

Why Manage Your Woodlot?

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Forests are a major feature of the Michigan landscape. Covering more than 52 percent of the state, nearly 19 million acres of forest land contribute directly to Michigan's economy through timber production and forest products industries. In addition, forests provide numerous recreational, wildlife, aesthetic and environmental benefits. Only four other states can boast of more acres of commercial forest land than Michigan.

Michigan's forests are diverse in both type and ownership. At least nine major forest types are present. These produce a variety of products, including Christmas trees, sawlogs for lumber, pulpwood for paper, and raw materials for post, piling and log home industries (Fig. 1).

Ownership of Michigan forest land is similarly varied. Public forest holdings, including three national forests and the nation's largest state forest system, account for 6.5 million acres. Industry owns nearly 2.0 million acres; and some 10.5 million acres are in private ownership, representing approximately 55 percent of the total area. These private parcels of forest land are generally less than 100 acres and often are associated with farms or recreational properties.

The productivity of Michigan's forests varies considerably with ownership. Both publicly- and industrially-owned forests are generally well managed and produce at or near their potential. However, the majority of small privately-owned forests are poorly managed. Most are producing at one-half or less of their potential, even though most private forests are on good soils and possess the capacity to produce significantly greater yields.

In the past, there had been little concern with increasing the productivity of

Fig. 1. Most woodlots can be managed to produce forest crops on a continuing basis by applying periodic thinning and harvesting operations.



Fig. 2. Poor forest management often results in large, undesirable "wolf" trees and poor reproduction.

private forests because supplies of forest products were plentiful and forest lands abundant. This is no longer the case. Nationally, the forest land base has been shrinking while the demand for wood products is projected to sharply increase. Thus, it is necessary to increase the productivity of privately-owned forest lands. To accomplish this, private forest landowners must manage their land more efficiently.

Why Woodlot Management?

Most private forest landowners do not practice good woodlot management for a variety of reasons. These include failure to view the forest as a manageable resource, belief that leaving a forest alone will maximize its benefits, ignorance of necessary treatments and their applications, and a general mistrust of loggers and timber harvesting procedures. Be-



Fig. 3. Woodlots can be managed for many uses including timber, wildlife, aesthetics and recreation.



Fig. 4. In a TSI operation, undesirable trees are removed providing adequate growing and reproduction space for remaining trees.

cause of past experiences with indiscriminate logging, some landowners improperly associate forest management with harvesting only large trees. Hence, many forest landowners are reluctant to plan any new management activity. Still others are not aware of the potential for producing a forest crop on a continuing basis.

In the past, most woodlots were not managed for renewable crops; instead, they were periodically logged with little or no concern for improving the condition of the remaining stand (Fig. 2). Usually only the choicest trees were removed, leaving defective and otherwise low-value trees to occupy an increasingly larger portion of the woodlot.

In addition, many farm woodlots have been grazed by livestock. Fortunately, many farmers have discontinued this practice. Woodlots that have been grazed typically contain much low-grade, defective material. Few desirable, merchantable trees are present, although desirable species may be reproduced where grazing has been discontinued. Consequently, a large number of potentially high quality, small diameter stems may be present.

In northern Michigan, many second-growth woodlots have developed where the original forest had been harvested, or on land once cleared for agriculture and subsequently abandoned. These stands are generally even-aged with uniform-sized trees. Most are overstocked and need an improvement/thinning cut to maintain rapid growth rates. Thinning such stands will also encourage additional reproduction, thereby establishing a multiple-aged stand.

What is Woodlot Management?

Woodlot management is the care and maintenance of a forest stand which encourages continuing yields of products and services in a mix which the landowner desires (Fig. 3). Management is designed to make each acre of forest produce its maximum. This means that an adequate number of trees of good form and quality are spaced to maintain maximum growth rates while using all available growing space. Management is also concerned with regenerating the stand to replace harvested trees. Regeneration is essential if the landowner is to realize the woodlot's potential.

A timber stand improvement cut is the most immediate need in most hardwood forest stands. Deformed, diseased, damaged or otherwise defective trees will not produce high-value timber products. In addition, such trees compete with more desirable trees for available moisture, nutrients and growing space. Their presence not only reduces the growth of desirable trees, but often prevents the establishment of better trees within the stand (Fig. 4). A timber stand improvement cut will remove these generally undesirable and low-value trees. Such trees are most suitable for firewood, since their value for other commercial products is low.

Along with a timber stand improvement cut, most woodlots also require thinning to obtain optimum tree spacing. The amount of thinning necessary will vary depending on the size and distribution of the trees in the stand. In a properly thinned stand, growth of remaining trees may double or triple. As trees increase in

size, their growing space requirements likewise increase making periodic thinnings necessary. Later thinnings and harvest cuts will yield higher quality products and, more importantly, provide openings in the stand for the establishment of new trees. Thus, with some harvesting occurring every few years, the woodlot can be managed to produce continuing crops.

Previously poorly-managed forest stands can be managed to produce at or near their potential. The proper timing and application of timber stand improvement, thinning and harvesting operations gradually will improve the quality of a woodlot and help maintain its productivity. In addition to obtaining forest products through proper management, forest landowners will also gain satisfaction from being good stewards of their land.

Further Help

Information on how to complete a timber stand improvement operation is contained in MSU Extension Bulletin E-1578 "Improving Hardwood Timber Stands." Included are suggestions for selecting the best trees of desirable species and maintaining proper spacing. On-the-ground management assistance can be obtained from your local Michigan Department of Natural Resources field office and county Soil Conservation District office. Assistance is also available from consulting foresters and from some of the larger forest industries in the state. Additional information on woodlot management and related subjects is also available from your local Cooperative Extension office.