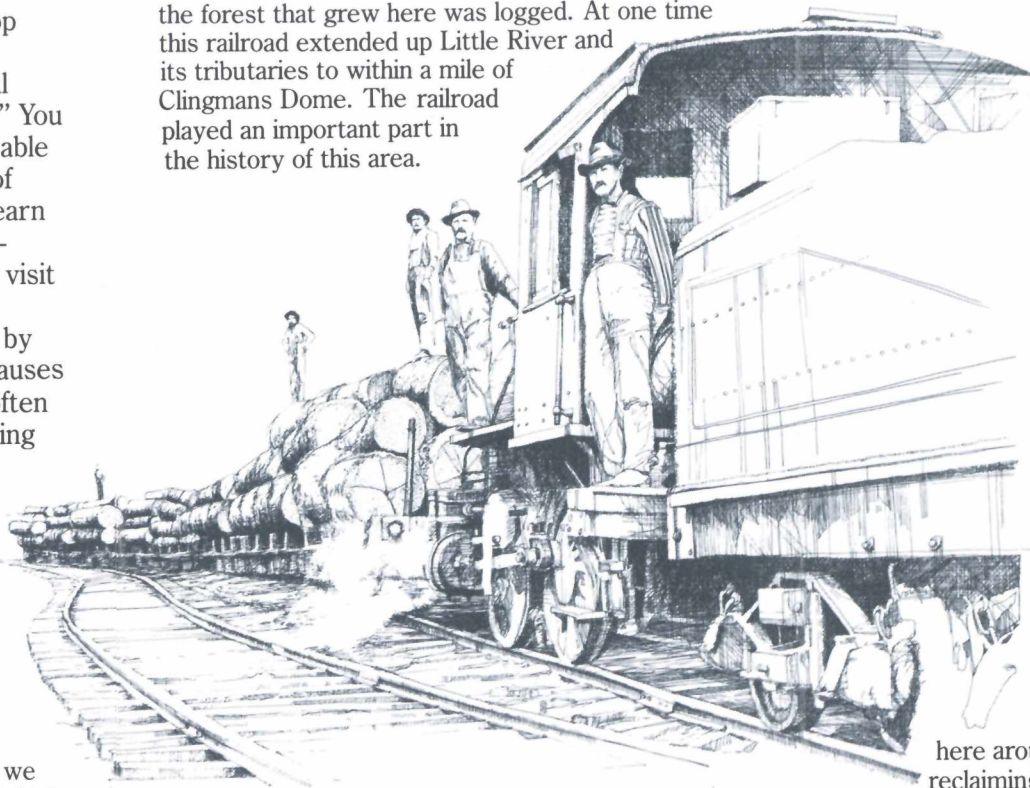
1 once upon a time

We can learn a lot about this area by looking at the trees. If this were a virgin forest that had been developing for centuries, we could expect to find a lot of very large trees. A high dense canopy would blot out the sun, resulting in a fairly open forest floor. Certainly, this is not the case here. The majority of the trees are fairly small and seem to be competing for their place in the sun. This tells us that the large virgin forest that must have been here was destroyed. Today we have a second growth forest.

2 days long ago

Look about you. Do you see what appears to be an old roadway? A short distance up-slope is some black gritty material in the soil. These are cinders. Now, can you associate this with the old roadway here and could these be remnants from some mode of transportation? Yes, because where the paved road is today was once the right-of-way of the Little River Railroad and you are standing on the road-bed of a spur line which extended up Mids Branch for about a mile. This railroad was built to haul logs to the mill at Townsend, Tennessee when

the forest that grew here was logged. At one time this railroad extended up Little River and its tributaries to within a mile of Clingmans Dome. The railroad played an important part in the history of this area.



3 reaching for the sun

The shape of a tree is influenced by the amount of sunlight available to it. A tree growing in a forest will have a straight, long, limbless trunk with branches only in the crown. Notice the shape of the large trees growing along the stream bank, many of which have large branches growing low on the trunk. This indicates that these trees developed in a relatively open area where sunlight was available for growth.

Putting together what we have learned from stops 1 and 2, we now know that at one time the forest here was destroyed. The area was kept open for a fairly long period of time, permitting the few remaining trees to develop into mature trees that branch low to the ground. Large trees seen here and elsewhere along the trail were possibly left to mark boundaries of fields or provide shade for cattle in a pasture.

4 man passed this way

Notice the large number of yellow-poplar (see illustration, stop #7) trees on the right. Wherever you find such a stand it usually indicates that the area was once cleared. Yellow-poplar is a pioneer invader of abandoned fields, but as a climax forest tree it is part of a mixed population.

Following the removal of the timber, the Little River Lumber Company sold this land to private individuals who farmed the slopes until the Park was established.

5 ghosts of the past

Since man moved out of here around 1930, nature has been gradually reclaiming the area. Some of man's intrusions are quickly obscured as buildings crumble away into soil. To the keen observer, subtle reminders will be visible for years to come. Watch for the remains of an old spring, foundation stones of buildings, piles of rocks that once were the chimneys of houses, or rock fences bordering fields. Over 6,000 tracts of land were acquired when Great Smoky Mountains National Park was established. Man's presence can be found almost everywhere.

6 the corner drug store

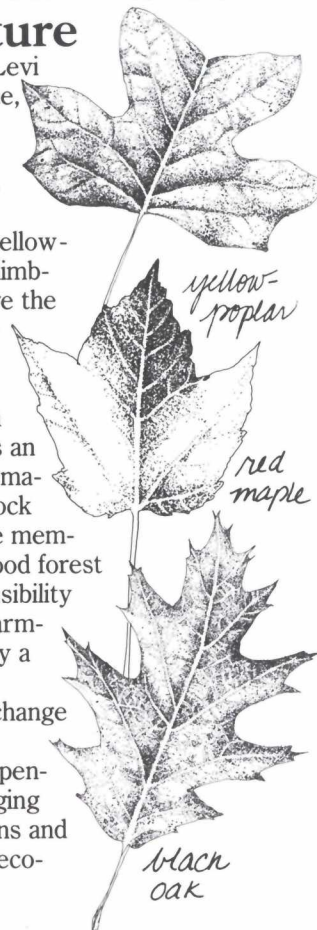
As settlers moved into new areas of the country in the 1800's they often carried with them plants as reminders of their former homes. Some were for decorative purposes and others provided some of the necessities of life, such as food and medicine. There was not a corner drug store.

Frequently, when all other vestiges have been reclaimed by the forest, a few non-native plants can be found marking an old homesite. Most homesites had walnut trees as a source of nuts. Forsythia, rosebushes and daffodils were used just to “pretty up the place,” and a wide variety of herbs such as worm-wood, selfheal, alumroot, peppermint, spearmint, and feverfew were items of the farmstead's corner drug store.

7 succession — a look to the future

Looking over “Uncle” Levi Trentham's old homesite, we can observe one stage in a successional parade of various types of plants.

Notice the many yellow-poplars, with straight, limbless trunks. These were the most abundant trees to establish themselves once the farmland was abandoned. Mixed with the poplars however, is an occasional sapling oak, maple, basswood or hemlock (evergreen). These are members of a mixed hardwood forest and there is a good possibility that someday the old farm-site will be reclaimed by a wide variety of these hardwood trees. This change in the composition of a forest community is dependent on gradually changing environmental conditions and the process is termed ecological succession.



8 feel the difference?

Have you noticed the major changes that take place in the types of plants found growing at different elevations? Various types of plants have adapted to different environments and have different requirements for moisture, temperature, soil and sunlight.

Along the trail on the other side of the stream you were passing through a forest community on a north-facing slope. There the conditions were cooler and more moist — both of which favored the growth of trees such as yellow-poplar, hemlock, white pine, sugar maple, basswood, buckeye and sweet birch.

