

Guide for a Successful Logging Operation
by Peter Pohl 5/11/07



Some of us let our woodlands alone, to gradually return to an old growth forest approximating the ones of 300 years ago. But most of us, from time to time, cut trees. We may need the income, or want to preserve a view, or have the firewood. Your ownership goals are important. How the operation is conducted determines the income generated, frequency of future timber harvests, how the forest regenerates and the amount of erosion that impacts the lake.

We like to think that the harmful effects of skidders and other heavy equipment heal after about six months, that's what we see in woodland. But this is to forget that the muddy runoff can carry fine particles long distances into the lake, where the sediments of these particles add phosphorus and other nutrients to the lake. Silently and irreversibly the nutrients speed eutrophication.

How then, do we undertake logging operations that are good for the pocket-book, the woodlands, the lake? I will suggest three steps to achieve a successful outcome. Since these steps take a significant amount of time and effort, let's first consider how things can go wrong, and some of the things that need to go right.

A well dressed man knocks on your door, you see his logging rig parked just down the road. He introduces himself, saying, "I see that you have a nice, mature woodlot here. Would you be interested in a harvest? I think it is worth quite a bit." He mentions an amount, which seems like a lot of money to you. He says, "I'll do selective cutting." He gives you his card – it says he is certified and insured, and has a phone number. You think it over for a couple of weeks, you ask around a bit on your own, then call him up

and sign a contract. The logging operation goes quickly, and you soon learn what the logger meant by “selective cutting” – “select the best and leave the rest.” Your woodlot looks like a moonscape with a few straggly trees here and there among the slash piles. You begin to realize that it will take 30 to 60 years before your woodlot begins to recover. Then you learn you have significant taxes to pay.

Without proper supervision by a licensed forester, the logging contractor may cut corners, failing to follow implement “best management practices” (BMPs) that minimize future erosion problems. BMPs ensure that logging yards are constructed in flat areas (to minimize erosion), skidder trails avoid slopes and rutting (erosion problems again), wet areas are avoided, skidder bridges are constructed over streams, or pole fords constructed on wet sites, and water bars constructed where appropriate. In sum, proper skid trail layout is critical to minimizing rutting and erosion problems.

Scarring and debarking of the remaining trees need to be minimized and slash piles treated appropriately. Where there are slopes, the logging yards and logging roads need to be seeded with grass seed and covered with hay, to speed ground cover and reduce erosion. And finally at the end of the project, blocking access to unwanted vehicles on the abandoned logging roads is important to reduce erosion problems later on, as well as unwanted trespassing.

Who is going to help you avoid these potential pitfalls and supervise the project? Below are the three steps toward a successful outcome. Each step depends on a qualified professional.

First Step: To get you oriented and started with worthwhile and free advice. Your first step is to visit the Carroll County Forester, at the University of New Hampshire Cooperative Extension Office, 75 Main Street, Center Ossipee. The current forester is Wendy Scribner. At her office she can give you general information about your area. Better yet, she can arrange a site visit, hike your woodlot, get a sense of its condition, and tell you about the forest, wildlife, water and recreational values of your property. She

will ask you your goals. After walking the property and getting a sense of your goals, she will be in a position to help you with referral lists of licensed professional foresters, certified loggers, and licensed arborists that comprise her arsenal of trained professionals to assist landowners with their property, regardless of whether you own a small parcel with a few shade trees or a large woodlot in need of attention.

Furthermore, the county forester can tell you about the various federal and state landowner cost share assistance programs. These programs help fund the expense of preparing a forest stewardship plan for you. They can also assist you in accomplishing a variety of pre-commercial forest and wildlife management practices to meet your goals.

There is no charge for the assistance provided by the county forester. This is a state, federal and county tax supported program available to all the citizens of the state with each county offering the same UNH Cooperative Extension programs. The office phone is 603-539-3331 and the current forester's email address is

wendy.scribner@unh.edu

The size of your project, and the county forester's advice, will help you determine the scale of your time and effort you should invest in the following steps. But, whether yours is a large or small project, the initial assistance from UNH Extension is a must to get you started.

Second Step: To find expert supervision. Unless you have a really small project and already know a skillful and trustworthy logger, you will need an expert to do several things for you. The first is to plan the project; the second is to help hire the logger, and the third is to supervise the logger's work. The expert you want is a licensed professional forester. These foresters are not free like the Carroll County UNH Extension Forester. While they cost money to hire, they can save you much more than their cost. As noted, the present Carroll County UNH Extension Forester can provide you with a list of licensed professional foresters who operate in Carroll County.

Hiring a professional forester from this list is a major decision. Most professional

foresters are highly reputable, but they can vary from one to another. If you have a sizable woodlot to manage, it is advisable to interview two or three possible candidates. Inviting them to your property, hiking your woodlot, and asking questions will help you make your decision. So will reviewing sample management plans your candidates have prepared for other clients. Even more useful is visiting one of their ongoing timber sales as well as one that took place within a 3-5 year period. Expressing your concern for potential erosion and its ultimate negative effect on Chocorua Lake should be emphasized to the forester and the logging contractor. You need to discuss this potential harm and its long-term effects on eutrophication, and ask for commitments by the supervising forester and the logger, of extra care in controlling erosion in the Chocorua Lake Basin. These inquiries are appropriate in your selection of a professional forester.

Once you decide whom you want to hire, you need to discuss with him more specifically what is to be done and the charges for this services. When you reach agreement with him on this, you sign a work agreement outlining its terms in writing. This document will ensure that there should be no misunderstanding regarding services provided and the fees that will be charged. In the preparation of a forest stewardship plan, the cost to prepare the document is generally based upon a cost per acre with the price varying depending upon the acres involved. There are a variety of ways a timber sale can be executed. In many instances, the forester will charge a commission ranging generally from 18-22% of the stumpage value of the wood products that the logging contractor will purchase. (Stumpage is the value of the standing timber in the woods before any harvesting takes place.) For this commission, the forester will first review the boundaries of the property to ensure he does not encroach onto an abutting ownership. He will mark all the trees to be removed and make an estimate of the different volumes of trees to be cut by species and the product (sawlog or pulpwood/firewood) that will be removed.

If you own a sizeable woodlot, say 25 acres or more, it is probably worth while to have your professional forester prepare a forest stewardship plan for your acreage. The professional forester's plan is a written document that addresses the goals of the landowner, evaluates the forest, wildlife, water and wetland resources, soils, cultural

features and endangered species of the property. The forestry component of the plan includes a detailed analysis of the timber types present on the land. The analysis includes estimates of volume in board feet and cords of pulpwood/firewood of the timber resource, by species and product. With this information, the forester estimates the value of the forest resource on the acreage.

This forest stewardship plan satisfies the planning requirement for the stewardship category under current use assessment and qualifies the landowner for the lowest possible assessment rate for property tax purposes, under the forest land category. For properties under 25 acres, a briefer and less detailed plan is adequate. Whatever your desire, the forester is prepared to assist you with a plan and the management services needed.

Establishing the value of your forest asset is a critical part of the financial portfolio of the property. It also has significant income tax implications since this information is used to calculate the owners *cost basis* in the timber so that at the time of a timber harvest, the correct *timber depletion allowance* can be applied to the income generated from the sale, thus lowering the reportable income and reducing the landowner's tax liability.

The forester's plan is prescriptive as well as descriptive. It outlines what should be done, how it should be done and when it should be done, to best manage the forest resources on your property. The plan includes a comprehensive forest type map depicting the forest types present on the property and all the other important features of the land addressed in the report. This report is comparable to the architectural blueprints for a building. It becomes the guide for managing the acreage in order to achieve those goals and objectives articulated by the landowner in the beginning of this plan.

Next, the forester helps you in the final step of hiring and supervising a logger.

Third Step: To find and supervise a skillful and reliable logger. The professional forester plays a key role in this step. When the forester's marking is complete, he tallies up the timber, prepares a written timber prospectus and either puts the timber up for bids

or negotiates a fair price with a reputable logging contractor who is properly insured. Once a sale has been negotiated with the landowner's approval, a timber sale contract with the logger is prepared, stating the products and estimated volumes to be sold, the prices to be paid, and all the conditions and expectations of the project. From then on, the forester plays the key role of supervising the logger. While the logging operation is ongoing, the forester visits the job site weekly or even more frequently. He has the responsibility of making sure that the BMPs are being implemented. Issues of concern are promptly addressed and corrected. The forester has the power to shut down the project if it is going wrong.

A good logging contractor is extremely skilled at what he does. Since this is a dangerous occupation, he must be very skilled at harvesting trees safely in order to avoid serious injury. Regardless of the size of the project, proper insurance coverage is a must for anyone hired to perform your forestry services. He has to be well versed in operating and maintaining all kinds of logging equipment. In addition, to be successful, he must be an astute businessman keeping abreast of market conditions and knowing where and when to market the multitude of forest products generated in a timber sale. To maximize the greatest value from each tree harvested, he has to know how to cut each tree into the best mix of possible products. Great skill has to be exercised in removing the forest products safely from the forest so that excessive damage to the residual trees left for future growth is avoided.

There are definite attributes that define a conscientious logging contractor. These include a good reputation for honesty and good workmanship. Foresters are very conscientious about working with contractors who have adequate insurance to include both liability and workmen's compensation coverage on their employees. This is critical in order to minimize any landowner liability in the event of an accident. Paying fair prices and providing accurate scale information are also essential attributes of a reputable logging contractor.

In the forester's supervision of the quality of the work in the woods, one of the first

things he looks for is the extent of debarking to standing trees. Proper skid trail layout will minimize debarking. Retention of “bumper” trees along skid roads is one method of minimizing debarking of the quality crop trees.

This injury causes serious loss in usable volume when these damaged trees are harvested at a future date. Some debarking along skid trails is unavoidable but it should be minimal. A well laid out timber sale should have an adequate stocking of residual high quality trees of different diameter sizes so that a reentry at some future date for additional harvest and income generation can occur. Generally, reentry in a well-executed timber sale should occur within a 10-15 year time frame. Concern for regenerating the forest should receive high priority as well, so that the site will continue to support a valuable crop of trees and guarantee future revenue generating operations. Sometimes, it is essential to time the sale with a natural cone or seed crop. This is particularly true in the case of regenerating white pine and oak. Seed years range generally from 3-5 year intervals and thus the harvest should be timed with those naturally occurring cone or acorn crops. Logging during bare ground conditions is critical to maximize seed drop in mineral soil conditions, and at the same time the bare ground needs watching for control of future erosion risks. Naturally, weather conditions play a critical role in the opportune time to operate a site. Much attention should be directed towards encouraging desirable regeneration of a high quality future forest.

Another characteristic of a good timber sale is the utilization of the trees removed in the sale. Markets for products harvested using conventional logging equipment (i.e. chainsaw and skidder) enable the contractor to harvest the trees all the way up to the tree's four inch diameter at the top. The remaining slash should be lopped or cut low so that the unsightliness is minimized and that decay of the tops will occur rapidly. This material returns to the soil as organic matter and helps to enrich the soil. In the case of a whole tree harvesting operation, where the tops of the trees are removed and chipped for biomass fuel, the amount of residual slash left on the ground is minimal.

The stumps of the harvested trees should be cut as low as possible to maximize the

recovery of the volume in each tree. In the winter in deep snow conditions, stumps should be dug around to enable the tree to be cut low to the ground. Timing of the logging operation is often a critical concern. With sites that are abnormally wet much of the year, winter logging during late December, January and the beginning of February may be the best time to avoid later erosion and other damage. Or an extremely dry period in late July, August or early September may also be appropriate to minimize site damage. The forester's judgment is essential in determining the ideal timing for your project.

Logging contractors should be able to demonstrate that they have participated in the voluntary Logger Certification Program. This consists of four core courses: safe harvesting practices, best management practices, first aid, harvest laws and fundamentals of silviculture. Continuing education credits are required to remain a certified logger. This program has definitely enhanced the knowledge of the logging community in these subject areas.

The logger is paid for the forest products removed from the woodlot after he delivers them to his various markets. Scale slips showing the volume of these products measured in board feet, cords and tons, depending on the product, are provided to the forester by the logger on a weekly basis. The logger pays the forester for these products based upon the contract stumpage price. The forester then deposits this payment into an escrow account, deducting his commission for handling the project. The payment to the landowner reflects the agreed stumpage price paid by the logger minus the forester's commission. The forester makes a weekly accounting, showing the products removed and a weekly or semi-weekly payment to the landowner from an escrow account.

At the beginning of the project, the forester files an "Intent to Cut" form with the town. This report indicates the approximate volume of products to be harvested in the sale. At the conclusion of the operation, a second "Report of Cut" form is filed by the forester with the town. This form lists the exact volume of products harvested by species. The town uses this information to calculate the yield tax that the landowner must pay the town. The timber growing on your land is not included in your annual property tax.

Instead, the timber is taxed at the time of harvest. This tax is approximately 10% of the stumpage value of the wood harvested.

In addition, the landowner has to declare the income earned from the project to the IRS. The net reportable income from the project can be reduced if you have calculated your *cost basis* in the timber. The cost basis is derived from the information gathered in preparing your forest stewardship plan. The forester can help you determine this tax saving so that you do not report an excess amount of income for income tax purposes.

In light of the numerous costs associated with a timber harvest, landowners frequently ask “How much will I net when all is said and done, and is this worth it?” The answer is that if you use a forester, pay the yield tax to the town, the federal income tax on the earned income, and the commission to the forester, the landowner will end up with about 50% of the stumpage value of the forest products harvested. To some, that financial reward may not be adequate for the effort involved.

Managing your land can provide many benefits. Harvesting products from your land will help support our local forest product industry (the second largest industry in the county), and help employ its large work force. A well-executed timber harvest enhances the wildlife opportunities of the forest ensuring a diversity of age classes and the retention of critical mast and wildlife trees.

With the preparation of a forest stewardship plan and the implementation of the recommendations in the plan, landowners qualify for the lowest current use assessment classification under the stewardship category. This ensures the lowest possible property tax rate available to forest landowners. (The lowest rates are for lands under the stewardship category. Under non-stewardship, where you may cut nothing or everything as you like, the assessed rates are higher.) One can also qualify to become a certified tree farm, a national landowner recognition program acknowledging the landowner's responsible stewardship of his land. Managing your land requires a lot of thought and planning. Using the services of licensed professional foresters and certified logging

contractors will help ensure the success of your project and leave your land in better condition for future owners to enjoy.

Logging is a complicated business, with issues of insurance, taxes, contracts, supervision, and knowledge about markets. But if you follow the above steps, and get professional advice where you need it, your chance of obtaining income, preserving a view, or having firewood, and protecting the lake at the same time is pretty good. Just don't sign up with the first offer that comes knocking at your door.