

Draft Animals Can Play A Vital Role In Forestry; by Carl B. Russell

I bought my first draft horse in 1986, and I have been working horses, and oxen, in the woods ever since. One of the most common questions I get is, "Can you really make any money logging with horses?" The answer is yes, particularly if the skid is short, and there isn't a lot of low grade. This may sound like high-grading on small lots, but it doesn't necessarily mean that.

The most significant drawback to working with draft animals in forestry is the low rate of production. This is not a financial disadvantage as much as it is a logistical restriction on the type of work that can be legitimately considered. The time required for human physical labor and the limited power of animals make it difficult to skid long distances, or to cost-effectively harvest low-grade products.

Although high production and maximum utilization have become conventional standards, they are not necessary components of successful forest management. I believe that we have become overly dependent on forestry defined by timber harvest, and the equipment used to do it. I think that the current approach to forestry may benefit from a perspective in which draft animals can play a valuable role.

The effective distance for ground-skidding logs with a single horse is about 500 feet. With a team and a hitch-cart designed for logging, 1500 feet is a reasonable distance. In certain instances with good conditions, with a sled on snow, or with a horse-drawn forwarder, distances up to ½ mile can be considered. These may seem like short distances by comparison to machines, but whether mechanical or animal-powered, skidding distance is a cost that ultimately affects stumpage value.

A well-designed network of truck roads and landings can improve accessibility throughout a woodlot. This up-front capital investment ultimately reduces the cost of any harvesting operation, and can be amortized through an increased return from stumpage. Although this kind of investment is rarer these days because huge powerful all-terrain harvesting equipment can go nearly anywhere, there are other benefits to this strategy.

A network of all-season roads can be the foundation of a multiple-use working landscape, affording access for recreation, agro-forestry, sugaring, on-site sawmilling, and fuelwood harvest. It also provides superior erosion control, and access for fire suppression. While it would be beneficial for any type of timber harvest, this is the type of investment that makes draft animal power more practical.

Because of low overhead costs, the primary costs of skidding with draft animals are related to time. When harvesting sawtimber under reasonable conditions, horse-loggers can be competitive, and operate with logging costs between \$175-\$225/MBF. But when harvesting low-grade material, the cost of the operation can outweigh the value of the product.

A viable strategy to reducing low-grade growing stock without harvest, is to practice noncommercial crop tree release, ensuring future production of quality timber. When it is adopted as a regular on-going practice, average stumpage value per acre will increase through improved growth of crop trees and the elimination of poor quality stems.

Many landowners can gain the skills to fell or girdle low-value trees, which are the primary techniques of crop tree release. This reduces out of pocket expenses, increases a sense of stewardship and the rewards of multiple-use, and reduces the disturbance created by equipment traffic. Non-commercial crop tree release can occur at the most effective time for each stem, not restricted by a schedule of timber harvests. There are also numerous circumstances when the work can be done in conjunction with harvest.

In financial terms, the harvest of low-grade products returns only minimal value, as stumpage income. By eliminating harvesting costs, non-commercial thinning returns the entire value of the cut trees to the site. In ecological terms, when trees die, they eventually contribute nutrients, organic matter, and accumulated carbon to the forest soil. Ecological function and soil productivity are significant factors in sustaining a vital woodlot, so this type of contribution can have real long-term value.

This may appear that horse-logging requires costs that are not necessary with other means. However, for financial assets to accrue value, there is always investment. When done correctly, timber harvest is an investment, with the cost of the operation being offset by the value of the cut timber. By investing in timber stand improvement and access infrastructure, landowners can reduce long-term costs while increasing future returns.

Neither of these strategies are new ideas. In fact, they are “old school”, much like draft animal powered harvesting. However, they remain effective approaches to cultivating working landscapes and improving growing stock. With higher quality growing stock and improved access, frequent light harvests can be more cost effective. This will facilitate small-scale harvesting operations, and low production systems like horse-logging.

If we continue to practice forestry that is dependent on harvesting large volumes of low quality material, with access limited to all-terrain harvesting machinery, then horses, mules, and oxen will never compete. However, if we see forestry as an opportunity to develop an accessible multiple-use working landscape with a commitment to sustainable management strategies, then draft animals can play a vital role.