United States Department of Agriculture
Natural Resources Conservation Service

# Animal Enhancement Activity – ANM15 -Forest Stand Improvement for Habitat and Soil Quality

**A recent thinning creates downed wood and opens the stand which will increase forest understory growth and diversity. Two to 3 live trees per acre will be girdled to create snags based on community phase data in the Ecological Site Description. About 1 to 2 snags per acre are already present. Den/cavity trees have been retained throughout the thinned area.**

## Forest Stand Improvement - Habitat and Soil Quality

This enhancement consists of the creation of snags, den trees, and coarse woody debris on the forest floor to a level optimum for native wildlife usage and long-term forest soil health. It may be implemented during thinning or harvesting or it can be implemented separately.

## Land Use Applicability

This enhancement is applicable on forestland.

## Benefits

The natural abundance and distribution of snags, den trees (trees with cavities) and coarse forest floor wood have been altered by decades of land conversion, fire suppression, and timber and firewood harvest. Creating an optimum level of such materials provides nesting and hiding cover and substrate for bird, mammal, reptile, and amphibian species while also providing the insects and detritus on which they feed. Downed wood is a preferred growing medium for various species of bryophytes, lichens, and fungi. Rotting wood found on the forest floor and later integrated in the soil surface layer by decomposition provides seedbeds for a variety of tree, shrub, and herbaceous species as well a rooting medium that retains moisture during dry periods.

## Criteria for Forest Stand Improvement - Habitat and Soil Quality

This enhancement requires:

- Creation of snags
- Downed wood
- Suitable den/cavity trees distributed throughout the area being treated.

The levels and distribution of materials must be equal to levels found in similar natural community phases indicated in the correlated Ecological Site Description (ESD).

If a suitable ESD has not been developed, NRCS State Offices will develop an example site description that defines the number of snags, the amount of downed wood and number of den trees expected per acre.

This enhancement is implemented mainly by managing existing live trees, dead snags and woody debris. It may be implemented during thinning or harvesting operations or may be undertaken separately. Refer to Conservation Practice Standard Forest Stand Improvement-666 for criteria on the creation of snags, den/cavity trees, and downed wood.

**Documentation Requirements for Forest Stand Improvement - Habitat and Soil Quality**

Following implementation of this activity, the landowner must document:

- The average number of snags per acre
- An estimate of percentage of the forest floor covered by downed wood.
- The average number of den/cavity trees per acre
- Delineations on a map or aerial photo of the areas having the distribution of snags per acre, percent cover downed wood, and/or den/cavity trees per acre
- Representative digital pictures of snags, downed wood, and den/cavity trees

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# NH State Supplement
# Animal Enhancement Activity – ANM15 -Forest Stand Improvement for Habitat and Soil Quality

***Criteria for Forest Stand Improvement - Habitat and Soil Quality***
This enhancement requires:

- **Creation of snags**
  - A minimum of four snags (6" dbh or larger) will be created per acre. Emphasis should be given to tall trees with large diameter as these provide the greatest amount of available habitat to the greatest number of species. The primary method for snag creation will be girdling (see additional information at end). Do not girdle live den or nest trees or trees that are providing important mast (food) such as beech and oak trees.
- **Downed wood**
  - A minimum of four logs (6" dbh or larger) will be felled per acre. Emphasis should be given to tall trees with large diameter as these provide the greatest amount of available habitat to the greatest number of species. Do not fell snags, live den or nest trees or trees that are providing important mast (food) such as beech and oak trees.

- **Suitable den/cavity trees distributed throughout the area being treated.**
  - Maintain all den, nest and cavity trees. Manage forest so that some large trees are maintained past the rotation age. These large trees will provide the best potential nest and den trees. Den trees can be encouraged through crop tree/mast tree release which provides accelerated canopy expansion and development. The large branches that are favored with this practice may develop into suitable cavities for wildlife.

**Definitions**

**Snag** – Includes standing dead or partially dead trees which are at least 6 inches diameter at breast height (dbh) and 20 feet tall. ("Stub" if shorter)

**Den Tree** – A live or dead tree of any diameter containing a natural cavity or exfoliating bark used by wildlife for nesting, brood rearing, hibernating, roosting, daily or seasonal shelter and escape.

**Mast Tree** – Species which provide seeds/nuts and fruits. While almost all trees produce fruits or seeds used by wildlife for food, there are some species in Vermont that are especially important. They include oaks, beech, black cherry, and hickories.

**Nest Tree** – Trees containing large nests built by crows and hawks that resemble a platform of sticks from the ground (2-3 feet diameter). These may be used by owls or re-used by hawks.

**Coarse Woody Debris or "Downed Wood"** – Live or dead woody on the forest floor that is at least 4 inches in diameter and 6 feet in length.

**Girdling** involves the removal of bark and cambium from the target tree through the use of cuts that encircle the entire tree. Girdling destroys the cambium so no growth can occur and disrupts the flow of water and nutrients in the tree. To girdle a tree, remove a band of wood and bark all the way around the trunk. The band should include at least one-half inch of wood and be about two inches wide, if done with an axe. Girdling can also be done with a chain saw: two encircling cuts will be required, to a depth of one to two inches (See photo at right)