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What Is My Timber Worth? And Why?

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Stumpage prices can vary greatly. The species, size and quality of the tree are, of course, important but there are also other factors that can account for differences in price. This note discusses some of the factors that can influence the price you receive for your timber.

A good starting place to estimate the value of your timber is what stumpage is selling for in your area. If your next-door neighbor just sold his house and it is very similar to yours, you could expect to sell yours for about the same price, and the same is true for timber. But such values are only starting points because, just as two houses are seldom exactly the same, two stands of timber usually have differences that can affect their value.

For a given species, tree size and quality are important. A larger tree is usually worth more than a smaller tree because diameter and height both increase as a tree ages, and this produces more volume. Tree diameter is also a determinant of log quality; high quality products usually cannot be produced from trees with smaller diameters. For a product such as lumber, larger trees are capable of producing more valuable, higher-grade logs which yield wider boards with fewer knots and other imperfections.

Tree quality (log grade) is especially important for hardwoods. The price paid for a Grade 2 hardwood sawlog delivered to the mill in Wisconsin is typically 1.5 to 2.0 times the price of a Grade 3 log, and a Grade 1 log brings a similar premium compared to a Grade 2 log. Since logging and transportation costs don't differ much by log quality, these differences in delivered prices translate to big differences in the stumpage price of standing trees.

A typical product progression for hardwoods is from pulpwood to sawlogs to veneer logs. This is based largely on size and quality, and reflects a price function something like the one shown in Figure 1. The solid line is simply a smooth line approximation to the staircase pattern of prices for different timber products.

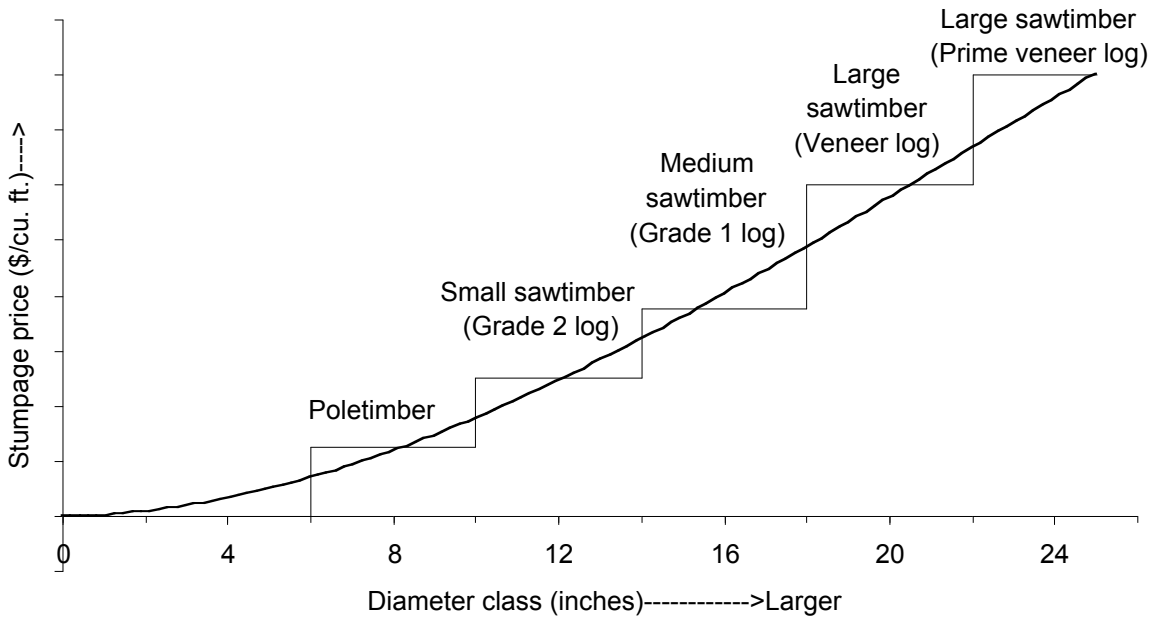

Figure 1. Generalized illustration of the pattern of stumpage prices for different diameter hardwood timber.

Most forestland owners think in terms of pulpwood and sawtimber as product objectives, but some niche market products can have higher stumpage values than these more traditional products. For example, pine utility poles and cabin logs command excellent prices; even more per unit volume than sawlogs. Not every tree will produce a cabin log or utility pole, though, so you need to consider your final product objectives early in the life of a stand, often as early as the time of stand establishment.

How much a logger can afford to pay you in stumpage value for your timber will also depend on how much the logger expects it will cost to harvest the trees and transport the products to the market. If you have a large volume of timber to be harvested, that helps the logger spread his fixed set-up costs over more trees and should be reflected in a higher price. The silvicultural system and type of harvest you employ; e. g., even-aged management leading to a clearcut, seed tree or shelterwood harvest versus uneven-aged management leading to single tree or group selection harvests, will also affect logging costs. The more expertise and care that is required, the more it will cost to log the stand. That's why clearcuts are usually less costly than other types of harvests.

Logging costs also depend on the operability of the stand; that is, how accessible the stand is and how difficult the terrain is to work. Building roads is expensive so it takes significant volume to justify new roads. Steep and rocky terrain will usually increase costs, as will requirements for treating slash or limitations on placement of landings. Following Best Management Practices (BMP's) will likely cost you a little in stumpage value, but following BMP's can avoid the need for expensive remedial work later so it is probably not really a cost in the longer term.

Your can usually get the best price for your timber if you use the services of a professional forester and if you use a sealed bidding process to sell the timber. Studies of logging jobs have also shown that when a forester administers the sale, logging damage is reduced.

Stumpage prices also depend on the demand and supply for timber. If demand is weak or supply is abundant, stumpage prices will be low. When these conditions continue over time, price rises more slowly than other prices in the economy, and the real stumpage price declines. This situation characterized Wisconsin's aspen resource during the 1960's and 1970's. Aspen pulpwood and sawtimber stumpage prices both remained approximately constant in nominal terms (including inflation), but the general price level in the economy rose over this period, so in real terms (excluding inflation) stumpage prices declined (Figure 2). Demand increased when waferboard and oriented strand board mills opened, but even today aspen remains a relatively low value species.

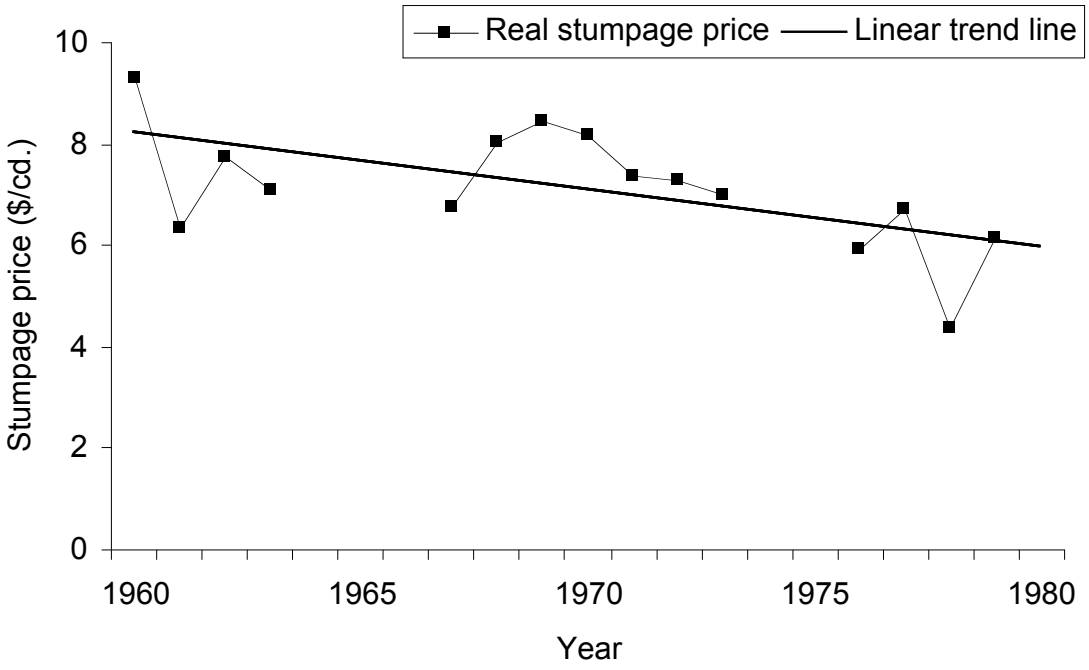

Figure 2. Real ($1982) stumpage price for Wisconsin aspen pulpwood, 1960-1979 (from Howard, 2001).

On the other hand, if demand increases faster than supply and there are not many opportunities to substitute other species, the stumpage price will rise faster than the general price level, leading to a real price increase. Stumpage prices of red and white oak sawtimber sold by the U. S. Forest Service have risen faster than the rate of inflation since 1965 (Figure 3). This means that oak sawtimber trees have become more valuable over time compared to species like aspen that did not experience this trend.

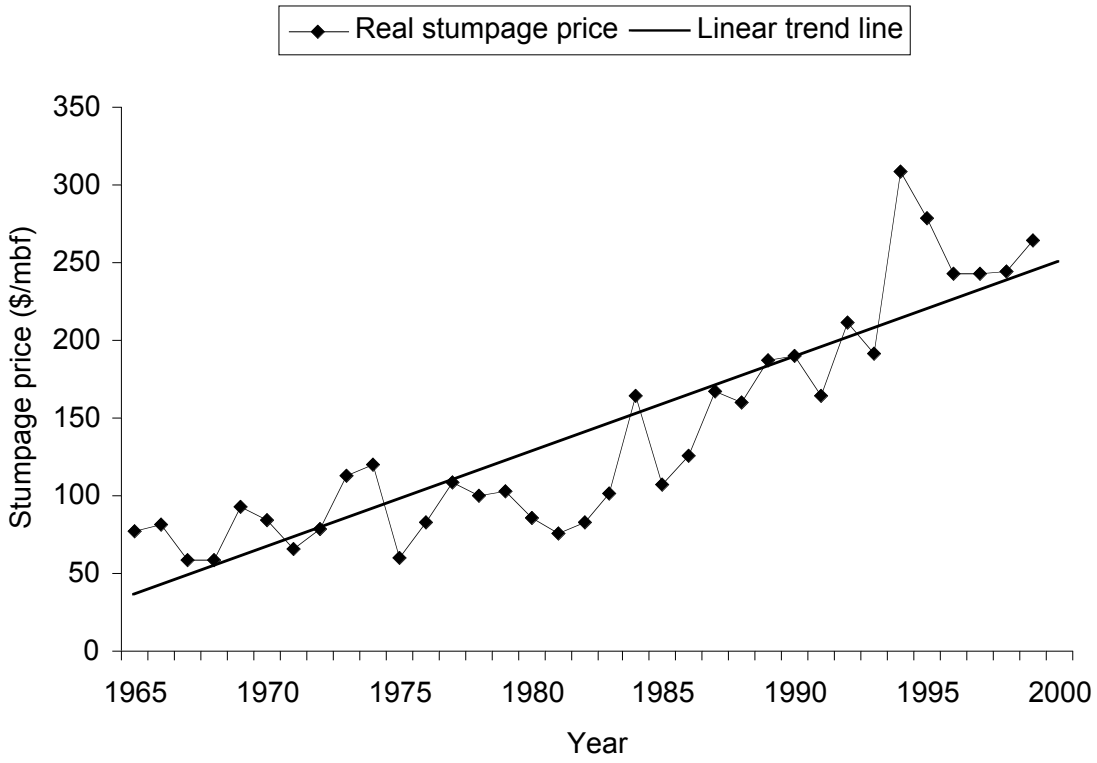

Figure 3. Real ($1992) stumpage price for red and white oak sawtimber sold from U. S. national forests, 1965-1999 (from Howard, 2001).

It is not easy to predict which species will become more valuable over time, and even if you could do that, not all species will be suitable for growing on your land. In the end, the best strategy is probably to grow what is best suited to your land and to manage for quality. It's a pretty safe bet that higher quality will always bring a higher price!

References

Howard, J. L. 2001. U.S. timber production, trade, consumption, and price statistics 1965-1999. USDA Forest Service Research Paper FPL-RP-595. Madison, WI 90p.

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