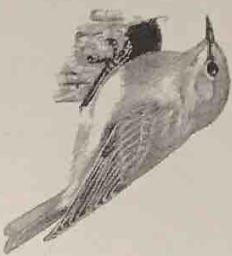


species; controlling undesirable and invasive plant species; and removing seriously diseased trees.



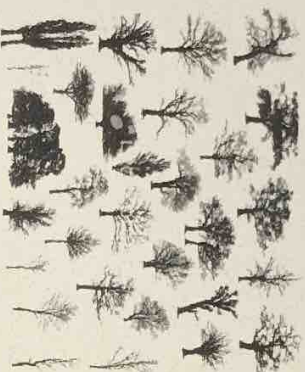
### Stop#7 - Most visitors to Landis

Arboretum are here to enjoy nature, to learn, and to see stands of old growth. Many recognize that maintaining some undisturbed forest areas is important. However, people also use trees for firewood, lumber, paper and other commercial products. One aspect of forest preservation is sustainable management whenever trees are cut so that forests remain healthy, diverse and productive for future generations.

If you look closely near stop#7 you will see the stump of a tree that was cut for timber several years ago. Cutting trees is a common practice on privately owned woodlands. Fortunately, future value can be substantially enhanced by using forestry whenever trees are cut. However, future value can also be substantially reduced by "cutting the best and leaving the rest" which is also a common practice.

### Stop#8 - There are 9.7 billion trees

one inch or larger in diameter growing on New York's woodlands – about 630 trees per acre. Red maple is the most common species, accounting for 18% of all trees. Sugar maple is the second with 14%, and American beech rounds out the top three with 7%.



In the eastern United States most trees can reproduce themselves from seed. The trees in this area self seeded from the adjacent woods. Competition for adequate growing space is increasing every year as individual trees grow larger. If they are left without tending, these young trees will eventually sort themselves out into winners and losers. Less than 1% of tree seedlings survive over the long run. Without careful management there is no assurance that the most desirable species and individuals will prevail in the struggle for growing space.

### Dedication

This trail guide and the numbered posts at each stop were provided by the Capital District Chapter of the New York Forest Owners Association (NYFOA). Our mission is to promote sustainable forestry practices and improved stewardship on privately owned woodlands in New York State. This project is dedicated to the memory of Michael C. Greason, a NYFOA member and forester who tirelessly promoted sustainable woodland management. For more information visit: [www.nyfoa.org](http://www.nyfoa.org)



LANDIS  
ARBORETUM

The Bass Woodland

Sustainable  
Forestry

Trail  
Guide



**Stop#1 - Look for the stone wall** behind you. It's a reminder that people and woodlands have interacted for centuries. New York State was once covered with forests. However, by 1870 most of the land was cleared for farms. Only one third of the state remained forested.



The loss of forests raised concerns about the possible adverse effects on watersheds and the future timber supply. New York subsequently was the first state in the nation to establish state forests (1885) as well as the first state forestry college (1898). It also pioneered in forest fire control and developed the first forest tree nurseries for reforestation.

Trees have since reclaimed millions of acres of abandoned farmland and forest acreage has doubled. Old stone walls are often the only evidence that many woodland areas were once farmed.

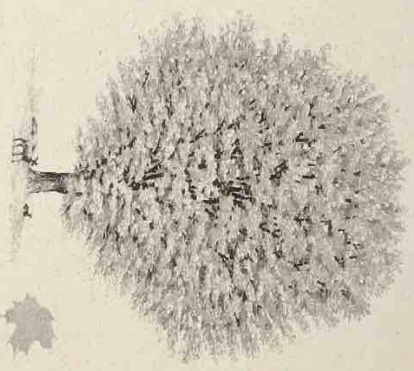
**Stop#2 - The evergreen trees you see in this section of the woodlot are eastern hemlocks.** Hemlocks are one of the most shade tolerant tree species. All trees require sunlight to manufacture food through the process of photosynthesis. But many species are not able to survive for long in heavy shade. Hemlock is a notable exception. It can remain healthy for a hundred years or longer, growing very slowly in the shade of surrounding taller trees. Shade tolerant trees like eastern hemlock, sugar maple, and American beech have a competitive advantage over species like black cherry, white ash, and white birch in dense forest growth.

**Stop#3 - Sugar maple is one of the most valuable species that grows in the northeast.** The large tree to the right of post #3 is a sugar maple. At its current size this tree is worth about \$60. Larger maple trees of good timber quality can be worth \$100 or more when they are sold.

Sugar maples are also used for the production of maple syrup. A woodlot of maple trees that are being tapped for maple syrup production is called a "sugar bush". It takes 40 gallons of maple sap to make one gallon of syrup.

Forests have been used as a source of timber, pulpwood and firewood for more than 400 years. The good news is that only one third of the annual growth is being harvested. However, timber quality and productivity are far less than what might be

achieved with better forestry practice. Timber is a renewable natural resource that is organic, biodegradable, and locally grown - yet 90% of the wood used in New York State is imported from other states and countries.



**Stop#4 - Forests are called a renewable natural resource** because trees grow larger every year and are capable of reproducing themselves. Look closely at the saplings that are growing in this part of the woodlot. There is a mix of species including striped maple, beech, and sugar maple. Some of these trees are more valuable than others because of their potential to maintain species diversity, for wildlife habitat, or for commercial uses

such as timber. These saplings will eventually become the future forest.

**Stop#5 - Beech trees can easily be recognized by their smooth, whitish colored bark.** The American beech tree is found in woodlands throughout New York State.

Unfortunately, most beech trees have been damaged or killed by beech bark disease which was introduced in New York State in the 1950's. Beech bark disease is caused by the combined attack of an insect (beech scale) and a fungus (neotrill). The scale insect carries spores of the fungus on its body. When beech scale insects feed on the sapwood under the bark of the tree, they inadvertently introduce the fungus. Over a period of years, the fungus infection kills the tree. Several diseased and dying beech are nearby. Can you find them?

**Stop#6 - Maintaining the health and diversity of the trees in a woodlot is important for forest survival and productivity.** Healthy forests are more resistant to pests and climate-induced stresses such as drought. A diversity of species also helps ensure that the forest will recover from the loss of some species to insects or disease.

Cutting trees as part of a forest management plan can help improve forest health and species diversity. This can be achieved by providing adequate growing space to the most desirable trees, developing a mix of age classes and tree