



# 4-H RECORD book FORESTRY PROJECT

MEMBER'S NAME \_\_\_\_\_ AGE \_\_\_\_\_

PARENT'S OR GUARDIAN'S NAME \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_

NAME OF YOUR CLUB \_\_\_\_\_ COUNTY \_\_\_\_\_

NAME OF YOUR SCHOOL \_\_\_\_\_ GRADE IN SCHOOL \_\_\_\_\_

YEARS YOU HAVE BEEN IN CLUB WORK \_\_\_\_\_ IN THIS PROJECT \_\_\_\_\_

NAME OF COUNTY OR HOME DEMONSTRATION AGENT \_\_\_\_\_

NAME OF YOUR LOCAL CLUB LEADER \_\_\_\_\_

Florida Cooperative Extension Service  
Institute of Food and Agricultural Sciences  
University of Florida, Gainesville  
John T. Woeste, Dean for Extension

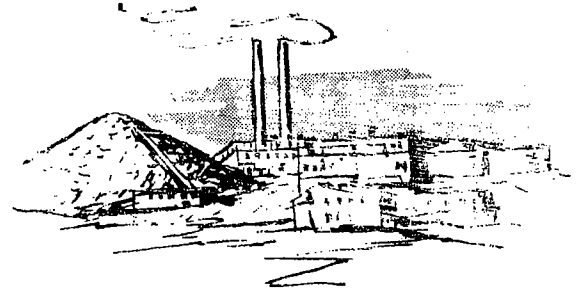
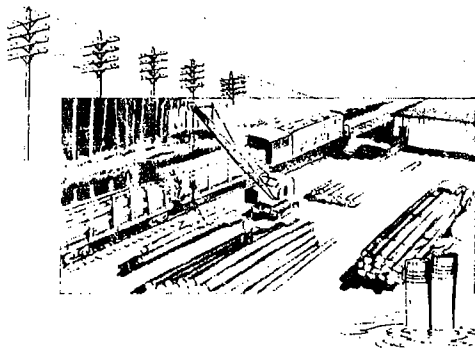


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## INTRODUCTION

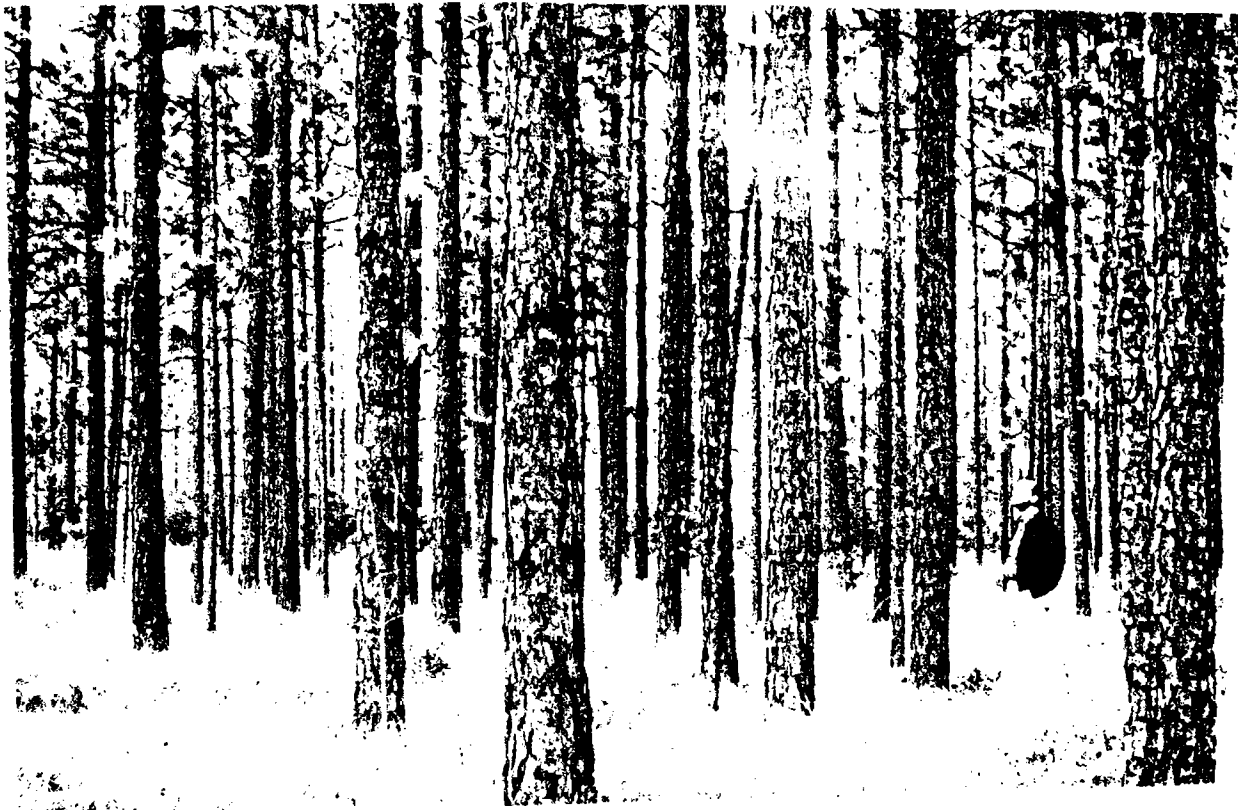
Trees are everywhere in Florida and forests are composed of trees. Today, however, most of us live in towns and cities and suburbs. Sometimes here even city parks and playgrounds with trees are hard to find.

When you finish reading this project book, we want you to be interested and curious about trees and forests. By this we mean you will want to learn more about them -- not just from free bulletins and elementary publications such as this, but really learn and study from many sources and from time spent in the woods.

Today ecology is a word we hear on every hand. It means a study and appreciation of all life and the environment -- in other words, nature study. This project should give you a beginning appreciation of trees.

We hope 4-H boys and girls both young and old will find this 4-H project interesting.





### DEFINITIONS:

FORESTRY--THE SCIENCE OF MANAGING WOODLANDS FOR  
TIMBER PRODUCTS AND OTHER FOREST VALUES

FOREST ECOLOGY-- THE STUDY OF LIVING THINGS OF A FOREST  
AND THEIR RELATIONSHIP TO THE ENVIRONMENT.

ECOSYSTEM--A NATURAL COMMUNITY

NATURE STUDY--ECOLOGY

ECOLOGY--NATURE STUDY



## MULTIPLE USE OF FLORIDA'S FORESTS

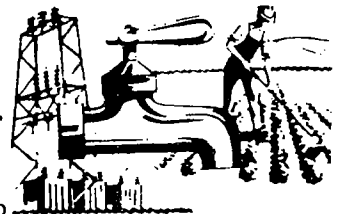
Let's take a closer look at multiple use.

On a single acre of forestland there may be only a single use; say timber production, recreation or wildlife food plot. However, on a tract of several acres there may be several major uses in harmonious combination.

Timber is a crop. Planted pines especially are very similar to a cornfield. Trees from a plantation harvested in accordance with good forestry practices assures wood for our many needs. Without wood products the world would be a difficult place to exist. Look around you at the wood products you can see. Luckily forests are a renewable resource. We can "have our cake and eat it, too". Forests mean jobs. Over 40,000 people work at forestry jobs and in forest industries.

### Water Supply

Forests help protect our water supply by forming watersheds. Simply, a watershed is a drainage basin the area of land where a stream gets its water supply. Water seeps into channels made by plant roots and burrowing insects and animals. Going deeply into the ground clear water can return to the surface as springs, seeps, and streamflow.



### **WATER**

FOR AGRICULTURE, HOME, RECREATION, FISH, WILDLIFE, INDUSTRY



### **WILDLIFE**

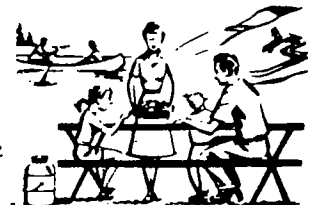
PLEASURE WITH ROD, GUN,  
CAMERA, BINOCULARS

### Forest Wildlife

Multiple use management means food and shelter for wildlife. Today many small woodland owners consider wildlife values the major use of their woodland. Many of us fish and hunt. Many more, however, also study nature. Take pictures of animals or just feel better knowing "they are out there".

### Forest Recreation

All of us remember a forest cookout, campout or family picnic in the forest. Remember your wood manners when using the woods. Don't litter, be careful with fire, protect plants and property and leave things as you found them or better. Hiking, riding, boating, and birdwatching are all recreational uses.



### **RECREATION**

FOREST ENVIRONMENT,  
REST AND RELAXATION

### Special Products

Firewood, wild fruit and nuts, herbs, medicinal plants and trees for beautification are all special and important products of the forest.



### **SPECIAL PRODUCTS**

FOR FOOD, FUEL, MEDICINE, HOME  
BEAUTIFICATION, TOURIST TRADE,  
CHEMICALS

### Forage

Forest plants provide food and grazing for livestock.



### **FORAGE**

PLANTS HOLD SOIL, SLOW SURFACE  
WATER RUNOFF, PROVIDE FOOD  
FOR ANIMALS

## Who Owns Our Forests

Many Floridians living in towns and cities have very little idea of the vast areas of forest land we still have. Of the 35 million acres of land in Florida about 16 million are commercial forest land used for growing timber as well as for other environmental values (including water, wildlife and as freshening qualities, etc.). This forest land is owned mostly by private landowners (53%), forest industries own 13% and the public (national and state forests, etc.) own 13%.

## Beginning Steps in Managing a Small Family Forest

1. Know and mark the boundaries of your land.
2. Know what kind of common trees are growing or should be planted on the land (we have 314 species of native trees in Florida).
3. Control wildfires and protect the trees from forest insects and diseases.
4. Make improvement cuttings or thinnings when needed. Take out poor quality trees for fuelwood, posts, or pulpwood. Hold good quality trees for poles or sawlogs (poor quality trees include: forked, crooked and diseased trees). Leave den trees (hollow trees) for wildlife.
5. Each small forest is different. Obtain the services of a county forester, industry forester or consulting forester to assist you with making a forest management plan.
6. For a 4-H forest management project select an area of one acre or more and manage it. Keep records of your work. County foresters and industry foresters will help you select an area and get started - why not begin today!

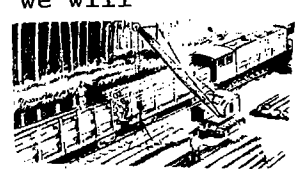
## Wood Products From Florida Forests

Florida forests provide many benefits besides growing wood for forest products. Yet wood products by far produce the most income from our Florida woodlands.

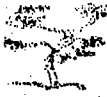
Over 5000 products useful to man come from the tree. Major wood products include: woodpulp for paper and paper products as well as dissolved pulp for plastics and rayon. Lumber for construction poles and piling, for utility poles and docks. Veneer logs for plywood and wooden vegetable crate construction. Cross-ties for railroad tracks, fence posts, firewood and naval stores (turpentine, rosin and other pine oils). How many wood products can you name? Over 100,000 Floridians work at jobs related to our timber industry.

## Our Wood Supply

Many people believe we are running out of trees. This is not true. The 1970 forest survey showed that the volume of growing trees has increased 25%. This means as long as we continue to practice good forest management and reforest cut-over lands with a new crop of tree seedlings, we will







have plenty of wood to harvest for wood products forever. Trees are a renewable resource. Unlike oil and minerals that are non-renewable resources and take millions of years to develop. A crop of trees may be grown in 20-40 years. Forest research is developing superior trees that take less time to grow to a useful size. The potential for forest management and forest use in the south is unlimited. We can have water, wildlife, recreation and wood too!

#### Common Native Trees of Florida and Their Uses

Florida has 314 native trees, probably more than any state but Hawaii. About 50 of these native trees have important value for wood products. All trees and forests have many additional values including food for wildlife, air conditioning units to clean the air and produce oxygen, wind-breaks, noise barriers, screening unsightly auto graveyards, etc.

You should be familiar with some of the common trees and their uses. The 4-H Forest Ecology Series helps you identify these and many more.

Bald Cypress - swamp tree, durable heartwood, boats, lumber, tanks, paneling, coffins

Hickory - wildlife food, tool handles, fuelwood, baseball bats

Magnolia - lumber, paneling, crates, pulpwood, ornamental, wildlife food

Mulberry - posts, wildlife food

Turkey Oak - fuelwood, wildlife food

Cabbage Palm - our state tree, valuable ornamental

Water Oak - common shade tree, fuelwood, wildlife food, pulp

Live Oak - longlived native oak, valuable shore tree, used in ship building in wooden ship days.

Laurel Oak - common shade tree, fuelwood, wildlife food, pulp

Slash Pine - millions planted every year, pulp, lumber, naval stores,

Longleaf Pine - yellow pine, lumber, pulp, poles, all pine seeds good wildlife food

Loblolly Pine - lumber, pulp, posts

Wild Plum - wildlife food, plum thickets good escape cover for quail

Saltbush - screening plant, windbreak

Waxmyrtle - candle wax, flea repellent, hedge plant

White Tupelo - nectar plant, pulpwood, wildlife food

Australian Pine - windbreak, screening, hedge (exotic tree)

Melaleuca - possible pest exotic (imported tree) honey producer



Planting Trees in Florida

1. Tree seedlings are ordered from the Florida Division of Forestry.
2. Obtain an order blank and instruction leaflet from your local county agent or county forestry office.
3. Pines available for \$9.00 per thousand includeslash pine, loblolly pine, sand pine and longleaf pine.
4. For Christmas tree plantings in addition to sand pine, red cedar and and Arizona cypress seedlings are available for \$30 per thousand.
5. Hardwoods available include: catalpa, green ash, red maple, sweetgum, and sycamore. (Hardwoods are broadleaf trees that usually shed their leaves).
6. Potted Seedlings of eucalyptus, Australian pine and other exotic (introduced species) are available for 40¢ each for planting in South Florida.
7. Seedlings are ordered in summer or fall for planting in winter.
8. Seedlings are planted by hand with a dibble (about 1000 trees per day). or with a tractor drawn tree planting machine (about 10,000 trees per day).
9. Seedlings will grow to pulpwood size, 8" in diameter in 18-20 days.
10. Check with your local county forester for details on obtaining free seedlings for a 4-H group planting.

**PLANTING SEEDLINGS WITH A DRIBBLE**

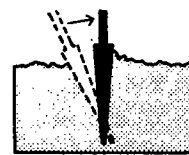
**CAUTION!**

**KEEP SEEDLING ROOTS MOIST AT ALL TIMES**

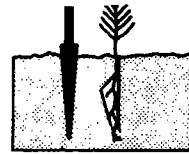


$$+ 20 \text{ YRS. GROWTH} = \frac{100 \text{ BOARD FEET}}{\text{OF LUMBER}}$$

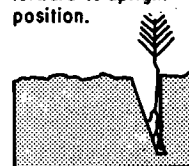
500 LBS.  
WOOD  
OR  
120 LBS.  
OF PAPER



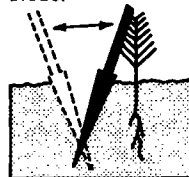
1. Insert dibble at angle shown and push forward to upright position.



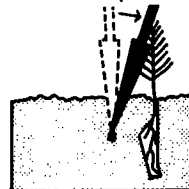
4. Push dibble straight down to depth of blade.



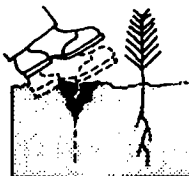
2. Remove dibble and place seedling at correct depth.



5. Rock dibble back and forth to pack soil firmly against root.



3. Insert dibble part way, push and twist forward closing top of planting slit.



6. Fill in last hole by stamping with heel.

## Common Native Plants of Florida and Their Uses

Florida has about 3,000 native plants, bushes, shrubs, vines, herbs and grasses, etc. About 40 or 50 are very common. One goal of the 4-H Forest Ecology Program is to learn to identify these common native plants. However as part of a forestry project you should know the uses of a few common native plants.

Beautyberry - (French mulberry) wildlife food, ornamental

Blueberry - (huckleberry) several species, wildlife and people food

Gallberry - nectar plant for honey bees, common in flatwoods

Wiregrass - gopher and turtle food, livestock grazing

Blackberry - wildlife and people food, escape and nesting cover

Poison Ivy - wildlife food, pest for people, sells lotions

Virginia Creeper - wildlife food, ornamental

Deer Tongue - flatwoods plant, collected and sold to blend with cigarette tobacco.

Florida Beggar Weed - valuable quail food

Partridge Pea - valuable quail food

Spanish Needle - young leaves good greens for people

Ragweed - hay fever plant, sells medicine

Water Hyacinth - mostly a pest plant

Beargrass - was pioneer "string" - leaves used for tying things





## 4-H FORESTRY PROJECT SUGGESTIONS

1. Read over this beginning 4-H Forestry Book.
2. Select what projects you are interested in. (Probably you'll finish several.)
3. Remember the record section at the end of the book is only a minimum. If you are interested in forestry, use your imagination to complete others on your own.
4. Visit local state and industry foresters in your area. You'd be surprised how much they can help you learn about forestry.
5. Help organize a 4-H forestry club. Get a local forester to serve as an adult leader.
6. Begin collecting forestry bulletins and books. You'll get many ideas for forestry projects from these.
7. Display your leaf and wood collections when possible. Give forestry demonstrations, etc.
8. Remember to enjoy this project. If you don't, tell your leader or county agent what needs changing to make you happy! Good luck!



### PROJECT RECORDS LOCATED IN BACK OF BOOK

Forestry in Your County  
 4-H Forest Appreciation Project  
 4-H Tree Identification Record  
 4-H Wood Identification Record  
 4-H Tree Planting Record  
 4-H Multiple Use of Forestland Record



### SUGGESTED ADDITIONAL FORESTRY PROJECTS

(Keep notes and records of what you do in addition to the above projects.)

1. Timber Cruising (See mimeograph on this.)
2. Using the Compass (See Using the Compass mimeograph.)
3. 4-H Christmas Tree Project (Use AG Exp. Sta. Bulletin 727, Christmas Tree Production in Florida)
4. Forest Management Project (USDA FB 2087, Managing the Family Forest)



## TREES

HOLD SOIL, SLOW SURFACE WATER  
 RUNOFF PRODUCE WOOD

## Woodcraft

Woodcraft (dictionary definition) Skill in anything pertaining to the woods. Especially in making one's way in the forest.

What dangers lurk in Florida forests? Far fewer than on city streets in most cases.

Here are a few simple tips:

1. Know the 4 kinds of poisonous snakes (rattlesnake, cottonmouth, coral snake, and copperhead)
2. Know poisonous plants such as poison ivy and poison sumac.
3. Watch for rabid animals. Never catch a wild animal that does not run from you. Report a wild animal bite to a doctor.
4. Know how to use a simple compass. Keep track of your directions on a woods outing.
5. Carry insect repellent and use it. Biting insects are the major worry on most woods trips.
6. Take a buddy along in the woods or tell somebody where you are going.
7. Don't explore old wells, caves, sinkholes, etc. alone. Come back later with an adult or a group.

USE COMMON SENSE. But have fun. Learn to be at home in Florida woods.



OPENINGS IN A FOREST ATTRACT WILDLIFE

## MIMEOGRAPHS

Some Suggested 4-H Forestry Projects: 4 pages - Jensen, Extension Forestry  
Some 4-H Activities by Months: 4 pages - Jensen, Extension Forestry  
Forestry for 4-H Clubs: 11 pages - Jensen, Extension Forestry  
Using the Compass: 2 pages - Jensen, Extension Forestry  
Cruising and Estimating Timber: 5 pages - Jensen, Extension Forestry  
Catalpa Nursery Project: 2 pages - Herndon, Extension Forestry

### THE 4-H FORESTRY NATIONAL AWARDS PROGRAM

If you plan to take forestry for several years --or have in past years-- you might wish to enter the State Awards Program. Possibly you could win a trip to National 4-H Congress as state winner, and maybe a college scholarship if you are a regional winner. If this idea interests you, remember:

1. Get help from local foresters.
2. Keep good records of what you do.

### MORE DEFINITIONS

Forest management - the science of managing woodlands for a variety of forest products and values (see multiple use).

Dendrology - the study of trees (see 4-H Forest Ecology series).

Fire control - preventing wildfire in woodlands. (Visit your local fire control unit.)

Increment borer - a steel auger used to extract a core of wood to determine age of tree.

Tree planting - planting trees by hand tool (dibble) or tree planting machine.

Naval stores - the pine resin from slash or longleaf pines. Trees are chipped, and rosin and turpentine distilled from the resin.

Pulpwood - wood used for making pulp and paper.

Saw log - a tree used for lumber.

Stumpage - trees standing in the woods before cutting for wood products.

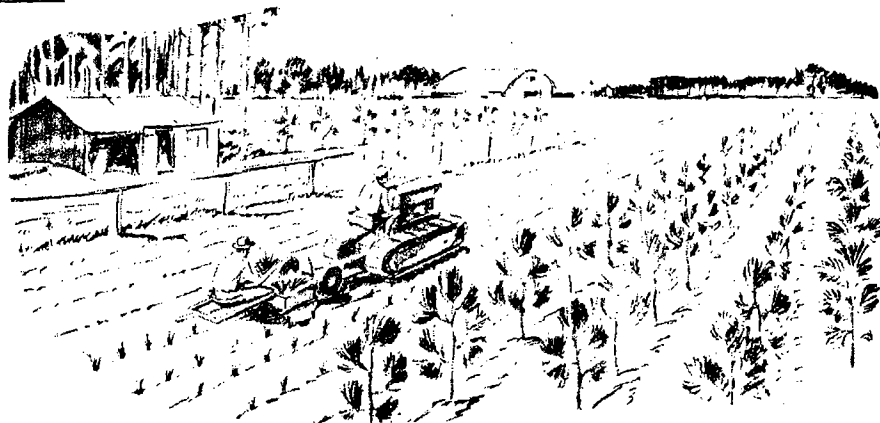
Tree scale stick - stick used to determine boardfoot volume of a tree.

Boardfoot - a piece of wood 1" x 12" x 12" (one inch thick and one foot square).

Clearcut - cutting all trees of an area.

Selective cut - Selecting trees for harvest.

A PLANTING MACHINE  
CAN PLANT 10,000  
TREES PER DAY!



EQUIPMENT NEEDED FOR PRESSING PLANTS

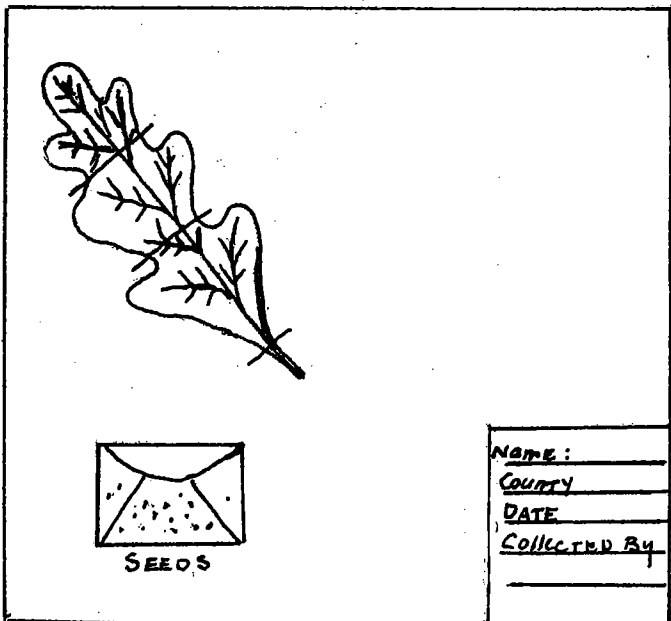
1. Folded sheets of newspapers
2. Two sheets of plywood 12" x 18"
3. Two buckle straps or pieces of rope 4' long.

Lay plants between double folded sheets of newspaper in press.

A standard herbarium specimen is not over 11" x 16" in size.

How to Collect Leaf Specimens:

1. Collect only good average specimens of leaves, twigs, and seeds. Small seedlings or new growth are not usually typical.
2. In the field carry the specimens between pages of a magazine. Make a note of the date and place collected.
3. Within a few hours after collection, arrange the leaves and twigs in a natural position between the sheets of a newspaper in your plant press.
4. Press the specimens for about 10 days. At the end of 4 days, however, change the sheets of newspaper for fresh dry ones to prevent the chance of leaves discoloring and perhaps molding.
5. After the specimens are dry, mount them on white stiff paper in a note book as shown below.



How to mount specimens

Cut cones and pulpy fruit in half to mount:



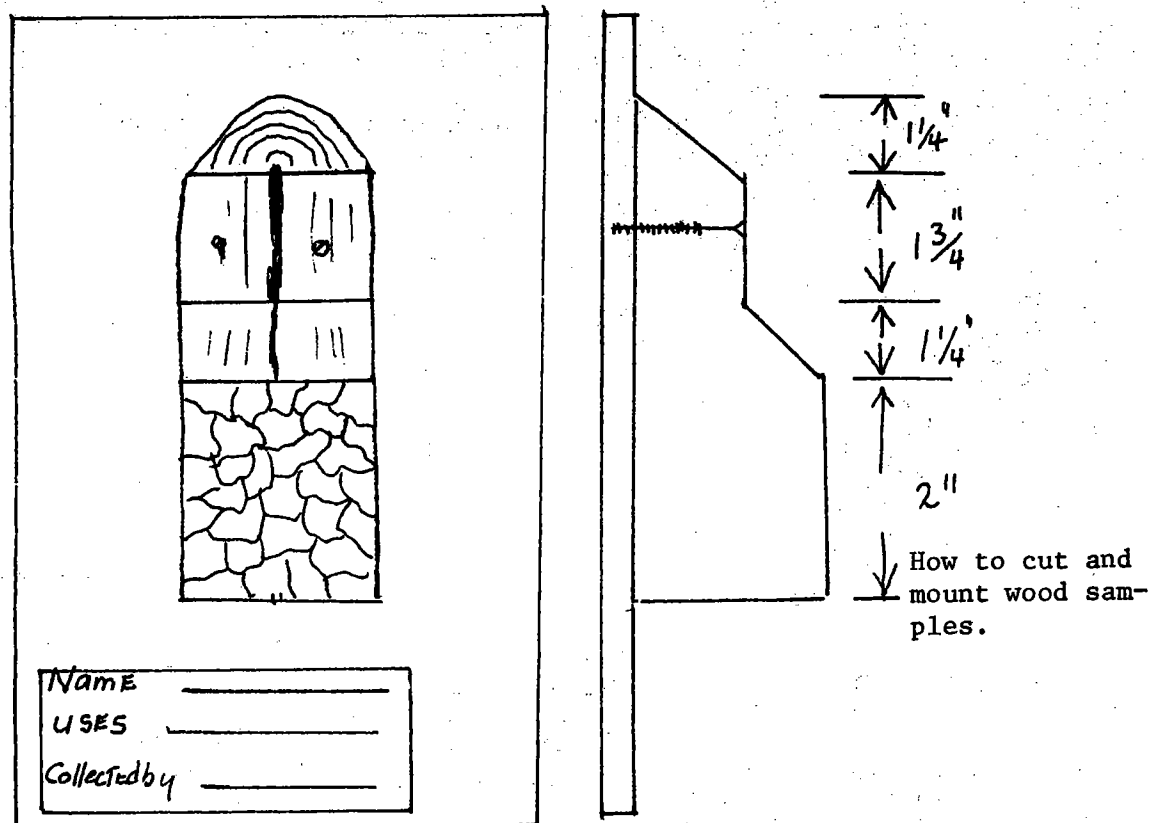
Collecting and Mounting Wood Specimens

Method I

From a local lumber mill or millwork shop obtain samples of woods about 2 x 4 inches. Mount these on a board with screws. Under each specimen put the common name, scientific name, and uses.

Method II

Obtain specimens from trees found in the woods. Samples should be 6 to 8 inches long and 2 inches or more in diameter. Mount on a board as shown in the drawing. The specimens should be painted with clear varnish to protect them. Under each sample put the common name, scientific name, and uses.





## FORESTRY IN YOUR COUNTY

The following questions should be answered. Check with your local leader, a local forester, or your county agent for help with answers.

### Fire Protection

1. How many acres in your county?
2. How many acres of commercial forest land?
3. Does your county have a Florida Forest Service Fire Control Unit?
4. What is the County Ranger's name?
5. Describe the fire protection measures used on your woodlands.
  
6. Have you had a wildfire on your land recently?                      When?                      How many  
    acres?                      Cause:

### Forest Planting

1. What kind of trees are planted in Florida?
2. Where are seedlings usually obtained?
3. Does your land have any acres that need planting?                      How many?
4. Have you ever planted tree seedlings?
5. Name two methods of planting tree seedlings.

### Forest Management

1. Give your definition of a managed forest.
2. Define selective cutting.
3. Check any of the following forest management practices you have seen or taken part in:
  - a. logging
  - b. tree planting
  - c. tree pruning
  - d. killing weed trees
  - e. selective cutting
  - f. marking timber for selective cutting
  - g. cruising timber
  - h. plowing fire lines
  - i. prescribed burning
  - j. controlling insects
  - k. other:

4-H Record of Forest Appreciation Project

Name \_\_\_\_\_ Age \_\_\_\_\_  
Address \_\_\_\_\_ Club \_\_\_\_\_  
County \_\_\_\_\_ Name of Local Leader \_\_\_\_\_  
Years in Club Work \_\_\_\_\_ Do you live on a farm? \_\_\_\_\_ How many acres? \_\_\_\_\_

Project Requirements (Remember these are only minimum requirements.)

I. Know some basic Florida Forest Facts (answer the questions below).

1. How many total acres of land do we have in Florida? (Check one.)  
a. 350,000                      b. 35 million                      c. 21,000,000
2. Give your definition of a tree (in 25 words or less).
3. List the names of at least four of our seven native pines.
4. List five uses of our native pines.
5. Give your definition of ecology.
6. How many native trees do we have in Florida? (Check one.)  
a. 314                      b. 865                      c. 210
7. Name three native trees found in all Florida counties.
8. Name three common plants of Florida flatwoods.
9. How can the age of a tree be determined? (Check one.)  
a. by measuring the height                      b. by counting the leaves  
c. by counting the growth rings
10. List three uses of Florida forests.

II. Write a short report on why we should be thankful for our forests.

4-H Tree Identification Project Record

Name \_\_\_\_\_ Age \_\_\_\_\_  
Address \_\_\_\_\_ Club \_\_\_\_\_  
County \_\_\_\_\_ Name of Local Leader \_\_\_\_\_  
Years in Club Work \_\_\_\_\_ Do you live on a farm? \_\_\_\_\_ How many acres? \_\_\_\_\_

Project Requirements

I. Make a collection of at least 15 native trees growing in your county.

Note: Remember to collect native trees. Don't collect shrubs, ornamental trees, citrus or other domesticated plants. Obtain a good tree book or take specimens to your local leader, county forester or county agent for proper identification if you do not know them.

List the trees you collected below.

- |    |     |     |
|----|-----|-----|
| 1. | 6.  | 11. |
| 2. | 7.  | 12. |
| 3. | 8.  | 13. |
| 4. | 9.  | 14. |
| 5. | 10. | 15. |

II. Write a short, one page report about what you learned about forestry when you made your tree specimen collection. If you have written a story for the Forest Appreciation Project, write a different one if you can.

4-H Wood Identification Project Record

Name \_\_\_\_\_ Age \_\_\_\_\_  
Address \_\_\_\_\_ Club \_\_\_\_\_  
County \_\_\_\_\_ Name of Local Leader \_\_\_\_\_  
Years in Club Work \_\_\_\_\_ Do you live on a farm? \_\_\_\_\_ How many acres? \_\_\_\_\_

Project Requirements

- I. Make a collection of at least 10 native wood specimens. (Remember to use only native wood specimens.)

List the wood specimens you collected below. Give a use or uses of each species of wood.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

- II. Visit a sawmill, cabinet shop or other woodworking plant and write a short report on what you saw.

## 4-H Record of Tree Planting Project

Name \_\_\_\_\_ Age \_\_\_\_\_  
Address \_\_\_\_\_ Club \_\_\_\_\_  
County \_\_\_\_\_ Name of Local Leader \_\_\_\_\_  
Years in Club Work \_\_\_\_\_ Do you live on a farm? \_\_\_\_\_ How many acres? \_\_\_\_\_

### Project Requirements

I. Obtain some forest seedlings. Make a forest planting. If you are unable to make your own planting, help someone else make a forest planting. Write a short report on what you did.

II. Select the correct answers to the following questions.

1. What kind of tree is most planted in Florida?  
a. slash pine            b. magnolia            c. shortleaf pine
2. What is a dibble?  
a. a kind of tree    b. a handtool to plant trees    c. a basketball term
3. Name three species of trees available from the Division of Forestry.
4. Where are most forest tree seedlings obtained?  
a. Federal government    b. State Division of Forestry  
c. University of Florida
5. When is the tree planting season in Florida?  
a. November - February    b. July - September    c. August only
6. What do slash pine seedlings cost per thousand?  
a. \$18            b. \$12            c. \$9
7. What are most pines planted for in Florida?  
a. wildlife food            b. wood products            c. oxygen production

Multiple Use of Forest Land 4-H Record

Name \_\_\_\_\_ Age \_\_\_\_\_  
Address \_\_\_\_\_ Club \_\_\_\_\_  
County \_\_\_\_\_ Name of Local Leader \_\_\_\_\_  
Years in Club Work \_\_\_\_\_ Do you live on a farm? \_\_\_\_\_ How many acres? \_\_\_\_\_

Project Requirements

- I. Learn about some of the major uses of forest land.
- II. Answer the questions about multiple use.
- III. Write a short report on the major uses of a forest you visited.
  1. How many useful things are made from wood?  
a. 50                      b. 500                      c. 5,000
  2. Name three kinds of animals hunted in Florida forests.
  3. Give your definition of multiple use of forest land.
  4. Give your definition of ecology.
  5. Name three of the six major uses of forest land.

This publication was promulgated at a cost of \$389.38, or 19.5 cents per copy, to be used in Florida 4-H educational programs for youth interested in forestry.