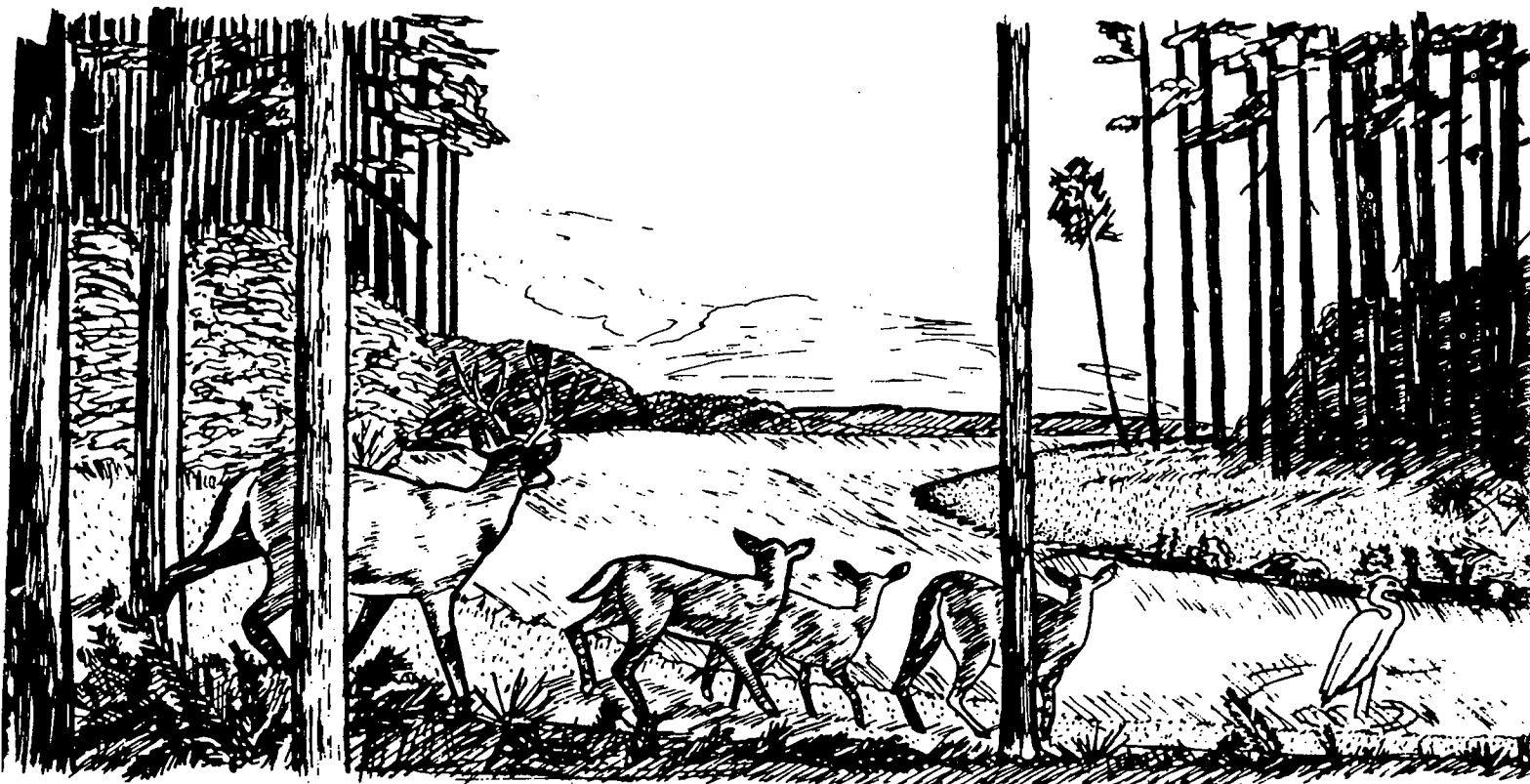
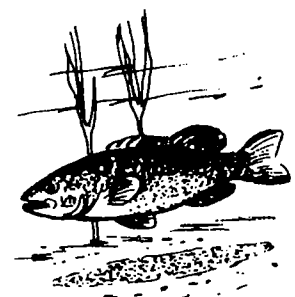


# THE FLORIDA 4H FOREST ECOLOGY PROGRAM

UNIT 1. INTRODUCTION TO 4-H FOREST ECOLOGY



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THE FLORIDA 4-H  
FOREST ECOLOGY PROJECT  
MEMBER'S MANUAL  
UNIT #1

I N T R O D U C T I O N   T O   E C O L O G Y

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## WHAT IS ECOLOGY?



Ecology is the study of living things and their environment. Perhaps in school you have instruction in Environmental Education. This also is one definition of ecology. I like to think of ecology as advanced nature study. Ecology, in addition to finding out what a living thing is, also tries to determine where it is most often found and why.

### Forest ecology program activities

This 4-H project is designed to run for several years. The beginning project book opens the door to basic simple ecology ideas and the last project book explains how to classify common living things of Florida into ecosystems (natural communities).

Also included in this series is a booklet explaining the Florida 4-H Forest Ecology Contest. Each year at Perry, Florida, during the Florida Forest Festival, teams of junior and senior 4-H members compete in contests to identify common Florida plants and common forest insects and diseases. In addition, there is an individual 4-H member junior and senior Ecology Essay Contest on the theme "What a Forest Means to Me". There is also a leaders guide available for your local 4-H leader.

ECOLOGY IS NATURE STUDY

### INTRODUCTION TO FOREST ECOLOGY

(What to Do -- Step by Step)

1. Read over the table of contents and skim through this beginning manual.
2. Bring in a native tree leaf specimen you know to a meeting (or better yet, several leaves if you can identify them). Press them in a book or newspaper (ask for assistance if you need to).
3. If you are not interested enough in native plants to collect one specimen and bring it in, forget this project and do something else.
4. There is no magic formula for learning about the natural plant communities (ecosystems) of Florida. Books and instructions are simply aids to learning. Go on field trips.
5. Learn the basic forest ecology terms and definitions.
6. Answer the questions at the end of this unit.
7. Move to unit #2, Florida Plants.

READ! LOOK!

LISTEN! BE CURIOUS!



## WOODS SAFETY

There is much fun and little danger in Florida woods if you remember a few simple cautions. Walking or bicycling through city traffic is probably more hazardous than a walk through Florida woods.

1. Be aware of your environment and think ecology, but remember deerflies, ticks, redbugs, and mosquitoes, rattlesnakes, poison ivy, and rabid mammals.
2. Carry an insect repellent in summer and learn to recognize the poisonous snakes: rattlesnakes, coral snakes, cottonmouths, and in West Florida, copperheads. A snakebite kit makes one feel better in some ecosystems, but don't let fear of snakes spoil your outing.
3. When using woods tools (axes, knives, pruning clippers), be careful.
4. Getting lost in Florida is rare. If you are unfamiliar with an area, go with someone familiar with the area.
5. Band-aids and disinfectant are good for scratches.
6. Remember, water and snacks make an outing much more fun.

## BASIC DEFINITIONS

In school, on TV, or in fact everywhere, you are always running across new words and phrases you don't know the definition of. Get the reading habit early in life -- later on you'll be glad you did.

Look over the following Basic Definitions. Let your adult leader answer any questions you might have.



## DEFINITIONS

- Ecology: The study of living things and their relationship to each other and to their surroundings.
- Ecosystem: Is composed of all living things and their environment in an area of any size. All are linked together by energy and nutrient flow (cycles).
- Environment: All external conditions surrounding a living thing.

### Glossary of Other Common Terms Used in the Study of Ecology

- Annual: A plant that completes its life cycle from seedling to mature seed-bearing plant during a single growing season -- then dies.
- Association: A group of plants and animals that repeatedly occur together (such as pine flatwoods).
- Biennial: A plant that lives for two growing seasons, producing only leaves the first season, flowers and seed the second.
- Botany: The scientific study of plants.
- Broadleaf: A term describing a plant with wide-bladed leaves (such as an oak or maple). Sometimes called a hardwood or deciduous tree (one shedding its leaves).
- Chlorophyll: The group of pigments that produce the green color in plants -- essential to photosynthesis.
- Climax: A relatively stable association of plants and animals on an area (conditions cause them to stay the same unless some unexpected change in the environment takes place).
- Community: All plants and animals in a particular habitat bound together by food chains and other relationships.
- Conifer: A plant bearing seeds in cones. Sometimes called needle-leaf trees.
- Conservation: The wise use of natural resources in a way that assures their continuing availability.
- Food Chain: A series of plants and animals linked by their food relationships. A green plant, a leaf-eating insect, and an insect-eating bird would form a simple food chain (any one species is usually represented in several or many food chains).

- Forest: A complex community of plants and animals in which trees are the most conspicuous members.
- Habitat: The immediate surroundings (living space) of a plant or animal.
- Herb: Any flowering plant or fern that has a soft stem rather than a woody one.
- Mixed Forest: A forest that includes both pine and hardwood trees.
- Parasite: A plant or animal living in or on another living thing (its host) and obtaining all or part of its food from the host's body.
- Perrennial: A plant that lives for several years and usually produces seed each year.
- Photosynthesis: The process by which green plants convert carbon dioxide and water into simple sugar. Chlorophyll and sunlight are essential to the series of complex chemical reactions involved.
- Predator: An animal that lives by capturing other animals for food.
- Producer: In ecological terms, a plant that converts carbon dioxide and water into simple sugar by photosynthesis -- it produces its own food.
- Scavenger: An animal that eats dead remains of other animals and plants.
- Softwood: A coniferous tree. A common but not strictly an accurate term. The wood of many conifers is harder than the wood of many so-called hardwoods.
- Sere: The series of communities that follow one another in a natural succession, as in the change from a bare field to a mature forest.
- Succession: The gradual replacement of one community by another -- see sere.
- Territory: An area defended by an animal against others of the same species. Used for breeding or feeding or both.
- Transpiration: The process by which water evaporates from plant tissues.
- Tree: A woody plant 12 or more feet high, usually with a single main stem (trunk) and a crown of leaves.
- Vegetation: The mass of plants covering a given area. The Flora is a list of plants that compose the vegetation.