

Why a Tree Plantation Is Not a Forest

A forest is so much more than just trees. It is a complex network of life teeming with a rich diversity of species, whereas a tree plantation is a simplified ecosystem where conifers are monocropped like corn.

Before a tree plantation is planted, an area of forest is clearcut, where every tree is chopped down. The area is then burned to eliminate vegetation that would compete with the growth of conifers.



Photo Wikimedia Commons

A forest contains a rich diversity of species.

In the fire, the ecosystem loses the seeds and seedlings of new growth. It loses the tangle of vines, shrubs and herbs that provide places where birds and mammals can hide themselves and their young from predators. It loses wild flowering plants that provide pollen and nectar for pollinators, such as bees, butterflies, beetles, moths, wasps, butterflies and flies. And it loses seeds, fruit, insects, buds, berries and foliage that provide food for an abundance of species.

In the fire, the ecosystem loses rotting logs that provide eggs and larvae for birds, nesting cavities for squirrels and warblers, as well as nutrients needed for new growth.

And as the land is burned, the fire often consumes the rich black humus in the soil that may have accumulated for centuries, as well as the eggs and young hidden in cavities, lairs, dens and other nesting places.

What is left is sterilized soil, devoid of living organisms such as bacteria, molds, fungi, lichens, mosses, ferns, springtails, mites, worms and burrowing mammals. It will take many years for these soil organisms to be reestablished. Without them, the forest litter may not decay as it falls and stumps may not rot at once as they would on land that has not been slashed and burned.

And without life in the soil or the nutrient-rich humus, the land may produce only one-log or two-log trees rather than three-log and four-log trees—and sometimes trees will not grow at all, no matter how many times they are replanted.

This light burning of a section of a forest scars trees, increasing both rotting and the flow of resin, which makes fires more intense, according to Aldo Leopold, a forester, ecologist and author. This all increases the impact of wood boring insects and lowers lumber grades, he said.

The new tree plantation that is planted won't have deciduous trees with

their fallen leaves that decompose into a nutrient-rich humus supporting numerous soil organisms.

It all means a profound loss of biodiversity that upsets nature's balance. Natural predators that would keep insects in check are missing, which means pesticides must be sprayed to keep pest outbreaks from consuming the leaves of the trees.

Chemicals are also often sprayed to halt the growth of broadleaf foliage. Researchers with the U.S. forest Service carried out a study in 1982 to find out if deer will eat foliage that is coated with herbicides. They tested 61 forest herbicides and found that not one prevented the deer from browsing.

In another study of a forest where the herbicide glyphosate was used to suppress broadleaf growth, researchers found that population of small mammals were less abundant for three years.

With our vast consumption of forest products, humans are creating a world hostile to other living creatures.



Photo courtesy of U.S. Fish and Wildlife Service

The U.S. Forest Service found that deer continue to eat foliage after it gets soaked with herbicides.