

FORESTRY 101

Woodland Roads

by Chris Osborne

Woodland roads are an integral yet often overlooked part of forest management. These roads are a woodland owner's gateway to enjoying their woods, and good woodland roads are critical to protecting and managing woodlands. Just as state and county road departments maintain their roads, landowners should maintain their roads. For many woodland owners this means keeping them well drained and keeping them clear of brush and debris.

Daylighting

Although some maintenance may be needed to rectify an already occurring issue, some preventative steps can be taken to mitigate degradation of your road system. One of the most obvious and destructive forces to woodland roads is water. A simple yet often overlooked tool for improving the condition of your road is increasing the amount of sunlight reaching the road. Daylighting a road can be achieved by clearing brush, limbs, or even trees which shadow the road and prevent those wet or soggy areas from drying.

Water Control

Once adequate sunlight is reaching the road, begin evaluating your road by asking yourself, "Does the water have a place to go"? If the answer is yes, then your road is sloped in a manner which doesn't allow for standing water or there are drainage controls (culverts or ditch lines which direct flow) in place. If the answer is no, then you should begin by looking at changing the slope of the road or creating a ditch line. The slope of the road should direct water to either a ditch line or to the downhill side so that the water isn't running along the road. Although equipment such as a bulldozer will work best for this operation, one would be surprised at the efficiency of a farm tractor with a loader attachment. However,

road locations are sometimes dictated by topography. When roads are on an incline, rutting is always an issue of concern. Broad-based dips are an ideal way to limit the distance water can travel down the road before being diverted. Large rocks or cliffs often inhibit the ability to create ditches; in this situation, sloping and diversion are musts. These dips create an undulation in the road where a sloped low spot acts as a catch basin for the water and diverts it into vegetation to the side of the road. Getting the water off the road is a big step in winning the battle of road erosion.

Fixing Mud Holes

Even if the road has adequate sunlight and is draining properly, there may still be issues. There are also spots on the road that are prone to turning into mud holes. The quick fix is to simply throw gravel into them and hope for the best, but generally this does not fix the problem over the long haul. In a section of road which tends to hold water or is very soft or unstable, consider using a geotextile fabric. The fabric is water permeable, which allows the water to move through the material but holds stone in place. This fabric typically comes in large rolls covering approximately 500 square yards. The rolls range in price,



Photo courtesy: Daniel Bowker

Woodland roads are an enjoyable and important asset for woodland owners. They provide access to your woodlands facilitating their use and management while also serving as fire breaks in the event of wildfire.

depending on the product, from \$200 to \$600. Most suppliers which carry culverts will also carry this fabric. To apply this material, you must first smooth the road as best as possible and divert water to the best of your ability. The fabric is then rolled out along the area to be repaired. The fabric should extend slightly beyond the area to be repaired. At this point it is best to stake the fabric in place.

Begin by dumping a large amount of gravel at one end of the fabric (#2 gravel works well). It is important to place the gravel at one end and then pack it across the fabric. Never drive across the bare fabric as it will tear and shift. As you progress with the gravel you can then drive across the area containing the gravel. The stone should be placed about 4 inches thick and should cover the fabric entirely. Once the large stone is in place, smaller gravel is placed as a final cap. About 2 inches of a smaller stone such as #57 works well. Once complete the fabric shouldn't be visible and the 6-inch cap will provide a sturdy path for travel. Similarly, this fabric isn't limited in its use to sections of road but can also be utilized in smaller applications such as pot holes. Simply cut the fabric so that it extends slightly beyond the edges of the hole and then fill with gravel; capping isn't necessary in this situation.

These are just some of the measures that can be taken to correct or prevent problems associated with forest roads. If you would

like further information regarding road maintenance or direction relative to specific instruction, the Internet is a great place to start. Search for information on forest or woodland roads. Forestry Best

Management Practices (BMPs) guidelines also include information on building and maintaining woods roads. Every state has forestry BMPs, including Kentucky, and these are good sources of information. Kentucky's forestry BMPs can be found at www.ca.uky.edu/forestryextension/Publications/FOR_FORFS/FOR67.pdf. Another reference for woodland roads can be found at www.na.fs.fed.us/spfo/pubs/stewardship/accessroads/accessroads.htm.

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The accumulation of water on woodlands roads (above) creates erosion and access problems. If this is a persistent problem on your woodland roads then consider using geotextile fabric and gravel to address the issue.

Photos courtesy: Chris Osborne



Once you have smoothed the road surface roll out the geotextile fabric (above) and dump a large load of gravel on one end. Do not drive directly on the fabric as it is subject to tearing and shifting.



Spread the gravel (above) across all the fabric to a depth of four inches and then apply another two inches of smaller gravel as a final cap. The geotextile fabric should not be visible when you are finished.



Broad based dips are a water control structure that collects water from the uphill side of the road (surface and ditches) and diverts it across the road to a stable outlet. They work best on roads with slopes of less than 10%.