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FOREST MANAGEMENT III

Thinning



4-H PROJECT AND RECORD BOOK

NAME _____

CLUB _____ COUNTY _____

PROJECT YEAR _____



**RENEWABLE
NATURAL RESOURCES**

forestry • wildlife • fisheries • utilization • marketing
outdoor recreation • tourism • management • economics

Description of Forest Management Projects

1. Forest Management I - "Plantation Care", 4-H Record Book. This project is for those who have taken one of the Forest Establishment projects or who have a plantation on their farm. The objective of the project is to teach you that forest plantations may need special attention for a few years after the trees have been planted. You will learn how to care for your trees so they will grow into a healthy forest of valuable trees.
2. Forest Management II - "Timber Stand Improvement", 4-H Record Book 58. This project is designed especially for you if you have a hardwood forest. However, it may be also taken to improve pine or mixed pine and hardwood forests. It should also be taken, in connection with the planting project, in converting cut-over hardwood land to pine. By completing this project, you will learn how to make the improvements in your woodlands so they will grow faster and produce better timber.
3. Forest Management III - "Thinning", 4-H Record Book 57. The purpose of this project is to teach you the value of thinning your forest stands, especially pine. Dense stands of second-growth yellow-poplar may also benefit from thinnings if there is a market for the trees removed. For most hardwood stands, the Timber Stand Improvement project is a better project to take.

Record Book 57
Cooperative Extension Service
Revised

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U. S. Department of Agriculture. W. E. Skelton, Dean, Extension Division, Cooperative Extension Service, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.

Importance of Forest Management Projects

Virginia is a timber-producing State and one in which wood-using industries are very important. Nearly 2/3 of the State's area is in forest. There are more wood-using industries in the State than any other type. These industries rank first in number of people employed and second in the amount of wages paid to employees. We have markets for much of our low quality wood as well as excellent markets for any high quality wood we can grow.

Our forests, however, are not in very good growing condition. Many of our forest areas that are being cut are growing back to poor quality trees. We are cutting our most valuable pine much faster than it is growing. Our hardwood forests have too many cull trees and species of trees that have little value for lumber. If we will start managing our forests now, we will not only be getting a better income from our forest lands - we will soon have more timber to harvest for our growing wood-using industry.

The basic aim of forest management is to keep forest lands as productive as possible. In order to have our forests grow as much high quality timber as possible, good care must be taken of them. Fire, insects and disease must be kept out if possible. Crooked trees, large spreading trees and species of low value must be removed. Trees should grow closely enough together so they will be tall and straight with no limbs for the first couple of logs. However, they must not be so crowded that their tops are small and spindly.

A good 4-H forester should learn how to care for his forests. Each of the Forest Management projects is designed to help you learn some part of forest management work.

Forest Management III

"Thinning"

by

Forestry Extension Staff

Objective of Project

The objective of this project is to teach club members the value of and how to thin young forest stands - especially pine and yellow-poplar.

Suggestions for Carrying Out the Project

The purpose of thinning a natural forest stand or a plantation is to take out the poorer trees and to make room to grow for the ones that are left. By taking out the poorer trees such as ones that are crooked, ones with broken tops or ones with very poor crowns, room will be made for the crowns of the remaining trees to expand. It should be remembered though, that too large openings may encourage hardwood growth. As the crowns on the remaining trees get larger, the growth rate will increase. When the crowns close in again, it is time for another thinning.

Thinnings are usually made in stands containing species of trees that need a lot of light to grow well. Such trees are most of the conifers, and in our State, yellow-poplar. Both conifers and yellow-poplar usually seed in where there is no overhead competition and grow in even-aged stands. Where they come up in too dense stands, thinning improves the growth of the ones that are left. Plantations, too, benefit by thinnings when the trees become large enough for pulpwood.

Most of our hardwoods, except second-growth yellow-poplar, don't grow so dense that thinning is practical. Up to the present there has not been much of a market for hardwood thinnings. Also, most of our present hardwood stands have many cull trees and trees of inferior species. An improvement cut (see 4-H Club Forest Management II, Timber Stand Improvement. 4-H Record Book 58) is more worthwhile in hardwood stands.

Thinning is not considered very practical unless the trees taken out can be cut into products which can be sold or used. Most pine thinnings are used for pulpwood, fence posts or fuel. Yellow-poplar can be sold for pulpwood in areas where hardwood pulpwood is purchased.

It is very important in thinning pine stands to protect the trees that are left from insect damage. Trees cut in the summer invite insect attack. Fall or winter cutting helps to lower the chances of insect attack. In any case, the tops should be cut up and scattered. No branches or tops should be left to lie against living pine trees. It is also best to take the products out of the forest very soon after they are cut. Never pile the products against a living tree. Insects move from the cut material to kill the live trees.

Requirements

1. Study and follow the instructions provided by your extension agent and your leader or parent.
2. Select an area of at least 1/4 acre for thinning.
3. Mark the trees to be removed.
4. Fell and cut the trees into the products for which they are to be used.
5. Keep a record of the time it takes to do the work.
6. Compute the volume and value of the products removed.
7. List the dangers in working in the woods and in using woods tools. Describe what you will do to make the job a safe one.
8. Complete the project record book.

References

1. Growing Loblolly and Shortleaf Pine in the Mid South. U.S.D.A. Farmers' Bulletin #2102.
2. Logging Farm Woods Crops. U.S.D.A. Farmers' Bulletin #2090.
3. Managing the Family Forest. U.S.D.A. Farmers' Bulletin #2187.

Requirement No. 2 - Select an area of at least 1/4 acre (100 x 100 feet) to be thinned. With the help of your parent or leader mark the trees to be removed. Draw a simple map showing the location of the area in relation to your home, a crossroads or some other outstanding point of reference. Place North at top of map.

Map of My Thinning Area



Requirement No. 3 -

- (a) Fell and cut the trees into the product for which they are to be used. Keep stumps as low as possible.
- (b) Cut tops and scatter. Keep all green branches away from trees that are left. Remove products from thinned area immediately.
- (c) Keep a record of the time it takes to do the work and the cost of equipment used.
- (d) Compute the volume and values of the products removed.

Thinning Record

Figure any free labor, materials, or equipment at current rates

Man hours - marking	_____
Man hours - cutting	_____
Man hours - hauling	_____
Equipment hours - power saw (if used)	_____
Equipment hours - other (truck, etc., if used)	_____
Expenses (labor at \$1.25 per hour)	
Marking	_____
Labor	_____
Equipment	_____
Total cost of operation	_____
Acres thinned	_____
Cost of thinning per acre	_____
Returns from sale of products	_____
Net expenses or returns	_____

CONSERVATION PLEDGE

"I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country - its soil and minerals, its forests, waters, and wildlife."



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