

Save That Snag!

A "snag" is a standing dead tree or a large dead portion of a living tree. Snags provide habitat to innumerable organisms including fungi, insects and other invertebrates, and land animals such as amphibians, reptiles, birds, and mammals.

There is a misconception that forest health is negatively affected by diseased, dying and dead trees. On the contrary, the presence of snags is an important component of natural forest ecosystems. Snags provide a steady supply of nutrients to the forest as they decay.

Why Are Snags Important?

Probably the single most obvious reason for a landowner to preserve snags is because they provide habitat for birds. Some birds, such as sapsuckers and woodpeckers, excavate their own nests in snags (primary cavity nesters). Other birds occupy abandoned nests or natural cavities (secondary cavity nesters). These secondary nesting birds comprise up to one third of the breeding birds found in some forests.

Most cavity-nesting birds consume large quantities of insects each year. There is evidence that "biological control" by these birds can help keep populations of potentially damaging insects, such as bark beetles, below epidemic levels. Insect outbreaks often attract cavity nesting birds.

Snags are used in numerous other ways. Woodpeckers and sapsuckers communicate by "drumming" on dead branches. Squirrels and other small mammals use dying and dead trees as foraging sites, to store winter food supplies and for roosting and denning. Bats use loose bark and hollow tree trunks for roosting. A myriad of insects use dead trees as overwintering sites; some consume portions of dead trees, contributing to the decomposition process.

The death and eventual falling of trees provide forest openings that encourage regeneration of shrubs, trees and grasses. This leads to improved habitat for species such as deer and small mammals.



Snag Management Guidelines

Ecological stewardship should include preservation and recruitment of snags for the benefit of wildlife and long-term soil productivity. Landowners must weigh many factors when managing for snags, including fire hazard, hazards posed to developed areas and trade-offs of productive forestland for benefits other than timber production.

- There is little reason to remove snags from a forest provided they are not posing safety or fire hazards.
- In general, it is most beneficial to provide a wide range of snag species and size classes. Both coniferous and hardwood snags are useful to wildlife.
- Snags should be well-distributed because of the territorial requirements of cavity-nesting birds. Clumping of snags in small patches has been shown to benefit some species, especially Pileated and Red-Headed Woodpeckers.

- Snags in forested stands, away from forest edges or open areas, are less susceptible to blow-down.
- Large diameter snags are the most valuable. They stand longer and provide habitat for birds which require large trees to nest. Large snags can often be substituted for smaller ones to meet habitat requirements but the reverse is not true.

Bottom Line

Snags have become increasingly scarce in our forests, to the detriment of forests and wildlife. Without management to preserve and recruit large trees that eventually become snags, important wildlife may disappear from our forests. A landowner may find it useful to work with neighbors in trying to preserve and recruit snags. Even one large snag over an area of several acres can provide significant benefits.

Tips for Creating Snags

- Snags may be created from living trees if there is a shortage of safe natural snags. Created snags can be expected to last for a long period of time. Poor quality or deformed trees, such as those with broken tops or large branches, make excellent snags.
- Snags can be dangerous so locate them well away from trails, roads, buildings, and other structures.
- Select both conifers and deciduous trees for snag creation. The larger the tree, the better.
- Top or girdle trees at or above the first whorl of branches, but at least 14 feet high (ideally, much higher). Smaller trees may be useful for some cavity nesters, as are stumps which are at least 3 feet high.
- A jagged top will decay faster and supply more habitat than a smooth-topped tree.
- Large branches, extending at least 2 feet out from the trunk can be cut to create foraging habitat on live trees not intended to be used as snags.
- Roosting slits and cavity starts may be added to created snags at the time of topping or girdling. However, do not put these features, or bird boxes, on existing snags.
- Roosting slits may be used by most bats and some birds. The slits should be at least 8" deep and 2" wide, and angled sharply upward into the cambium layer.
- Cavity starts all allow decay-causing fungus to enter the tree wound. These cavities may be used by flying squirrels, swallows, kestrels, and small owls. They should be at least 6" deep and 4" high. In time, as rot progresses, these cavities may be used by a large variety of cavity nesters, such as pileated woodpeckers, nuthatches, and chickadees.
- Bird boxes of varying sizes will host many species, such as wood ducks and swallows. They can be erected in most forest stands depending on target species and stand characteristics. Bird boxes, however, do not replace the need for snags.

Adapted from Bill Laudenslayer, Research Wildlife Biologist, USDA-Forest Service, Pacific Southwest Forest and Range Experiment Station, Fresno, CA. Also from the Backyard Forest Stewardship, Washington State Dept of Natural Resources.