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# Diameter Limit Cutting — A Questionable Practice

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Diameter limit cutting is a common method used to harvest timber on private forestland. In this type of logging operation, trees over a specific diameter are removed regardless of their species, age, quality or vigor. The remaining trees are intended to restock the area with seedlings and be the future crop trees. This publication should help you understand the serious impacts of cutting trees using this method.

remaining trees will tend to be the inferior ones. These inferior trees will not have the ability to utilize fully the site, resulting in reduced tree growth and long-term economic loss.

## Diameter Limit Cutting (a Definition)

When proper selective logging methods are applied, the mature and high risk trees are harvested. The higher quality, more vigorously growing trees are left on the site, resulting in improved growing conditions and increased growth potential of the woodland. However, when timber is harvested using a diameter limit cut, the growth potential of the woodland is reduced. This happens because the trees with the poorest growth potential are retained on the site. Thus when a diameter cut is made, the best trees are taken at the expense of future timber growth.



Fig. 1. Original timber stand before harvest.



Fig. 2. The same stand after diameter limit cut.

## Age and Size Relationships

Most of the nonindustrial, private forests in northern Idaho are composed of trees of similar age but with greatly differing diameters. The trees have diameter variations because of competition among trees, species differences and genetic variations. Small trees are not necessarily young trees! Therefore, if only the larger trees are harvested, the

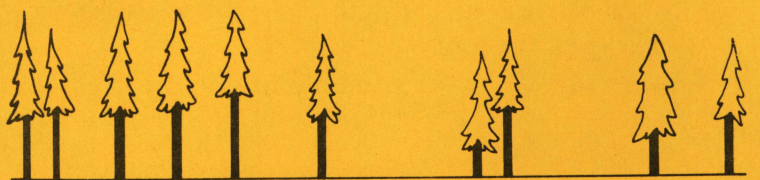


Fig. 3. The same stand after proper harvest.

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### Advantages of Diameter Limit Cutting

This harvest method occasionally has **limited** advantages. Please note that these advantages do not take into consideration the development and care of the forest. The diameter limit system:

1. Is easy to communicate to logger and land-owner.
2. Is easy to administer.
3. Can convert the stand to maximum dollars quickly with little sale preparation.
4. Is a relatively inexpensive logging method.
5. Can promote forage and brush development, which is beneficial to livestock and game.
6. Can be used to describe mature trees to be removed **if** the diameter is kept large (18 to 20 inches and larger).

### Disadvantages of Diameter Limit Cutting

The disadvantages heavily outweigh the advantages. This method:

1. Does not consider the quality or vigor of individual trees. The decision to cut or leave a particular tree is based solely on its diameter.
2. Often results in the best-growing trees being removed, leaving the older, smaller, poorer-growing trees to regenerate the area. These residual trees are of poor genetic quality which will result in inferior new seedling trees. This would be the same as a rancher selling his best breeding livestock and keeping the poorer quality animals to maintain his herd.
3. Disregards the future of the stand, what tree species mix is best adapted for the site or how much timber should be left on the site for continued high production. Future economic losses are likely.
4. Will promote leaving diseased or insect-infested trees. These defective trees will most likely be a threat to the stand by infecting the other trees and seedlings.
5. Will lower the economic value of the land because of an abundance of poor quality, low value trees.
6. Often leaves a stand understocked. Tree planting and brush control are often necessary.

### Harvesting Goals

The decision to harvest your timber will affect both your future as well as that of coming generations. Therefore, the decision to harvest and the harvesting method should be carefully considered.

**The timber should not be harvested without a specific goal in mind.** Consider these questions.

- Is the purpose of the harvest to increase the livestock and game forage potential of the woodland?
- Is the harvest designed to change the species makeup of the stand?
- Is the harvest meant primarily to thin the trees to improve their growth?

After you have determined the harvest's goal, you can decide on a logging method. Some factors to consider are the condition of the forest, the needs of the tree species involved and the topography. You can make a management plan that will both achieve your immediate purpose and be beneficial to the remaining stand.

Because of all the factors involved in this process, the assistance of a professional forester is recommended in planning the harvest. Many sources of forestry assistance are available. Your state Woodland Forester or Extension Forester can direct you to the best source.