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# To Cut or Not To Cut?

## THAT IS THE QUESTION.

**Whether 'tis nobler in the mind to suffer the slings and arrows of outrageous crowding, poor growing stock, and lack of young forest, or to take arms against a sea of troubles and, by opposing, perhaps to end them?**

Decision making in forestry is full of conundrums, risks, intended and unintended consequences. If you want something simple, stick to calculus where there is usually one correct answer.

There are ten reasons to cut, or not to cut, each tree. When we start thinking of harvesting a group, or a stand, we grapple with even more. Before you start, we must always consider the options of doing nothing, or clear-cutting the whole thing. The best answer is probably somewhere in between. We will start with the underlying philosophies involved, and the range of goals, and delve (next issue) into the details of particular goals.

At the root of every decision we make is philosophy. We all view the world and our place in it in different ways, and the way we answer the following questions gives some indication of our worldview. What is right and wrong, good and evil, in the world? How do you define the good life? Where do you, and your land, come from, and where are you going? What is the right relationship between us, our neighbors, and the land? Who is our neighbor? How do we interact with people nearby and further out, loggers, foresters, contractors, wood buyers? What do we think of adjacent land to our own, land such as public land that is nearby, and problems and solutions in land management on a wide, even global, scale? Do we see our land as wilderness to be admired, a garden to be tended, or something in between, or simply as a financial investment? Do we see everything "natural" as good, and man as somehow apart from nature? We should all take time to consider these important questions. In forestry, this comes down to the age-old question of "Are we meddling with nature, or do we have a stewardship responsibility?"

## A History of Questions

Teddy Roosevelt, as a "conservation president," was faced with these same questions as the debate about public land ownership and management grew. He had Gifford Pinchot, one of the fathers of American forest management speaking in one ear, and John Muir, an early "preservationist" and founder of the Sierra Club with a high view of nature, at his other ear. As a great politician (you can decide if that is a compliment or not), he got along with both men and chose not to pick one side as correct. He formed what became the U.S. Park Service with a goal of preserving nature and the natural processes to manage some jewels of public land like Yellowstone and Yosemite, with Muir's input. Then he formed the U.S. Forest Service to provide the best sustainable stewardship of forestland for wood products and other natural resources, and put Pinchot in charge of that. The debate continues to this day.

## Our Land Ethic

We all have a "land ethic" of some sort, depending on how we answer the questions above. My own personal philosophy recognizes that we are part of nature and have an active role to play. We use wood, wood is good, and we might as well produce it locally with a high level of stewardship. My view leaves room for "unmanaged forests," but I frankly see many of them as bad examples. I do not see everything in nature as "good." I have seen very

destructive wildfires out West, hurricanes and ice storms closer to home, and insect and disease epidemics. I do not hold the view that the trees have had their chance, and now it is the insect or fungus's time to thrive. But I do sense a crisp responsibility to keep forests healthy and productive, to keep the air and water clean, and to do all these things while leaving the next generation with equal or greater opportunities. And I have seen great examples of stewardship providing benefits to people and wildlife and the land itself. Most of us cannot afford to own vast acreages of "natural forests." And the "dividend" of occasional timber harvesting allows the average American to enjoy the extraordinary (in the sense of world history) privilege of owning forestland and keeping it forest for generations.

These philosophical views will direct our choices in many ways. As a reader of this magazine, you have probably already made the choice to own forestland and engage in active stewardship. My goal with these articles is to help you solidify your own philosophy, acquaint you with a range of choices, and derive greater satisfaction from land ownership. If you see humans as a plague upon the earth, with everything we do as negative, and everything nature does as wonderful, you are probably going to be more satisfied to simply leave your land alone. Even within this worldview, there may be management activities that are appropriate. For example, I have one client who is clearly in this camp. Her interest is in "ecological restoration," and some of her land is infested with invasive plants. She accepts the use of herbicides to control these. She has interest in restoring these post-pasture forests to more natural species composition, perhaps even replanting disease-resistant American chestnuts. Harvesting the excess of undesired species can be done in ways that benefit certain migratory bird species. These choices are the result of her philosophy and how she sees the world. I can help her do this in practical and cost-effective ways.

I manage for a farm that raises Wagyu beef. This is a super-premium Japanese breed that commands high prices at expensive restaurants. I can attest that it has fine taste and tender texture. The breeding stock, which she raises on her farm in Vermont, is quite valuable. Every few years, she needs another section of pasture for her growing herd. I tell her that it is not very good land and was abandoned for pasture 100 years ago for good reasons, but she prevails. So we clear another section and convert it to pasture. To her credit, she prefers a "silvo-pasture" approach with some trees and groups retained for shade for the cattle, and habitat for a range of critters. She has a high view of land stewardship, but her goals are directed more to beef than to trees.

Apart from these extremes, you will find some perspective that fits your land and vision. It also has to fit your budget. Forestland can be an investment of time or money, or it can pay dividends on your investment, and provide a whole range of other benefits including financial, wildlife, recreational, generational and spiritual. In many cases, harvesting trees is a main tool of achieving various and specific objectives. There are many reasons to harvest, including:

- Recover income from your forest investment
- Reduce crowding to improve health and growth
- Change species composition
- Improve access with roads and trails
- Increase diversity of species and forest structure
- Increase the future value of the forest
- Create new growth for the future or wildlife food
- Improve wildlife habitat and nut production
- Enhance local economic activity
- Maintain the "current use" tax status

Once we define our personal philosophy, we will naturally determine some overall goals for the forest. This involves looking at the bigger picture and deciding what we want the forest to be in 10 years or for the next generation. Are our goals to pass on something to our heirs for their enjoyment? Do we have specific goals for wildlife habitat, perhaps for hunting or more general habitat goals? Is our primary reason for owning land for recreation and the aesthetic backdrop of healthy forests? Do we have particular financial goals for short-term cash flow, long-term value accretion, or increasing real estate value? Is our interest some combination of all these things? My experience is that most landowners, before they speak with me, have only a vague sense of these things. They may have some notions from the list above, but have never really considered the breadth of options. And after our conversations, they realize their interests cover a broader range and the challenge is to find the best balance of these goals for their land. Sometimes, that involves managing each area for one particular goal. In most cases, we develop an appropriate overlap for true "multiple use" management. First, we will look at overall goals, and then delve into decision making at the stand level, and the forest management plan, in coming issues.

## Overall Goals

Having clear objectives makes my job far easier. The landowner with a crisp goal of creating a grouse-hunting paradise gives me clear direction and allows me great flexibility in the other arenas. Grouse have a home range of about 10 acres. They need thick brushy areas as critical habitat for survival of the young pullets, and they benefit from mature, seed-bearing trees like oak, beech, and hickory. So grouse benefit from patches of young forest intermixed with older forest, on approximately 10-acre sections. (Hardwoods, some softwoods, and especially poplar are preferred.) Cut

patches of 1–5 acres seem to work well, and having additional patches cut every 5-10 years is also ideal. This can be laid out in a crisp checkerboard, or tailored to fit the natural stand variations. But it gives me clear direction, and if the grouse thrive, then we can measure success. Broader objectives of "wildlife habitat in general" are not as well defined, and involve creating habitat diversity on a larger scale to fit a wider spread of "home ranges" and habitat needs. It requires looking at the surrounding landscape to see what is lacking, or is perhaps in excess. If you live in an orchard area, planting a dozen fruit trees will make little difference. But if there are no apples within 5 miles, then a small wildlife orchard may be a huge blessing. The clearer objective is easier to achieve.

Recreational goals often involve trails. We interface with our woodlands from the trails: hiking, biking, skiing, on snowshoes, snowmobiles, horseback, ATV, or a tractor. The trails become a series of vantage points, and specific views can be enhanced. Some clients have a "perimeter trail" more-or-less around the boundaries of the parcel. Some have detailed maps of the trails, with trail names on signs, or color coding on the trees. While the logging process often creates these trails, special care and some expense may be needed for the best satisfaction. Some logging systems thrive on a "brush mat" where debris and branches are layered onto the trail to reduce rutting, compaction, and erosion. These do not make a fine walking or horse trail. A plain "logging trail" may be good enough for a snowmobile or skis in winter, but a nice walking trail might need additional drainage or cleanup. In the extreme, we have trails where nearby debris is cleaned up and chipped, with the chips spread on the trail for a pleasant surface. In some cases, it makes sense for the logging trails to be a separate system from the recreational trails.

Most viewers see mature or nearly mature even-aged forests as attractive. Some viewers prefer order in terms of neat trails, pruned trees, piled brush or debris, or crisp vistas. Some prefer a more natural look, with fallen trees, variations in tree size, or dark shaded understories. Beauty is in the eye of the beholder. I manage for one client who always visits in early fall foliage season, when the red maples are at their peak. We manage for red maples within sight of his house.

Even when other objectives are mentioned first, financial goals in terms of costs and income are critical for most owners. When considering trails or aesthetic objectives, for example, costs are an important factor. And if tree harvesting is involved, we can do more with veneer maple than with pine pulpwood trees. So, costs and income are intertwined with harvesting and other goals. You can read more on this topic in the (March, 2015) *Sawmill and Woodlot*, entitled "It's Not All About the Money."

Financial goals need to be further sorted into short-term cash flow, long-term value accretion and growth, and real-estate value. Other things to consider include property taxes, management costs, income and estate tax considerations, and other income such as hunting lease/value, and non-timber forest products. Balancing costs, income, and other benefits will give different decisions for each owner.

Part of the philosophical view of the financial aspect of forest management includes your ability to tolerate risk, your view of income today vs. value in years to come, and your expectation of markets now vs. future markets. As I mentioned, this is more complicated than calculus. Growing trees for another 10 to 50 years requires a certain kind of optimism. Historically, the value of low-quality products does not keep up with inflation, but higher-value products rise in value over time. How optimistic are we over the condition of the economy, land use regulations, taxes, and the risks inherent in growing a crop for 50 to 150 years?

With all these things in mind, we can begin to grasp our overall objectives for a particular parcel. They may include a wide range of concepts, and even have some conflicting perspectives. It is typical to have recreational goals that include trails and aesthetic concerns, along with both short- and long-term income goals to offset expenses and perhaps provide a return on our investments.

The decision process is more complex with diverse ownerships. A husband and wife, or two brothers, may have different views of what is desired. Open that up to a couple batches of cousins who now own their grandparents' woodlot and it goes further. I have worked with woodlots owned by several families, associations, corporations, and 'the public', and they all have their challenges. I don't envy public land managers, who have this in the extreme. It is important to start on some common ground. A hunting club, with a large landholding, may have a diverse membership, but they should be united on game-habitat objectives. I worked with a family ownership with two batches of cousins. The "country cousins" understood the timber-management objectives and logging process, but the "city cousins" had to be educated about the choices. In their case, it came down to something simple: If we could restore the view by clearing some young trees, they would tolerate what the other part of the family wanted in the rest of the woods.

In the next issue, we will look at specific object ives with more detail, and the thought process for developing a management plan to meet your goals in your forest. ■

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