

# IS FOREST MANAGEMENT REALLY WORTH IT?

**With all the expenses, is it worth it at the end of the day, or at the end of the century?**

A reader sent in some questions along these lines, and I will make an attempt to answer, and give some numbers.

**M**ost of us would not consider an investment in land merely to plant trees, grow them to maturity, and harvest them for products and income. When we account for all the upfront expenses and annual costs, and look at the time value of money, it hardly makes any sense. In fact, few woodland owners acquired their land for the sole purpose of growing valuable timber. Most of the woodlands I manage are part of a farm, homestead, or vacation property where the land includes a home and serves multiple uses. However, this doesn't preclude timber management as a good investment opportunity for landowners. Since the land is part of a larger objective, we can separate the cost basis of the land, and property taxes, and consider only costs and income related to managing the trees. We have bought land with trees, and they are part of our investment.

A crisp investment in land for timber is hard to justify unless you get into large tracts that sell for a very low price per acre. Here in the Northeast, this is well over 100 acres. "Current Use" taxation is critical to minimize ongoing costs. Sustainable harvesting provides ongoing cash flow that should cover all costs. It is critical to culture premium growing stock for future harvest. Even so, the cash flow above expenses does not provide much of an actual "rate of return" on the initial investment. There are two aspects that turn the tide. One is the steady increase in basic land values so that at the end of an ownership cycle, the land (if well managed) is worth more than the initial purchase price. The second aspect is the purchase of "bargain parcels."

Bargain parcels are land that is sold for below the

real value. Estate sales, repossessions, tax sales, family emergencies, and sellers who do not understand timber value are examples. I have cruised many lots (over my long career) where the timber value exceeded the asking price. Rural land with poor access that has not been harvested for decades can sometimes have incredible timber value, but no one has taken the time to evaluate it. And there are folks who make a living by searching for these hidden gems. Tax sales and estate sales are more common, and some bargains can be found. By purchasing wisely, there is more opportunity for profit.

While this magazine is all about woodlots, wood products, and forestry, it is important to include development options in the range of discussions. Land is worth more in small parcels and for residential use compared to growing trees. Land can be purchased "wholesale" and then sold "retail" in small lots for housing, camps, or other development, and there is profit to be made. Zoning, subdivision, development laws, and conservation easements are all complications to this, and there are costs for surveying, permits, and improving access. While we generally see these things as detrimental to sound forestry practice, in many cases, that "future value" is the incentive to keep land for another generation. I manage for many clients who practice great stewardship for decades, while holding the thought that "perhaps someday" the land might be developed in some way. Over time, the value of the underlying land increases, while the good stewardship provides periodic income, thereby reducing net holding costs.

Some "timber investment land" is actually a by-product. If you bought a residence, hunting camp, or vacation home, on 10 acres or a hundred acres, then the main purchase was the building and its uses. The

land comes as part of the package, and can be significant, but it was not the main purpose. I have some clients who look for particular features in this “by-product land” such as hunting habitat, but most folks get the house, price, and location they want with not much consideration of the forest. If this is the case, then the purchase price, and even much of the carrying cost like taxes are incidental to the “forestry investment.” You would have these costs anyway. If I can show you how to get any benefit from these acres beyond your costs, such as tree value growth, improved trails or access, and improved wildlife habitat, then you should see this as a good deal. You can’t expect your timber investment to pay the property taxes on a vacation home, unless you have set up a decent plan on several hundred acres.

This brings us to the non-financial benefits. For most woodlot owners, the long-term finances need to make sense, but owning land provides so much opportunity that is not counted in dollars. Recreation and hunting are the likely ones. On your own land, no one can tell you that you can’t ride an ATV or horses, hike, bike, birdwatch, and otherwise enjoy your piece of heaven. And many properties are managed primarily (or secondarily) for hunting. With more posted land, increased pressure on public land, and sometimes poor access besides, many landowners purchase land for family hunting privileges. Of course, most forest management activities have benefits to game species, and plans can be tailored for specific hunting opportunities that may include some sacrifice of timber objectives. Other objectives include managing for non-game species like birds, or collecting maple sap, wild mushrooms, medicinal plants, ginseng, fibers, and nuts. Personal firewood can fit in this category, along with the pleasure of doing these activities. I like the old Tree Farm motto of “Pride, Pleasure, and Profit.”

## Some Examples

One of my clients with a large holding had a section of pole-sized quality hardwoods. It was overstocked and included a small sawlog component, with desired hardwoods on a rich site, with good access. As a young forester, I presented a proposal to thin that with a small profit and offered a vague promise that the “profit” would be in about 15 years. The initial marking and logging was expensive, but the landowner came out about \$100 ahead per acre to release the best crop trees, harvest short-lived species like white birch, and remove most of the low-grade for firewood. We did go back 15 years later, and the landowner gained over \$900 per acre in a modest shelterwood cut. This is a crisp example of a stand going from a threshold of value, over the top to a high-value stand in just 15 years and hitting the market and details fairly well. Then we went back in for a partial overstory removal after another 15 years for stumpage income of about \$600 per acre. It is still an attractive forest with modest

stocking, in two-aged condition with a desirable understory, with another harvest available in 15 years.

Another client with a small woodlot and good “business sense” (but little knowledge about forestry) always seems to be broke. This was post-pasture forest mixed with pine and hardwoods on a rich site. Access and terrain are fair, but all the wood has to be pulled uphill. I first met the owner to enroll the land into our “Current Use” program and he wanted a heavy cut to extract the value. On the good-news side, it was mostly young forest, perhaps 50 years old so there was much immature growing stock, and some timber. We cut the larger pines and some hardwood sawlogs, along with the low-quality wood for pulp and firewood. The landowner made about \$300 per acre. Then, every time we did a 19-year plan update, he gave the same request: “Cut as much as you can, right away.” We have cut that three times in 35 years also, and each time, he has made about \$300 per acre. Every 10 years, I am shocked to see how fast the trees have grown since they had the space, good soil, and poor-quality stock is removed each time along with some premium sawlogs.

On the other end of the spectrum a client purchased a lot about 1960, which had just been whacked. This is remote land with some rocky and steep ground, but fairly good soil between the rocks. I was hired in 1982 and found two basic stands. One area had been essentially clear-cut and was regenerating to desired hardwood species. The other area had been heavily high-graded with a very poor quality overstory, and scattered pockets of good regen. There was nothing I could do. The owners got a lot of recreational use on the old logging trails and would camp, hunt, hike, and use recreational vehicles. I have a crisp memory of driving through saplings with an old Ford Bronco and was surprised the windshield made it through. After about 45 years, we were finally able to do a commercial harvest in the clear-cut section that made a small profit of about \$100 per acre. Some of the residual trees had sawlogs, and the fastest-growing trees, perhaps from sprout growth, were larger and low quality, but this small sawlog component allowed us to take out a proportion of the overcrowded pole-sized stock for firewood and effectively thin the stand. It looks really nice today. The high-graded section did not have enough commercial volume to harvest until about year 55, just recently. We were able to harvest low-quality, overstory trees, with a few good sawlogs, some poor understory trees, and release some of the desired 55-year-age class. This was a heavy cut resulting in a shelterwood density for continued two-age management. This also profited about \$100 per acre. It isn’t pretty, but it never was. The whole lot did not provide enough income to pay the property taxes even with “Current Use” enrollment, but the forest has more potential value in quality growing stock than when they bought it. The “post clear-cut” stand will be ready for another thinning in 10 years.

In my area, there was a well-known forestry profes-

sor that poured his life into a large woodlot investment. He had started working on this lot before I was born and was able to purchase it and add other lots for about 900 acres total. He did the logging work himself for 60 years, with the help of one son in his later years, and they cut a lot of wood. There were natural and planted pine stands, and these were thinned, pruned, and eventually regenerated by the shelterwood method. Hardwood stands were cultured with crop tree management and shelterwood, and some of the young stands were also cultured. He passed away, and the property came up for sale. I was hired to cruise and evaluate it for a prospective buyer. What I found was one of the best managed lots I have ever seen. It was not loaded with valuable timber (contrary to local rumor) but had a modest percent of very high-quality mature wood. The shocking thing was the quality of the immature growing stock, and the balanced mix of age classes. The percent of low grade was miniscule, and the immature stands had mostly been thinned or treated with crop-tree release.

I don't have the financial output for this land, but I think the owner made a decent living cutting the growth rate. He clearly loved what he was doing, and the whole family got use of this land, but I know a huge effort went into both commercial and non-commercial treatments. I would say the whole project was a success in his lifetime, personally and financially. Here is the bad news. In his later years, he was convinced to sell/donate a conservation easement on the property to restrict subdivision and development, and even restrict forestry options. There was probably an income tax benefit. The family offered the land for a reasonable price, higher than average for timberland, but this is an exceptional parcel. My client had a high interest, but we could not make the numbers work. The present timber value was concentrated in a modest amount of very high-quality wood. But the future value of the exceptional growing stock was hard to quantify, and the base land value was quite low with the easement. In the end, the lot sold to a logging company for about what my client would have paid. So, the lesson here is that the easement, while it will keep the land undeveloped "forever," reduced the cash value beyond what anyone expected, and discouraged an investor with a great stewardship track record. In most northeast forest types, we can expect just less than one cord of total growth per acre, per year. This would be more in white pine, southern types, or western "wet side" forests. If mortality is limited and 50% of that growth is on sawtimber logs, then we can expect about 300 board feet per acre annually in hardwoods with a bit more in softwoods. To pick a nominal average stumpage value of \$100/Mbf, that gives us \$30 per year in annual growth. This is confirmed with some of our examples, ranging from \$20 to \$60 with good management. On the other end of the spectrum,

our clear-cut and high-grading examples provided about \$2 per year annually, with the post-clear-cut stand as the clear winner with better "acceptable growing stock." If the harvest of valuable timber is deferred, for example, by improvement cutting or light thinning, then this value accumulates as standing timber capital.

Since timberland is a long-term investment, we need to look at changes in value over decades. Of course, trees grow in size to be more valuable. They also jump into higher "grade" categories, worth more per board foot. And the bare land increases in value especially if other land uses are not restricted, for example, by a conservation easement or impossible terrain. This value increase is fairly reliable, and an important part of the long-term investment. We saw the negative impact in the conservation easement example. Looking at historic stumpage prices, we see various trends. Generally, high-quality timber appreciates much higher than inflation. Though consumer trends for certain species give an uneven increase, these quality products are worth growing. On the other hand, low-value products like pulp and firewood do not keep pace with inflation and have been steady or decreasing over the past 30 years. We can expect that to continue since the supply is excessive to the demand. And this is one reason it is critical to reduce the percent of low-quality wood early in an investment tenure. Low-grade trees are like tenants that don't pay rent in your apartment complex.

If you purchase land for \$1,000 per acre with \$500 worth of standing timber capital, then the bare land costs \$500 per acre. If you can yield \$30 per year in timber growth after expenses, that gives about 3% annual yield as a dividend. That does not sound great, except you still have both bare land, and standing trees, which are gaining value. If the land and timber is worth \$1,200 per acre in 10 years, and you have taken your "dividend," then you are closer to a 5% rate of return, which is quite reasonable for a stable, long-term investment with "side benefits."

Each woodlot will be different, and it takes carefully controlled actions to maximize your rate of return. Or more importantly, you need to decide what activities will be most satisfying. In many cases, timber management to achieve multiple objectives, such as wildlife habitat, recreational trails, and other uses, can provide a dividend. Larger tracts managed for timber investment provide a stable long-term yield. ■

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