

### “Native Vegetation”

After glaciers retreated, bare rocks were covered by pioneer and tundra plants, which gave way to taiga (pine forests), and finally the deciduous trees of the Eastern Woodlands that once stretched from Canada to the Gulf of Mexico and Mississippi River.

When the great ice sheets melted away about 12,000 years ago, they exposed bare rocks with no lifeforms. Gradually, pioneer plants such as lichens (Fig. 1) and mosses (Fig. 2) began the slow process of soil formation and re-vegetation. First, at the edge of the retreating ice sheets, a tundra biome developed and looked similar to what is now found in the Arctic (Fig. 3). As the climate warmed, the tundra gradually gave way to a taiga biome (fig. 4). This ecosystem is characterized by pine trees and other conifers, similar to what now stretches across North America and Siberia.

Living among and feeding on the pines were mastodons (Fig. 5), extinct relatives of elephants. In 1960 and 1974, fossilized remains of two local mastodons were discovered and recovered (Fig. 6). You can learn more about these at <https://earth2class.org/site/?p=11799>.

As the climate continued to warm, mastodons and other Ice Age animals became extinct. Broad-leaved deciduous trees—the species we are familiar with—spread to form the “Old Growth” Eastern Woodlands (Figs. 7A and 7B). Before the arrival of European colonists, the Eastern Woodlands trees covered most of North America from Maine and Canada south to the Gulf of Mexico and as far west as the Mississippi.

The [Lenni Lenape](#) and other Native American tribes lived for many centuries in communities that blended well with the plant and animal resources available in the Eastern Woodlands. European colonists, beginning with the Dutch and English in the 17<sup>th</sup> Century, began to cut down these Old Growth Forests for timber, fuel, or to make way for farms. Many of the farms were 500 feet wide and ran from Overpeck Creek up to the top of the Palisades. Farmers would cut down trees as needed.

By the end of 19<sup>th</sup> century, little of the original forests remained, and much of the region was devoid of trees. Construction of the Northern Railroad had a devastating impact on the local Primordial Forest. The railroad needed vast amounts of wood for the ties under the tracks, fuel for the steam locomotives, and timber for buildings. They contracted with the farmers and other land-owners to cut down the trees. Palisade Avenue was originally built as a logging road, serving as the shortest route from the top of the Palisades down to the valley. By 1870, most of the Palisades was deforested. The railroads turned to coal as the preferred fuel.

Gradually, through deliberate re-planting or natural processes following abandonment of farms, the area has once again become tree-covered. Lattimer describes the lumbering that destroyed Englewood’s original forests and the beginnings of the second-growth forest we now enjoy.

Some “invasive” species accidentally or intentionally introduced and pose serious problems for

our environment. Although some are thought of as decorative, such as English Ivy (Fig. 8A), many pose problems for the “native species” and the general environment. Japanese barberry (Fig. 8B) is a typical example of such a troubling invasive.

#### Pioneer Plants – Lichens and mosses

<http://www.wisegeek.org/what-is-the-difference-between-lichen-and-moss.htm>



Fig. 1 Lichen



Fig. 2 Mosses

(Source: <http://www.bnd.com/living/magazine/article41897805.html>)

#### Tundra and Taiga Biomes



Fig. 3 Tundra biome

<http://www.ucmp.berkeley.edu/glossary/gloss5/biome/tundra.html>



Fig. 4 Taiga (coniferous forest) biome

<http://www.eniscuola.net/en/argomento/taiga/>

## Mastodons (Ice Age Elephants)



Fig. 5 Mural by Paul Ortlip of Mastodons in the taiga at the end of the last Ice Age  
(Originally in the Bergen Museum of Arts and Science)



Fig. 6 Excavation of the “Dwarskill Mastodon” in the area of Harrington Park-Closter-Norwood, 1974  
(photos: MJ Passow)

## Eastern Woodlands Forests



Fig. 7A. Birch forest  
([http://firstpeoplesofcanada.com/fp\\_groups/fp\\_wh2.html](http://firstpeoplesofcanada.com/fp_groups/fp_wh2.html))



Fig. 7B. Mixed broad-leaved forest  
(PRI Environmental News Magazine)



English Ivy

Credit: <https://insider.si.edu/2013/04/top-six-invasive-plant-species-in-the-united-states/>



Japanese barberry

More information

J.K. Lattimer (1990) *This Was Early Englewood*. pp. 104 – 105.

[Dustin Griffin: “The History of the Flat Rock Brook Watershed”](#)

[Dorothy Peteet Carmichael: “A Record of Environmental Change during Recent Millenia in the Hackensack Tide Marsh, NJ”](#)

[Michael J Passow: The Dwarskill Mastodon”](#)