

on the value of timber removed and sustainability is based on the quality of timber that is left to grow.

- Follow New York's water quality Best Management Practices when timber is harvested. This is important because poorly planned roads and stream crossings may cause erosion and stream sedimentation.
- Identify and follow any state or local regulations related to conducting your timber harvest. This is important because permits for logging operations are required in some localities to protect streams and wetlands.
- Identify and protect areas of special significance. This is important because there are rare and endangered species and significant habitats that could be damaged by careless timber harvesting activities.



- Use silviculture, science based forestry that is appropriate for the conditions in your woodlot and which also meets your ownership objectives. This is important to ensure that your harvest is carried out in a manner that is both ecologically and economically sound, and is devised in a way that addresses your specific management goals.
- Have the trees for harvest marked. This is important as a strategy to regulate which trees are removed.
- Use a written contract including a provision that requires the logger to carry adequate insurance. This is important because it will minimize future problems related to liability and will help to clarify the respective responsibilities and expectations of both landowner and logging contractor.
- Use a skilled logger who supports forestry and

your management objectives. This is important because the goal is to minimize any logging damage to remaining trees and woodland roads. It is also easier to work with someone who understands and supports what you are trying to do to improve the woodlot.

- Leave a good residual stand of desirable trees or fully stocked desirable seedlings and saplings, because it is the future forest. This is important because it will result in a healthier, more valuable forest today, while also ensuring that generations to come will also be able to fully enjoy and benefit from New York's timber resource.

More Information

Woodland owners have many excellent sources of information available to them including the following websites:

Cornell Cooperative Extension Forest-Connect publications and webinars at; ForestConnect.info

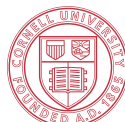
Best Management Practices for Pennsylvania Forests, 2001 at; pubs.cas.psu.edu/FreePubs/pdfs/uh090.pdf

Forest Stewardship Best Management Practices for Pennsylvania Forests at; pubs.cas.psu.edu/FreePubs/pdfs/uh102.pdf

Wisconsin Forest Management Guidelines, 2011 at; dnr.wi.gov/topic/ForestManagement/guidelines.html

High Grade Harvesting, University of Massachusetts at; ag.umass.edu/sites/ag.umass.edu/files/interest-topic-pdfs/High_Grade_Harvesting.pdf

Crop Tree Management in Eastern Hardwoods at; na.fs.fed.us/pubs/ctm/cover_to_toc.pdf



Cornell University
Cooperative Extension

January 2014. Developed in cooperation between the New York Forest Owners Association and Cornell University Cooperative Extension. CUCE is supported by USDA NIFA

The New York Forest Owners Association is a not-for-profit organization established to encourage sustainable forestry practices and sound management of privately owned woodlands. Contact: NYFOA, P.O. Box 541, Lima, New York 14485 phone: 800-836-3566

WWW.NYFOA.ORG

Harvesting Timber Sustainably

Best Management Practices



Restore New York
WOODLANDS
A NYFOA Initiative

**New York Forest
Owners Association**

Timber Harvesting Best Management Practices

There are essentially two broad categories of timber harvests; those done purely for profit without regard to future growth, and those done to promote a healthier, more valuable woodlot in the future. Sustainable woodland management, which is the foundation of forestry, means meeting the needs of the present without compromising the ability of future generations to meet their own needs. Landowners should recognize this difference and understand the impacts each approach will have on their forest both now and into the future.

New York's private woodland owners, or family forest owners, play a vital role in ensuring woodland health and sustainability as they own 70% of all timberland in the state. Whether cutting their own firewood or selling standing timber, private landowners have the ultimate responsibility for what happens on their land. However, they need to recognize that the effects of their activities can extend beyond their property boundaries and will resonate for decades to come.

The Role of Harvesting in Forestry

The role of harvesting changes during the life of the forest. Through time the economic returns should increase. In a young to middle-aged forest, harvesting removes the lower value and undesirable trees to improve the growth of the best trees. As the forest grows towards maturity, additional harvests may be possible, but should continue to focus on removing the poorer quality and undesired stems. As the forest continues to mature, a harvest might be used to increase sunlight that will encourage seedlings of desired species that will become the next forest, but the very best trees are retained as the seed trees. It is essential to note that deer and interfering plants will likely need to be controlled at this stage for regeneration to be successful. Finally, when the next forest is established, the mature seed trees are harvested for optimal economic return and to allow space for the next forest to grow.

An Illustration

Timber sales are a cost effective way to improve the health, species diversity, and value of a woodlot. The health and quality of the residual stand of trees, those left behind after timber has been cut, makes all the difference. It is important to leave a sufficient stocking of healthy valuable trees because they will utilize the growing space in the woodlot and provide seed for regeneration. This won't happen unless the trees you intend to sell are marked in advance and a good residual stand of timber is left.

**Comparison of Value After Thirty Years:
Diameter Limit vs Marked Tree Logging
In a 100 acre Woodlot**

	Cut All Trees > 16"	Cut Only Marked Trees
First Sale Proceeds – year 1	\$20,000	\$10,000
Value of Remaining Trees	\$0	\$10,000
Second Sale Proceeds – year 15		\$17,000
Value of Remaining Trees	*****	\$17,000
Value of Trees - year 30	\$20,000	\$77,000
Total Proceeds & Residual value after 30 years	\$40,000	\$104,000

**** not enough timber volume for a sale

In the example above, the total value of standing and harvested timber of all trees over 16" diameter at breast height (DBH) at the first harvest would be \$40,000 at year 30. However, if only marked timber is cut, the final return, including the value of the residual stand, would be \$104,000 – more than twice as much. The significant value increase after year 15 is the result of accelerated volume growth of better quality trees of higher value species.

Although this simplified example is hypothetical, it is based on financial research and real world experience. It shows how important the approach used in selling timber is for long term profitability. Rather than trying to maximize income every time timber is sold, it is better to maximize improvement of the residual stand. Forestry is a long term enterprise, but it can also be profitable.

Harvesting Which Does Not Qualify as Forestry

Most woodland owners will sell timber to whoever pays the most money. This doesn't consider all values

important to owners. Consider that getting the highest price for your timber means cutting all the most valuable trees. Since woodlots contain thousands of trees and potentially dozens of species, cutting the best and leaving the rest inevitably favors the poorer quality trees and the lower value species as the woodlot develops. These poor stems are left behind to fill the available growing space. Although total volume growth may be unaffected, future harvests will be far less valuable. In this sense the three cutting practices described below do not qualify as sustainable woodlot management. Avoid the following:

- High-grading: selectively removing the largest and most valuable trees, generally diminishing species diversity and leaving smaller or less valuable trees behind.
- Diameter-limit cutting: a form of high-grading which harvests trees larger than a certain size, e.g. 12-14 inches in diameter at breast height.
- Selective cutting: taking the fastest growing, largest trees and leaving lower quality trees.



Best Management Practices for Selling Timber

- Have a management plan which specifies your objectives – integrating as desired forest health, species diversity, wildlife habitat and timber quality for the long term. This is important because the planning process helps the owner develop a better understanding of the resources, management opportunities, and trade-offs which will lead to better decisions and outcomes.
- Work with a forester who supports sustainable management and who will charge on an hourly fee basis instead of on a commission or percentage of sale. This is important because there is a conflict of interest when compensation is based