

The Value of Dead Trees

Both living and dead trees support a complex community from sharing a vast array of insects, pathogens and fungi to providing important wildlife resources - food, food storage, shelter, lookouts, singing and display perches, hiding, and nesting sites. Dead trees simply cater to a different set of smaller creatures and birds. The importance of dead trees is not restricted to highly wooded areas. Lynnfield is a treed town that can benefit by recognizing dead wood as one of wildlife's greatest resources in our own backyard.

The softwood of decaying trees is part of a gradual transformation within a healthy ecosystem.

- What kills a specific tree can be largely genetic, though there are other 'normal' paths to death, such as lightning strikes, droughts, too much water, severe wind anomalies, infections or the failure of a key life component.
- Snags are the support structure for perches and roosting with the soft wood inviting cavity excavators to build a home.
- Birds of prey choose standing dead trees from which to hunt for rodents.
- Bluebirds, flycatchers, woodpeckers, nuthatches, swallows, owls, bats and more find homes here.
- Small mammals make dens, store food and escape predators in cavities.
- The thick bark of white pine and oak are also fire-adapted. If they die from a very hot fire or lightning this renders them extremely rot resistant and the trunk can stand for 50 years.
- Anaerobic conditions created by flooding preserves the root system so snags within water can last for decades.

Damming of a stream by beavers has created this pond with the subsequent flooding creating a habitat for nesting birds from white pine snags.



As dead trees progress toward total decay rotting logs benefit a different niche.

- Fallen logs are used as ground lookouts, feeding and nesting cover for reptiles, invertebrates, and amphibians.
- When trees fall across a stream, other species benefit by the decreased water flow. Certain salamanders, in particular, sit and feed on shrimp floating by.



A familiar sight in naturalized areas are turtles basking on a dead tree that has fallen into a pond. The activity is not an indulgence but is necessary to maintain the turtle's body temperature, produce vitamin D and keep control of parasites and other microbes. The logs help the turtles maintain their health and in turn, turtles help maintain healthy water bodies by consuming algae and other organisms.

Upon death of a tree, water, microbes, mosses, lichen and fungi begin the process of decomposing it.



- Wood is turned into a rich substrate that nourishes seedlings; as erosion continues, nooks and crannies develop and anchor the growing plants. Raised above the ground, seedlings are protected from more intense ground competition from other plants.

- Not all trees decay the same way; Conifers rot from the outside in and oaks from the inside out.

- Not all trees decay at the same rate; Hardwoods such as our native birch, maple, and beech rot much faster, in as short as 25-30 years, while the heartwood of white pine

resists decaying by containing toxic substances to insects and fungi thereby extending the time it takes to break down.

- Most of the moss-covered stumps seen in the forest are from conifers as this plant takes many years to take hold.

- Downed trees known as nurse logs provide nourishing and protective germination sites for the next generation of trees and other plants.

- Nurse logs not only nurture seedlings but provide habitat and sustenance from microbes to mammals: insects, birds, turtles, mice, chipmunks, squirrels, deer, snakes, frogs, toads, deer, skunks, salamanders, fox, and coyotes.



Dead trees are an integral link to the regenerative process of woodlands.

- Other benefits dead wood provides include storing atmospheric carbon to lessen greenhouse gases and stabilization to prevent soil erosion.

- As part of the Massachusetts “Forests as Climate Solutions” Initiative, the Climate Forestry committee has specifically stressed the importance of natural disturbances and recommended, when possible, dead trees should be left on the ground for diversity benefits and not removed.

- Abnormal death factors are directly related to human activity such as air and water pollution, habitat degradation, or machinery that compacts the soil and/or injures bark.

- Natural decomposition can be welcomed everywhere by leaving standing dead wood and fallen logs for them to contribute to a robust ecosystem when all of Nature is being threatened.

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