

Chapter 4

THE EASTERN WHITE PINE

StandingNation-Human Alliance Bulletin

Green-Noise Machines

🌳 **TREES absorb and block sound, reducing noise pollution by as much as 40%.**¹ "It's the sound produced by the wind passing through the leaves that really helps muffle noise," explains Robert Smith, a staff arborist for the Arbor Day Foundation². This is similar to the effect we hope for when we install a white-noise machine in our bedroom to cover up random noises that might wake us, thereby improving the quality of our sleep. A properly designed buffer of trees and shrubs can reduce noise from roads and other sources by five to eight decibels, levels that allow normal outdoor activities to occur.³ Such a buffer may help also help improve sleep indoors if outdoor noise is the cause of wakefulness.

The quiet in a old-growth forest—a forest that has never been logged—is something else entirely.

¹ "The Benefits of Trees," *Canopy*, <https://canopy.org/tree-info/benefits-of-trees/> (accessed 2/16/21).

² As quoted in "How Do Trees Reduce Noise Pollution?" *Plenty Magazine on Treehugger: Sustainability for All*, November 8, 2018, www.treehugger.com (accessed 2/16/21).

³ USDA National Agroforestry Center, "Buffers for Noise Control" in *Conservation Buffers* at https://www.fs.usda.gov/nac/buffers/guidelines/6_aesthetics/4.html (accessed 2/16/21).

- ✦ The Eastern white pine is a favorite tree choice of Bald Eagles in which to build their nests.
- ✦ All parts of the Eastern white pine are non-toxic: nuts, pollen, and needles, all of which are rich in Vitamin C and can be eaten.
- ✦ The Haudenosaunee (“People of the Longhouse,” aka Iroquois) call the Eastern white pine the Great Tree of Peace. Bundles of the trees 5 needles represent the Iroquois Five Nations Confederacy—Mohawk, Oneida, Onondaga, Cayuga, and Seneca—an alliance, stretching across the territory now New York, founded in about 1200 A.D. (the Tuscarora joined the Confederacy in circa 1720, resulting in the Six Nations Confederacy) pledging not to war with other members of the confederation.
- ✦ In lumbering days, the Eastern white pine was known as ““Monarch of the North” as it served as “the backbone of the industry.”
- ✦ The Eastern White Pine is the state tree of Maine as well as Michigan.

A Tourist's Testimonial

*Between every two pine trees there is a door leading to a new way of life.*⁴

—John Muir (1838 – 1914)

Tree-Tripping

Have you ever experienced an old-growth forest? Consider what is meant by “old-growth forest.” According to Michael Henry, in addition to the lack of disturbance (and he emphasizes lack of *human* disturbance), another type of definition of an old-growth forest (and he discusses four definitions in total) would be forests that:

“. . . emphasize stand development, in particular climax forest—that is the forest is in a stable state where trees are dying of old age and being replaced, and may continue to be stable for centuries.”⁵

Visiting an old-growth forest and its quiet is an experience that belongs on the proverbial Bucket List.

Are there any old-growth forests near you?

- Try searching the Internet using the phrase “old-growth forest near me.”
- Peruse Wikipedia’s “List of old-growth forests,” an incomplete list of “existing old-growth . . . forests, or remnants of forests of at least 10 acres” in the entire world.

If you jump to the “United States” section of the entry, you’ll find an alphabetized

⁴ Marginalia written on p. 55 of Muir’s copy of volume I of *Prose Works* by Ralph Waldo Emerson as reported in the essay “Me, Muir, and Sierra Nevada” by Albert Saijo in *Reinhabiting a Separate Country: A Bioregional Anthology of Northern California*, edited by Peter Berg (San Francisco, CA: Planet Drum Foundation, 1978) and tracked down by Dan Styer of Oberlin College and posted on “The Quotable John Muir,” January 8, 2013, <https://isis2.cc.oberlin.edu/physics/dstyer/Muir/QuotableJohnMuir.html> (accessed 7/13/20)

⁵ Michael Henry, “What Is Old-Growth Forest?” *Ancient Forest Exploration & Research: journeys in ancient and old growth forest*, February 24, 2015, <http://www.ancientforest.org/about-afer/> (accessed 11/02/20).

listing of 34 states containing old-growth forests. (Note: The list is incomplete to the degree that this listing only includes 3 of Michigan's 12, but it's a start.)

- Research to discover what trees you should expect to find in your old-growth forest. In the Great Lakes region, for instance, this is what I would expect:

The Great Lakes forest region is a bioclimatic zone between the northern boreal forest and the eastern deciduous forest of North America. Relatively warm, dry conditions prevailed during the first half of the Holocene, at which time pines (*Pinus* spp.) and oaks (*Quercus* spp.) were more prominent than during the second half. The contemporary Great Lakes forest is dominated by sugar maple (*Acer saccharum* Marsh.) on optimum sites, but almost 50 other tree species occur over the spectrum of sites . . . encountered throughout the region.⁶

- Prepare yourself to be able to identify at least the dominant tree species by packing a good tree identification guide.

⁶ TJ Carleton, "Old growth in the Great Lakes Forest," *Environmental Reviews*, March 2011 (DOI: 10.1139/a03-009), https://www.researchgate.net/publication/237154382_Old_growth_in_the_Great_Lakes_forest (accessed 11-03-20).

Tree Dreams

- 🔗 Eastern white pines—the state tree of Michigan—are easy to identify because of their cluster of 5 needles. If you live within the range of the Eastern white pine, can you find one growing?
- 🔗 What is your national tree? (U.S. has the oak; Canada has the maple.)
- 🔗 What is your state, territorial, district, or provincial species of tree? (Nunavut is the only territory of either Canada or the U.S. that does not have such a tree.)
- 🔗 Can you find a specimen of your national and your state/territory/district of provincial tree you identified above?
- 🔗 Have you considered planting one of these trees in your yard or, if that is not feasible on municipal, state/provincial, or national land that offers a tree planting program?

Tree's Big Idea: NEEDLES

Conifers are cone-bearing “evergreen” trees. Instead of having broad leaves that fall annually, conifers have either scale-like leaves that last 1 or 2 years or needles that last 3 or 4 years. As well as pines, conifers with needles include fir, spruce, hemlock, and larch (aka tamarack). Other conifers, those with scale-like leaves include: cedar, cypress, and juniper.

The needles of conifers serve all of the same functions as a deciduous tree’s leaves do. Needles absorb sunlight, performing photosynthesis as they “inhale” carbon dioxide and “exhale” oxygen, cleaning our air and allowing us to breathe.

Conifers evolved about 250 million years ago in a time when earth's climate was getting colder and drier, developing a seed "protection system" in the form of cones that allowed seeds to survive until there was enough moisture for them to take root and developing needles with a thick waxy coating in order to retain more water.

The additional advantages of needles⁷, over leaves, include:

- Needles—lasting three or four years—are not shed seasonally so they can capture sunlight for the entire year.
- Needles can survive ice and snow unlike leaves.
- Needles have a lower wind resistance than big flat leaves, so their trees are less likely to be blown over in storms.
- Needles are tough for insects to eat.

⁷ "Why Do Some Trees Have Needles," *Friends of Trees*, August 10, 2014, <https://friendsoftrees.org/blog/why-do-some-trees-have-needles/> (accessed 11/03/20).