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FOREST MANAGEMENT II Timber Stand Improvement



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BLACKSBURG, VIRGINIA

4-H PROJECT AND RECORD BOOK

NAME _____

CLUB _____ COUNTY _____

PROJECT YEAR _____



**RENEWABLE
NATURAL RESOURCES**

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

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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.

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 projects, 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.

Forest Management II
"Timber Stand Improvement"

by

Forestry Extension Staff

Objectives of Project

The objectives of this project are to teach the club members (1) the importance of developing and maintaining a forest of healthy, high quality trees and (2) ways by which it can be done.

Suggestions for Carrying Out the Project

Since this project is designed to be used for any kind of improvement work in the forests of Virginia, not all the bulletins listed as references will apply to all kinds of forest areas. However, you should read the ones recommended by your extension agent or leader. You and your leader or parent should then make an inspection of the farm woods. Together, you should decide on all the different things that might be done to improve the woodlands. These may be:

1. Removal of trees in cut-over stands to prepare the area for the spot planting of pine. This may be done by cutting, girdling or poisoning worthless trees. This kind of improvement work should be done in connection with 4-H project Forest Establishment I - "Open Land or Spot Planting", 4-H Record Book 25 or Forest Establishment III - "Christmas Tree Planting", 4-H Record Book.

2. Elimination of cull or wolf trees.
3. Removal of insect infested trees or trees in pine stands that have blown over.
4. Release of natural reproduction - usually in cut-over pine stands.
5. Elimination of inferior trees or trees which will not grow into good sawlog trees.
6. Fencing the woods from grazing.
7. Protection of white pine stands or white pine plantations from blister rust by removing gooseberry or current bushes.

After you and your leader or parent have gone over the whole farm woodland to decide on all the different things that can be done to improve the forest, you should then select the area in which to work - at least 1/4 acre (100 x 100 feet). You may need to do only one or two of the things suggested above in your project area, but you should make all the improvements needed. If very little work needs to be done, or if you decide to fence the woods from grazing, for example, your project area may be the whole farm woods.

Before beginning the actual improvement work, you should know how to work safely in the woods. You should list the dangers in the job you are about to do and what you will do to keep from getting hurt.

Requirements

1. Study the bulletins provided for the project, including this project manual, and follow the instructions of your extension agent and local leader.
2. Inspect your woods for the different kinds of improvement work you can do.
3. Select an area of at least one-fourth acre (100 x 100 feet) in size needing improvement.
4. On the basis of what you have studied and the suggestions your leader or parent has made, decide what improvement work you are going to do in the area you have selected.
5. List the dangers in working in the woods and in using wood tools. Describe what you will do to make the job safe. Some chemical applications call for extra caution.
6. Do the improvement work decided on by yourself and your leader.
7. Complete the project record book.

Order These References

1. Control of Undesirable Forest Trees and Brush. V.P.I. Control Series 46.
2. Forest Tree Diseases of Va. (Conifers). V.P.I. Control Series 135.
3. Forest Tree Diseases of Va. (Hardwoods). V.P.I. Control Series 135.
4. The following 2-4 page leaflets on Tree Diseases:
 - Oak Wilt ----- MR-FTD-1
 - Needlecast of Conifer ----- MR-FTD-2
 - Winter Drying ----- MR-FTD-3
 - Oak Decline ----- MR-FTD-4
 - Fomes Root and Butt Root -- MR-FTD-5
 - Fusiform Rust ----- MR-FTD-6
 - Eastern Gall Rust ----- MR-FTD-7
 - Chestnut Blight ----- MR-FTD-8
 - Nectria Canker ----- MR-FTD-9
 - Canker Diseases of Oak ---- MR-FTD-10
5. Growing Loblolly and Shortleaf Pine in the Mid South. U.S.D.A. Farmers' Bulletin #2102.
6. Logging Farm Wood Crops. U.S.D.A. Farmers' Bulletin #2090.
7. Managing the Family Forest. U.S.D.A. Farmers' Bulletin #2187.
8. Protect Hardwood Stands from Grazing. U.S.D.A. Leaflet #86.
9. Protecting the Forests From Fire. U.S.D.A. AIB #130.

Requirement No. 2 - Select an area of at least $1/4$ acre (100 x 100 feet). Describe briefly what you plan to do to improve this area. Draw a simple map showing the location of the area in relation to your home, a crossroads or some other outstanding point of reference. Put North at the top of your map.

Work to be Done

Map of my Area

Requirement No. 4 - Carry out on ground what you proposed to do in requirement #2. Keep a record of the work done. Figure any free labor or materials at current rates.

Record of Work

Hours required to do job _____

Expenses

Cost of your labor at \$1.25 an hour _____

Cost of materials (chemicals, etc.) _____

Cost of equipment (for example, hourly cost of power saw, if used) _____

Total cost of job _____

Acres improved _____

Cost of improvement per acre _____

Returns from sale of products (or value if used) _____

Net expenses or returns _____

Dates work done _____

Products cut _____

Volume or number of pieces _____

Describe briefly work done _____

Equipment or material used _____

Additional comments _____

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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