

Woodlands Make Poor Pastures

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Ever since the early settlement of the United States, woodlands have been used as pasture and range land. Even with low forage values, eastern forests were grazed until early farmers could clear enough land to plant crops for their livestock.

Forested pastures make the job of locating livestock and protecting them against predatory animals much more difficult than does an open pasture. Open pastures supply livestock an increased quantity and quality of forage compared to that of forested pasture. In addition to supplying poor forage, Ohio woodlands can contain plants that are harmful or poisonous to livestock. Plants such as white snakeroot, black cherry, buckthorn, and Kentucky coffee tree all are poisonous to livestock in some manner, whether it comes from eating the fruit, leaves, or bark. However, despite the obvious advantages of grazing open pastures and the disadvantages of grazing woodlands, presently, thousands of Ohio's woodland acres are still being grazed. This woodland grazing negatively impacts not only the forest ecosystem but also the overall health of the watershed and its stream system.

Valuable Topsoil Lost

Based on the National Resources Inventory, historically livestock grazing is the major cause of erosion in woodlands. Soil losses are as high as 44 tons per acre annually on steep, wooded slopes.

According to the Natural Resources Conservation Service (NRCS) in Ohio, three-quarters of a million acres of grazed Ohio woodlands are eroding at an annual rate 12 times greater than woodlands protected from grazing. At this rate of erosion, one inch of valuable topsoil is removed every 20 years.

Livestock cause increased woodland soil erosion by clearing vegetation and compacting the soil. They clear the land by eating the understory plants and pulverizing the leaf litter, leaving a bare soil surface. No matter what

type of livestock, they carry a large amount of body weight on small, hard hooves. These hooves cause porous forest soils to become compacted to the point where they are prevented from absorbing rainwater. This forces rainfall to run off, carrying soil particles with it.

Woodland soils, waterways, and timber production suffer when a woodland is grazed. Also, wildlife cover and food supply are reduced or eliminated and the quantity of wildlife is diminished. Other forest products such as firewood, mushrooms, and ginseng are eliminated or reduced in grazed woodlands.

The simple solution to the woodland erosion problem is to fence livestock out of the woods. Convert marginal woodlands into productive pasture, and fence to protect remaining woodlands from pasturing. If desired, a small corner of the woods may be included in the pasture for summer shade and winter wind protection, while the remaining area is protected from livestock.



Livestock grazing along a wooded stream compact soil, eliminate regeneration, and destroy streambanks causing soil to be eroded into the stream.

Streamside Forests

Streamside forests provide a multitude of benefits for not only timber value and wildlife habitat but for water quality. The trees in a streamside forest function as filters for non-point source pollution and contribute greatly to having stable stream banks, which in turn minimizes in stream sedimentation. These same trees help to lower stream temperatures, which is critical to many aquatic species.

Streamside forests are located within the flood plain, and the natural stream system relies on porous forest soils to act as a sponge at times of high flow. When forest soils are grazed, they become compacted and the water is no longer absorbed but forced to flow downstream much more quickly than normal. This increased runoff contributes to downstream flooding problems and a greater amount of sediment added to the stream system.

Trees in a grazed forest grow more slowly as a result of the compacted soil, and are therefore less efficient at filtering the water as it passes through the forest. Water quality suffers since the water is not efficiently filtered and soil particles leave the site to contribute to the stream's sediment load.

Hardwood Timber Threatened

The influence of livestock grazing on Ohio's timber resource is pronounced. Livestock browsing destroys young hardwoods by girdling and physical deformation. Larger trees in the stand may have bark stripped and their root systems damaged from livestock hooves. Compacted soil around the roots reduces the amount of oxygen the root systems receive, causing the roots to slowly die. The elimination of the seedlings in the understory, along with the damage to larger trees, reduces the number of trees in the woodland and threatens the continued production of fine hardwood timber.

Grazing woodlands often result in changes in the species make-up of the woods to less desirable trees such as cedar, locust, buckeye, hawthorn, dogwood, and crabapple. The value of existing timber is reduced in grazed woodlands. Hoof damage to tree butts and exposed roots allow entry of damaging insects and diseases. Prolonged grazing re-



Fencing should be used to keep livestock out of woodlands no matter what their age.

sults in log rotting and staining. A white oak veneer tree may become a lower value saw log after such staining.

Ohio is known for its quality hardwoods and hardwood timber industry. As the resource it depends on is degraded, the viability of the industry is reduced. This threatens the industry as well as landowners as they potentially can lose a source of farm income. The value of Ohio's forests is not in pastures but in the production of quality wood products.

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