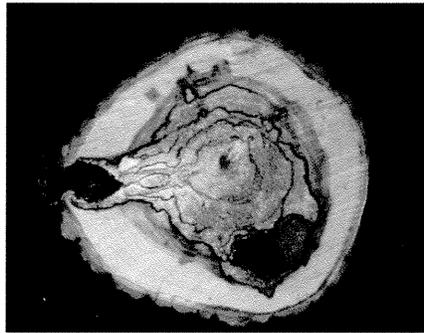


DEAD TREES BRING LIFE TO FOREST CRITTERS

by Thomas Nicholls and Mike Ostry



A conk of the white trunk rot fungus on an aspen with holes in the tree made by a woodpecker working at a potential nesting cavity. (Photo by Thomas Nicholls)



A cross-section of an aspen tree with white trunk rot reveals the soft, decayed wood that woodpeckers can easily excavate. (Photo by Mike Ostry)



A boreal owl in a cavity made by a pileated woodpecker. (Photo by Bill Lane)

What good is a dying or dead tree in a forest? Dead and dying trees don't awe us with their beauty; they just stand or lie there on the forest floor, offering no promise of lumber or other wood products we need. But if we look more closely at such trees, we may see lots of life in them: a raccoon family huddled in a burrow, a downy woodpecker excavating another nesting cavity. In fact, in the United States, dead and dying trees provide food, water, shelter, and living space for at least 30 percent of our birds, mammals, reptiles, and amphibians. How dead and dying trees help forest critters live is an intriguing story.

Of course, we need healthy trees to provide the many renewable forest products that we use to create our own comfortable habitats and communities. We go to great effort to keep our trees as healthy as possible for economic and aesthetic reasons, but we are beginning to learn that healthy trees alone do not make a healthy forest ecosystem. Dead and dying trees are crucial to maintaining biological diversity and, thus, a healthy forest by creating habitat for a wide variety of species. Research studies have shown that more than 120 species of birds, 140 species of mammals, and 270 species of reptiles and amphibians nest or forage in dead wood. Fish, plants, fungi, insects, and numerous other life forms also depend on habitat resources supplied by dead and dying trees. The death of a tree is not the end to its usefulness in a forest ecosystem. Let's follow, for example, the remarkable life cycle of a trembling or quaking aspen tree as it grows, declines, dies and brings life to many wildlife species.

Aspen Trees Quake with Wildlife

Aspen, the most widely distributed tree in North America, was once considered a "weed" species. Then researchers showed it to be one of the most remarkable and important trees in our Lake States forests not only for fiber and solid wood products, but also for its aesthetic value and use by wildlife.

Aspen trees grow quickly and have a short life span.

In aspen, wood decay fungi produce living and dead trees of high value to wildlife since they enable cavities to be made by woodpeckers more quickly than in other hardwood trees such as maple and oak.

Healthy aspen stands in the Lake States begin to deteriorate rapidly when they reach 50 to 80 years of age largely because of infection by wood-decaying fungi. Thus, many aspen stands are harvested around 40 years of age, before they start to decay and while it is still economically feasible to harvest them. However, removing most or all young, healthy aspen may deprive many local wildlife species of future older, declining trees they depend on for shelter and food.

An outward sign of one type of aspen decay, called *white trunk rot*, are hoof-shaped conks, dark above and light brown below, that fruit on the trunks of infected trees. This disease causes more loss in aspen wood volume than any other aspen disease and greatly reduces its economic value as a source of fiber, but it greatly increases its value to some wildlife.

The presence of fungal conks on aspen may give woodpeckers a visual cue that these trees have a soft core in which the birds can excavate nesting cavities. Woodpeckers, who are primary cavity nesters, start pecking on decayed trees around these conks where the wood is decayed, enabling them to easily remove wood chips as they go about excavating cavities.

Most woodpeckers choose to excavate a new nesting cavity each year. The nesting cavities they vacate attract a variety of secondary cavity nesters such as black-capped chickadees, red- and white-breasted nuthatches, tree swallows, bluebirds, house wrens, saw-whet and boreal owls, and red and flying squirrels, some of which use them for nesting or shelter for several years.

Sometimes a single decayed aspen tree will contain several nesting cavities, a true "critter condo" in all respects. Several bird and animal species often occupy these trees at the same time. Larger wildlife species, such as the pileated woodpecker and saw-whet and boreal

ASPEN CAVITY NESTERS

owls, require larger aspen, usually older than 80 years with diameters of 12 to 16 inches or more. Smaller birds and animals can make do with smaller diameter trees.

After an aspen dies, it usually falls over within 5 to 10 years as fungi decay its roots. Once on the forest floor, it provides a home for a wide variety of life including salamanders, shrews, mice, earthworms, insects, and fungi and it often serves as a drumming log for ruffed grouse. The decaying wood, in turn, provides the soil essential nutrients to regenerate the forest.

As we come to more fully understand the remarkable life cycle of trees, we see just how much good dead and dying trees can do in a forest. So, the next time you think of cutting down a dead or dying tree, unless it's a hazard to human life or property, why not consider leaving it for use by all of those hundreds of critters that seek LIFE in dead and dying trees?

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Primary Cavity Nesters

Red-knapped sapsucker
Yellow-bellied sapsucker
Northern flicker
Downy woodpecker
Hairy woodpecker
Red-headed woodpecker
Red-bellied woodpecker
Pileated woodpecker

Secondary Cavity Nesters

Tree swallow
House wren
Mountain bluebird
Eastern bluebird
Western bluebird
Mountain chickadee
Black-capped chickadee
Saw-whet, boreal, and screech owls
European starling
Red and white-breasted nuthatches
Red, gray, and flying squirrel