Life Cycle of a TREE

MATURE TREES

are like animal apartment houses. At the top, a tree's branches provide homes for birds and many insects. In the middle, a mature tree's woody trunk provides food for a variety of insects as well as a site to lay their eggs. At the bottom, the roots provide a support system for burrowing animals such as chipmunks and other small mammals. The berries and nuts of mature trees serve as food for animals like squirrels, deer and turkeys. As a mature tree passes its prime and reaches its life expectancy, transpiration and growth rates slow down.

Trees eventually die or are killed by disease, fire or insects. But even dying or

DEAD TREES

are very valuable for animals. Many insects feed on the dead wood and woodpeckers feed on the insects. Old woodpecker nest cavities provide a hiding place from predators, a place to raise young, as well as protection from the weather for squirrels, bats, owls, wood ducks and more.

Young saplings must compete with other trees and plants for sunlight, nutrients, water and space. At this point in their lives trees play a critical role in keeping our air and water clean. They are transpiring water and oxygen and absorbing carbon dioxide at their highest rate and their rapidly growing root systems help prevent soil erosion and absorb more nutrients and minerals from the soil than older trees do. Some

SAPLINGS

begin to provide food for birds and mammals, and they provide nesting sites for some types of songbirds.

When a dead tree falls, its nutrients are recycled back into the soil through decomposition. Termites, sowbugs and beetles feed on the rotting wood. Other insects, such as centipedes and spiders, feed on the sowbugs and other scavengers that feed on the decaying log. Mice, shrews, snakes, lizards, frogs and salamanders live under fallen logs because they find protection from predators and harsh weather here. If large enough, animals such as a bear may even use

FALLEN LOGS

as a winter den.

Trees, like all living things, have a life cycle that includes birth, growth, aging and death. Along the way, they face risks of injury from animals, fire, insects and disease. As trees go from birth to death, their physical form and their role in the ecosystem changes. Throughout the cycle, trees provide the raw material for more than 5,000 products that we use every day.

By looking at the annual growth rings in a tree's cross section, one can learn about past influences on tree growth such as crowding, fire, drought or disease and about changes in the environment. Growth rings in a living tree can be examined by taking a core sample from the tree.

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Some trees sprout from the stump or roots of a parent tree, but most begin as

SEEDS.

The majority of a tree's seeds will be destroyed by fungi or other decomposers, eaten by birds or mammals or fall to places where they cannot grow. When those seeds that are lucky enough to survive germinate and begin to grow, a tree is born.

As part of the forest community,

SEEDLINGS

run the risk of being trampled on by animals. This tender growth also provides excellent browse for deer. Only a small portion will still be alive a year later.