

FROM THE WOODS

Harvesting Trees

PENNSTATE



College of Agricultural Sciences • Cooperative Extension

AN EDUCATIONAL SERIES ABOUT FORESTRY FOR YOUTH

Pennsylvania has some of the most valuable forests in the United States. These forests are valuable for different types of wood products as well as for wildlife, clean air and water, peace and quiet, beauty, and recreation. Many of our society's needs depend on forests, so we must manage forests carefully to keep them productive. Because forests provide continuous benefits, they are considered "renewable resources." If your parents or other people you know own forested land, they are part of a large group of people. There are more than half a million individual forest landowners in Pennsylvania.

How big is that tree?



Trees are measured before they are cut to determine the amount of wood they contain. The tree's trunk diameter (A) and height (B) are measured to estimate the usable wood in a tree.

WHY DO WE HARVEST TREES?

Landowners may harvest trees from their forest for many reasons. They may want to

make a better place for wildlife. They may want more light on the forest floor. They may want to give trees more room to grow. They may need

money. These different objectives require landowners to think about many things before they decide to cut trees.

Harvesting some trees allows more growing space for the remaining trees and tree seedlings. A well-planned harvest focuses on the trees that are to remain rather than on the trees that are to be cut. These "residual" trees and seedlings will provide the forest benefits that future generations will enjoy, so it is important to choose them with care.

Harvesting can lessen competition for soil nutrients and sunlight. Trees grow bigger and more rapidly when other trees do not crowd them. Given enough space, a tree



A logging skidder in action.

can increase its crown, or tree-top, size. Large crowns allow trees to capture more sunlight and, through photosynthesis, produce more sugars to grow faster. Nature thins out a forest on its own. Good harvesting mimics nature, but speeds the process.

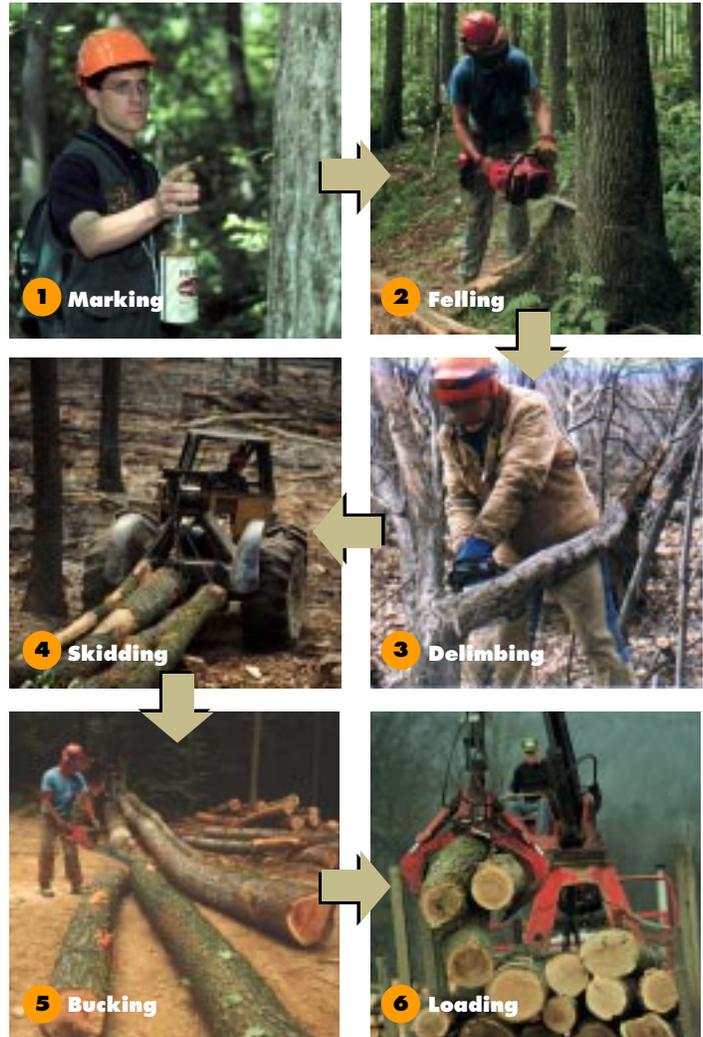
Harvesting also promotes the forest's good health. Trees can get sick. If trees get infected with insects or diseases, harvesting them is the best way to prevent the illness from

spreading and to protect the healthy trees that remain.

PROFESSIONAL ASSISTANCE

Landowners must make many choices about their forestland and how they want to improve it for the future. A forester can help landowners make decisions. Foresters measure trees for volume, quality, and growth rate. They write forest management plans. Foresters must make careful observations of not

The Harvesting Process...



Tools of the Trade

Safety is the number one consideration for professionals in the lumber industry, and the right equipment is essential.



only the trees, but also the soils, wildlife habitat, streams, and other important features in the area.

The forester's management plan might give a "prescription" for a tree harvest. Just like a doctor's prescription tells us what medicines to take to feel better, a harvest prescription tells what to do to keep a forest healthy and productive. Harvesting prescriptions describe which trees to cut to help landowners carry out their plans. Harvesting prescriptions also describe

how harvests should be conducted. Careful, knowledgeable planning is needed to minimize any negative effects on the surrounding environmental features and on the residual stand.

THE HARVESTING PROCESS

Following the guidelines of the prescription, the forester marks selected trees with paint. The paint shows a logger, the person who cuts the trees, which trees to cut and which ones to leave.

The forester and landowner work with the logger to help design roads, develop a harvest plan, and limit logging damage.

A system of roads provides access to the harvest area. When the harvest is finished, these roads can serve as hiking and skiing trails, or allow access for other recreation or future harvests.

Loggers use chainsaws and other special equipment to cut marked trees. Once a tree is felled, its branches are cut off. This is called delimiting. Most of the time the branches are left in the woods. These branches, or “slash”, may protect new tree seedlings from deer that are browsing for food. As slash breaks down through decay over a few years, nutrients return to the soil.

The trees are then pulled, or “skidded,” through the harvest area to an open place



The “residual” forest at a recently harvested site.

called the “landing.” Depending on tree size and site conditions, rubber-tired skidders, bulldozers, tractors, horses, or sometimes even helicopters (in very remote or special areas) are used to move trees. Matching the right equipment to the forest’s conditions is an important part of good harvesting. At the landing, trees are “bucked” or cut into smaller sections called logs.

Protecting forest soils, and other factors that contribute to the productivity of the forest site, is essential. Special effort must be made to control the amount and direction of water flow on logging roads, skid trails, and log landings during timber harvests. Improper water flow can wash away forest soils.

From the landing, the logs are loaded onto trucks and

delivered to sawmills, veneer plants, or paper mills. At mills such as these, logs become the products that we use every day.

As you can see, when landowners decide to harvest trees

from their forests, there is much to consider before, during, and after the harvest. If we want Pennsylvania forests to keep supplying us with all the products and benefits we now enjoy, we must manage them carefully.

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Use your head!
Logging professionals receive technical training on tree cutting and felling. NEVER attempt to cut down a tree on your own.