



## What is Forest Stand Improvement?

These pre-commercial treatments are implemented to improve forest stands for a specific purpose. Most often the objective is to improve timber, forest health and/or wildlife habitat. Trees within the stand that are desirable species, age class and form are retained and favored while those competing with these trees are “culled” (i.e. cut or girdled). This releases the desirable trees from competition, increases growth rates and allows managers to shape the future forest.



**Examples of stand-wide thinning (left and bottom) provides growing space for the remaining trees.**

**Turkey (below) and other wildlife will benefit from increase in seed, nut and fruit production following treatments.**



Common approaches to forest stand improvement include thinning young stands, crop or “mast” tree management or release, and girdling. “Mast” is the seed and fruit produced by trees and shrubs and is an important food for many species of wildlife. **Thinnings** focus on removal of poor growing stock while retaining good trees evenly across the stand. **Crop or “mast” tree release** concentrates attention on individual trees with the greatest potential (timber, wildlife, etc.) by removing all or nearly all competing canopy trees. **Girdling** is typically completed on poor quality and large overstory trees to release desirable regeneration, provide growing space to desirable trees, and to create snags for wildlife. Girdling involves the removal of the bark and cambium through the use of cuts (typically from chainsaw) that encircle the entire tree.

## Why is it important?

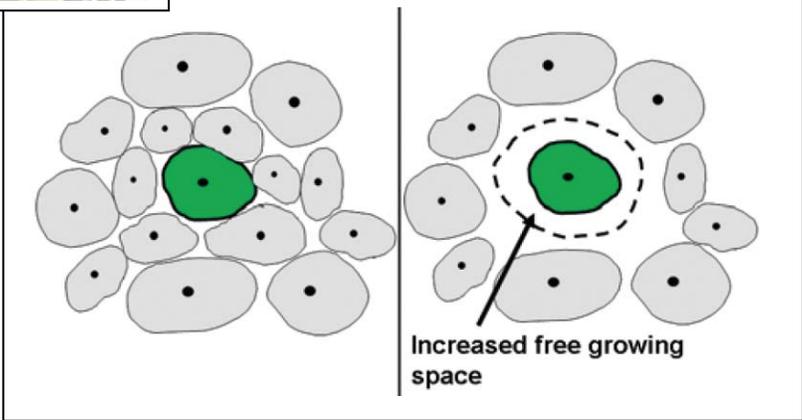
Forest stand improvement allows landowners to help meet their objectives for their forest land. First, this treatment can increase diameter growth rates and crown expansion by reducing competition for the target trees. This can help trees grow to sawlog size more quickly as well as produce more hard and soft mast (nuts, seeds and fruit). Those interested in increasing available food for wildlife will find significant increases in mast from released trees.



Forest health also benefits from these treatments as poor formed, unhealthy or diseased trees are culled to give additional growing space to the healthy trees. These treatments will also allow the landowner to maintain important tree species that might otherwise be lost without management. As young stands transition to older stands, trees that need full sunlight to persist may be crowded out. Implementing forest stand improvement will allow the landowner to maintain valuable timber and wildlife species (e.g. paper birch, red oak, and black cherry) on their woodlots as the forest matures.



**A black cherry crop tree (far left) was released from crown competition. There will be increased fruit (left) for wildlife and diameter growth in timber.**



**Diagram: Crop tree crown in green is shown from above the canopy. Left diagram shows heavy crown competition. Right diagram shows increased free growing space after crown touching release. Six competing trees were removed from around the crop tree.**

SREF-FM-011

## What can I do?

Work with a forester or land manager to determine if forest stand improvement is appropriate on your woodlot. The USDA Natural Resources Conservation Service (NRCS) has various programs available that can provide the help of a professional resource manager and funding assistance for habitat improvement and forestry practices to help you meet your goals. Vermont NRCS has a strong focus on forest management due to its importance in the state. NRCS partners with the Vermont Department of Fish and Wildlife and Vermont Department of Forests, Parks and Recreation to work with private landowners to improve habitat and forest management on their lands.

**For more information visit the NRCS web site - <http://www.vt.nrcs.usda.gov/> Or call your local USDA Service Center in the phone book under U.S. Government, Agriculture Dept.**