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.

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.

Special Products

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

Forage

Forest plants provide food and grazing for livestock.
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, windbreaks, 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 include slash pine, loblolly pine, sand pine and longleaf pine.

4. For Christmas tree plantings in addition to sand pine, red cedar 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 DIBBLE

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
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

**Galberry** - 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 PB 2087, Managing the Family Forest)
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 repellant 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 scholar-
ship 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 con-
trol 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.

How to cut and mount wood samples.
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.  
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?

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.