

Forest Stand Improvement

What is forest stand improvement?

Simply put, stand improvement is a treatment, or action, that improves the growth of your best trees and removes any trees that are in their way. If a typical forest starts out with 2000+ trees per acre and at maturity may have 100 trees per acre, it would be beneficial to ensure that those 100 residual trees are of the highest quality possible. An Individual trees growth rate can also be increased, in many cases doubled from 2.5 inches in diameter per decade to 5 inches. It would make sense to grow a mature tree in 50 years instead of 100 years.

How does stand improvement work?

In our region, the factor that most limits tree growth is access to sunlight. (In some cases, competition for soil, water and nutrients may also limit growth.) The simplest thing you can do to improve your forest is to make sure that your best trees have access to plenty of sunlight. Forest stand improvement improves the growth of desired trees by reducing their competition with other trees for sunlight. The trees that have the greatest potential to provide the values desired by the owner are the ones that should be retained and enhanced. The trees that have less potential and that compete with the desired trees should be cut.

Which trees should be cut?

The first time a forest is treated to improve growth, the trees cut should include undesired species, trees of poor form or health, trees of low vigor, or trees at risk for damage due to unstable branching patterns. The intensity of the stand improvement treatment--the number of trees cut per acre--will depend on several factors, including tree species, soil productivity, ownership objectives, labor and equipment availability, and more. To make sure you get the details right, contact your district forester. Once undesirable trees are removed from the forest, subsequent improvement treatments will require greater attention to the ownership objectives as the most desirable trees will have to be retained from among other semi-desirable trees.

Can I sell the trees that are cut?

Depending on the size and quality of trees being cut, the volume available, and local markets, you may be able to sell some or all of the cull trees. Selling trees from an improvement cut has the advantage of generating some amount of revenue.

Do I have to remove all of the trees that are cut?

In situations where there are few cull trees, trees of small size or poor quality, or no local markets for low-grade trees, the improvement cut will be noncommercial. In these cases, it's common for the forest owner to personally cut the trees, or to pay someone to cut the trees. Don't feel that you need to remove all of the cut trees; in our region there are seldom ecological problems associated with just leaving them on the ground. The cut stems form slash that benefits many wildlife species. Also, as these stems decompose, they release stored nutrients back into the forest soil.

Modified from: US Forest Service, State and Private Forestry – Northeastern Area Forest Stewardship Program