



# Woods Whys

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## 29 How Can I Tell If My Woods Are Old Growth?

Old-growth forests, sometimes simply called “old growth,” are just that: really old woods. Accordingly, they are marked by the presence of exceptionally old, typically large-diameter trees that are living, dying, and dead. For most forest types in our region, this likely means there are trees exceeding 150 years old and some may be as old as 200 (white pine), 250 (sugar maple), or 400 years (hemlock).

If you do have an old growth forest, consider yourself very lucky indeed, as truly old forests are exceedingly rare in the Northeast. Most of our forests have been cleared for agriculture and cutover one or more times over the last few centuries. And although much has re-grown, and despite a strong history of conservation and good management since, trees in the secondary forests we see today are much younger and therefore significantly different from those that existed previously.

By most accounts, less than 0.5 percent of the current forestland in the Northeast is old growth and no region in the eastern deciduous and mixed forest zone has more than 1.1 percent old growth. With a couple of notable exceptions in northern New Hampshire and Maine, most of the last remaining northeastern old-growth forests are small and isolated, restricted mostly to inaccessible steep land and wetlands. Still, if you have some particularly large-diameter trees in your woods, say, in excess of 25–30 inches, and there is little evidence of human intervention or large-scale natural disturbance, they just might qualify.

Because tree growth rates vary so much by species and growing conditions, diameters can be misleading. Thus, there is no good substitute for measuring the actual age of a tree. Fortunately, you do not have to cut down your prized old tree to determine its age by counting the annual growth rings on its stump. You can instead count the rings in a cross-section of the stem extracted as a pencil-sized core from the standing tree using a forester’s tool known as an increment borer. Ask any

second-grader who's had a visit from a local forester and they'll confirm that it works like magic.

Except when it doesn't. No, it is not foolproof. In very large, very old trees, the innermost rings of wood tend to be decayed and this makes an accurate estimate of the tree's age impossible. But fear not. Even without an increment borer you can judge whether your woods are old growth by other means. In fact, the alternative approach involves a more complete understanding of the characteristics of old forests—most of which can be observed while simply walking through your woods and requiring no specialized equipment.

First, accept that old forests comprise trees of many ages and sizes. Sure, to be actual old growth, there must be some exceptionally old ones, but even the oldest woods contain many more young and middleaged trees than old ones. If you've got a range of tree diameters and at least a few lunkers in the mix, keep walking and looking. You might be on to something special. Next, look up at the canopy. Truly old forests have an uneven canopy with many scattered, small gaps owing to tree crowns breaking and falling here and there over an extended period of time. Young forests tend to have fewer large trees and fewer canopy gaps.

If your woods are truly old-growth, you will also notice an abundance of dead trees, both standing as "snags" and on the ground as "woody debris." Importantly, in old growth this accumulated dead wood exists in many sizes and in varying stages of decay, reflecting the full range of ages and sizes of the living trees accumulated on the site over many years. This diversity of dead wood provides habitat for a wide range of animals—from insects to salamanders—as well as critical germination seedbeds and nutrient cycling for forest regeneration. In old growth you will also notice a greater abundance and diversity of herbs, lichens, and fungi, all of which support life forms and processes under-represented in younger forests.

Lastly, truly old forests will exhibit "pit and mound" microtopography, which reflects where trees were toppled by windthrow long ago but have decomposed, leaving only the pit, where the trees used to be rooted and mounds of soil that used to contain the roots.

Beyond all the good ecological science describing them, chances are you'll just know it when you're in an old-growth forest. All of those attributes add up to make a very different kind of forest, and when you're in one, it is a difference you can feel.