



To Clear or Not To Clear – That is the Question

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For a variety of reasons, many people are buying land and “moving to the country,” getting away from city living. This wonderful privilege that many Americans realize comes with responsibility. The desire to own land ought to be coupled with the desire to “do the right thing,” i.e. be good stewards of the land and the resources on it. While most people want to do the right thing, many do not know what options are available, nor do they realize the ramifications of certain decisions on their land.

There are several reasons why someone might want to clear woodland. Pasture for livestock, space for horseback riding, creating a vista, making space for a garden, increasing lawn size, or establishing a field for hay or other crops are but a few. Regardless of the reason, it is important to carefully evaluate all options and thoroughly understand the ramifications. Here are some of the questions to consider: Would it be better to harvest the timber first or bulldoze the woodlands all at once? How much pasture is needed, and how long will the process take? What are the economic, ecological, and social tradeoffs? Will clearing land have a negative effect on other personal objectives, such as privacy or wildlife? And what legal restrictions are associated with land clearing? It would be prudent if you answered these questions before making decisions about whether to clear your woodlands.

Considerations Before Clearing Land

Economic

While large, highly manicured lawns and pastures are perhaps a symbol of “accomplishment” and “dominion,” they come with a cost. The average Virginian spends over \$700 a year on lawn care (NASS, 2006). A

15-horsepower riding lawn mower uses approximately 2.5 gallons of gas per hour, and bigger engines use more fuel. At \$3.00/gallon, this can add up to \$525.00 or more a year (assuming two hours of mowing each week and 35 mowing weeks a year) in gas costs alone, not to mention mower or tractor maintenance. Yearly inputs of fertilizers and herbicides add to the tab.

On the flip side, your forestland may help you earn money. If income from your land is important, have your woodland inventoried to evaluate the existing timber quantity, quality, and projected growth. These data can help you make decisions about land clearing and may be useful for tax purposes. Consulting foresters can inventory your woods and discuss timber values and provide financial analysis considerations. A list of consulting foresters can be obtained from your local Virginia Department of Forestry office (see the list at www.dof.virginia.gov/info/my-county.shtml).

Ecologic

Fuel, fertilizer, herbicides, and pesticides associated with lawn and pasture maintenance carry an ecological cost as well. Burning fossil fuels can significantly impact local and regional air quality. Additionally, inputs of chemicals to enhance turf or forage growth are often applied in excess. Excess chemicals are detrimental to the soil ecology and water quality. Research into regional water resources such as the Chesapeake Bay has repeatedly documented a severe effect on water quality from excess nutrient loads on lawns or agricultural fields in proximity to streams or even storm-water collection structures (Chesapeake Bay Program). Finally, drawn-out mowing times contribute to neighborhood noise pollution, an increasing issue in many areas.

“It’s all about the Soil”

Land-based activities, be they gardening, maintaining a lawn, harvesting timber, or clearing land, have very important common ground. It’s about the soil. Abused or lost soil is not easily fixed. Soils are the foundation of plant growth and the substrate to process precipitation into groundwater and clean surface waters. Soil cleared of vegetation is extremely vulnerable to erosion. In the eastern United States, the most common form of erosion stems from water energy (vs. wind) in the form of rain. Water has a tremendous ability to move soil. Soil movement, in the case of erosion, changes the productivity and resiliency of that land forever. Additionally, land clearing changes how precipitation is intercepted. Healthy ecosystems allow precipitation to infiltrate and become groundwater. Many times, disturbed systems cause water to run off into adjacent streams. Altering these natural systems often causes long-term problems that might not be appreciated until years later.

The highest ecological cost to clearing land, however, is not noise, exhaust, or fertilizers, but **erosion**. Soils are our most valuable natural resource. Without soil, we cannot grow food, fiber, or even a lawn. When soil is lost, not only does land productivity change but it is also likely that a nearby water body is impaired. Sadly, such effects are long lasting and nearly impossible to mitigate. Reviewing a soil map to evaluate the soils where clearing is being considered is prudent. How workable and/or prone to erosion are those soils and will they support different vegetation for soil conservation, or is forestland the best use for these soils?

Personal

Do you really want less woodland? Do your goals and values match

the implications of reducing forests which provide wildlife habitat (food, cover, and shelter), visual and sound buffers, protection from damaging winds, soil conservation, water resource protection, areas for recreation and wildlife viewing, walking paths, backyard camping, and nature opportunities for children? Woodlands can also be a source of income or cost savings from activities such as thinnings to gather firewood, and harvesting medicinal/edible crops such as ginseng or shiitake mushrooms. With proper management, woodlands can provide a sustainable yield of timber for sale or personal use (for an introduction to forest management, read *Sustainable Forestry: A Guide for Virginia Forest Landowners*, Virginia Cooperative Extension publication 420-139).

Any plans to clear woodlands for residential housing should also take into account fire safety. The space between permanent structures and woods (termed defensible space) should be an average of 30 feet. This guideline and other “firewise” principals will help to keep homes and other structures safe in the event of a wildfire. For more information on “firewise,” visit the Virginia Department of Forestry’s firewise website, www.dof.virginia.gov/fire/firewise-index.shtml.

Woodlands are increasingly valued and recognized for the myriad ecosystem services they provide to society. Woods are the single best land cover type for cleaning and storing water. New York City, for example, provides landowner incentives for protecting water quality on working forests in the watershed upstream from the city (Munsell, 2007; Brunette, 2003). As society begins to realize the real value of clean air and water from forests, it is possible that some owners will be able to take advantage of related market opportunities to supplement their income. Such opportunities are beginning to take shape with the exchange of carbon credits on the Chicago Climate Exchange.

Legal

It is important to be aware of the legal aspects related to land clearing. Virginia’s Erosion and Sedimentation Control (ESC) Law requires that all land-management activities minimize soil erosion. Erosion and sedimentation laws associated with harvesting timber from a forest where it is going to stay in forest use are enforced by the Virginia Department of Forestry. However, when timber is removed as part of a land clearing operation (such as creating a pasture), erosion and sedimentation regulations change. It is the responsibility of the landowner to check with their county to see what, if any, plans/permits need to be obtained.

It is important to talk to local administrators as well, as they may require more than the minimum set forth in the statewide standards. Additionally, be aware of potential zoning regulations or restrictions that might limit legal rights to clear the land. Local zoning offices can advise you regarding these matters. Property deeds should also be reviewed for covenants or easements that might restrict land clearing.

The Virginia Department of Agriculture and Consumer Services (VDACS), under the Virginia Agricultural Stewardship Act responds to water quality

complaints in agricultural situations. For more information on water and agriculture go to this VDACS website: <https://www.vdacs.virginia.gov/conservation-and-environmental-agricultural-stewardship.shtml>.

A potential legal situation may also develop after the fact. The Stormwater Management Act (SMA) in Virginia is administered by the Virginia Department of Environmental Quality (VDEQ) and usually implemented by local government such as the County or City in which your property lies. While this generally come into play with development activity such as construction sites, there is a relationship with erosion and sedimentation discussed above.

As noted in the sidebar “It’s all about the soil” the infiltration of rain on a piece of land dramatically reduces when the forest is removed. In heavy rain events, this can result in stormwater issues due to an increase of both volume and velocity of water runoff from the site. This can cause damage to neighboring property. While DEQ and local government can’t usually force mitigation actions after the fact (assuming the site is stable), the neighboring landowner can sue the offending party in court and this law may come into play. For site that may be at risk of causing stormwater runoff issues, a Storm Water Management Plan should be developed and followed. For more information on stormwater management in Virginia, go to: <https://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx>.

Finally, some areas should not be cleared regardless of your preference. Very steep slopes, riparian areas (areas bordering water), or any place where clearing would negatively impact the environment or a special feature, such as a site with threatened or endangered species, should be avoided. Some of these restrictions are enforced with state or federal laws while others are voluntary. Contact your local Extension office or the Virginia Department of Forestry for more information.

Summary

Many options exist if you do decide to clear land. Regardless of the option you choose, the primary goal should be the same: to minimize soil loss and movement during and immediately after the land clearing process. For a discussion on land clearing options, see *Options for Clearing Land for Pasture Establishment*, Virginia Cooperative Extension publication 465-341.

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