



The Outside Story

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WITH ILLUSTRATIONS BY ADELAIDE TYROL

**local writers explore the nature
of New Hampshire and Vermont**



Rotten Luck: On-Site Recycling

Dan Lambert

The autumn wind and rain have stripped the hardwoods of their leaves, exposing the messy innards of our forests. From the roadside, travelers can glimpse a rotten stump poking up through the leaf litter, an aspen snapped in two over a stone wall, or the crown of a hemlock trailing in the stream that washed away its footing. White birch branches lie scattered like bones in the shade of longer-lived species. Roots that once traced dark passages through the soil point accusingly at the sky.

It may seem a waste to allow a tree to succumb to competition, old age, disease, or extreme weather. It offends our Yankee sensibility to stand by as it collapses and disappears into the duff without having framed a house, fed a woodstove, or supplied a paper mill. Yet it is the very process of decay that ensures the vitality of the forest overall, providing countless benefits to plants, wildlife, and people.

Standing dead trees, called snags, and other coarse woody debris (CWD) provide foraging opportunities, shelter, and travel-ways for wildlife. Decomposing wood also plays a significant role in maintaining animal, plant, and soil productivity, with the material's size,

position, and stage of decay determining the contribution of CWD to the forest's health.

The diverse organisms that inhabit snags make certain that nothing goes to waste. Dead wood harbors a thriving community of fungi, bacteria, and wood-destroying critters such as bark beetles, borers, sawyers, and carpenter ants. Woodpeckers feed on these insects, and the nest cavities excavated by woodpeckers are re-used by owls, tree swallows, wood ducks, and squirrels for nesting and breeding. Chickadees and nuthatches, cavity-nesters themselves, find shelter in snags on frigid winter nights.

On summer days, woodland bats dangle from their feet in tree hollows and beneath strips of sloughing bark. A grove of flaking snags with southern or southwestern exposure may provide a warm microclimate for a bat maternity colony. In such a grove, brown creepy bats could find themselves jockeying for space with bona fide brown creepers, diminutive songbirds that nest behind loose bark. They might also encounter competition from chimney swifts, which nest in open-topped snags and resemble bats in their aerial foraging behavior.

When a snag starts to break apart and fall to the ground, it adds structure to the understory in the form of stumps, leaning stems, downed branches, and sometimes upturned root systems. Each of these features presents an opportunity for one species or another. Chicken-of-the-woods sprout from decaying stumps in a wrinkly, fanlike form. This fungus is edible when cooked, unlike deadly *Galerina* and wolf's milk slime mold, two other decomposers that colonize stumps but bear less-appetizing names.

Leaning stems provide white-footed mice and ermine access to food and cover in the upper layers of the forest canopy. Together with downed branches, fallen stems serve as runways over stone walls, across streams, and beneath the snow. The root balls of toppled trees feature nooks and crannies that shelter winter wren and yellow-bellied flycatcher nests. But for cover and concealment, rotten logs take the prize.

Anyone who has turned over a log in an advanced stage of decay has discovered a cool, moist refuge, safe from the extremes of heat, drought, and even low-intensity fires. Occupants of this niche include tree-supporting mycorrhizal fungi, worms, sow bugs, and the most abundant terrestrial vertebrate in New England, the red-backed salamander. Studies conducted in hardwoods of New Hampshire and New York have shown that this four-inch amphibian accounts for more biomass per acre than any other vertebrate. Females of the species suspend grapelike egg clusters from the bottom of decaying logs or from the roof of a small cavity within the log.

Just as animal life begins beneath and within logs, plant life springs forth on top. Mosses and liverworts carpet spongy logs, gaining advantage from the moisture and steady release of nutrients. Yellow birch seedlings also flourish on "nurse logs." Stilt-like roots on older

birches provide evidence of this regeneration strategy.

If you care for your own woods, resist the urge to tidy up. Instead, ensure a continuous supply of snags and CWD in various stages of decay. Although a variety of CWD is important, keep in mind that larger material lasts longer, holds more moisture, and will be used by more organisms over the course of its decomposition. When cutting trees, avoid disturbing or damaging fallen logs and be sure to retain a few snags. Delimb, top, and buck trees on site, so as to leave CWD scattered throughout the woods rather than concentrated at landings. Finally, retain any windthrow on steep slopes and in riparian areas to stabilize soil, control runoff, and guarantee a long-term, moderate supply of CWD to streams. By following these guidelines, you will achieve a true Yankee woodlot, where nothing goes to waste. ~



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Leslie Bowen and I keep track of 350 pigs, and 120 chickens, in Rochester, Vermont. For me, it has also been on the trail of a mountain lion.

She's seen mountain lions in northern Arizona two years before moving to Vermont. She says she has no doubt about the mountain lion on North View Drive one morning in 2003.

"It stood between knees, tawny colored, had a big, long, thick, graceful tail," she said. "It looked at me for a few seconds, then casually, slipped into the woods."

Since then, Bowen and her neighbors say they've seen a mountain lion hanging out of a barn full of hay through drivers' headlights during a basketball game.

Felis concolor—an ungulate predator—variously as cougar, puma, panther, and, here in New England, as the cat-of-the-mountains. It was introduced to North America from coastal California at the beginning of the 1900s.