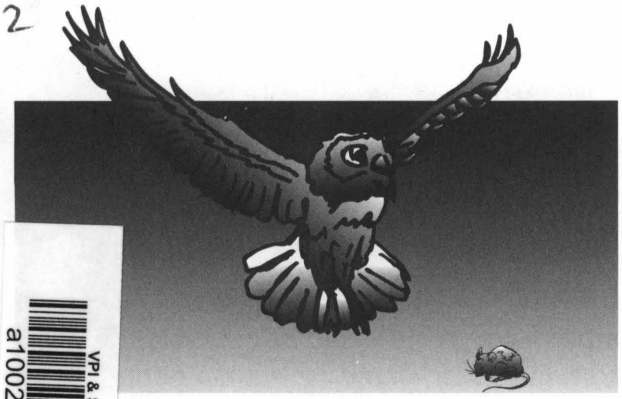
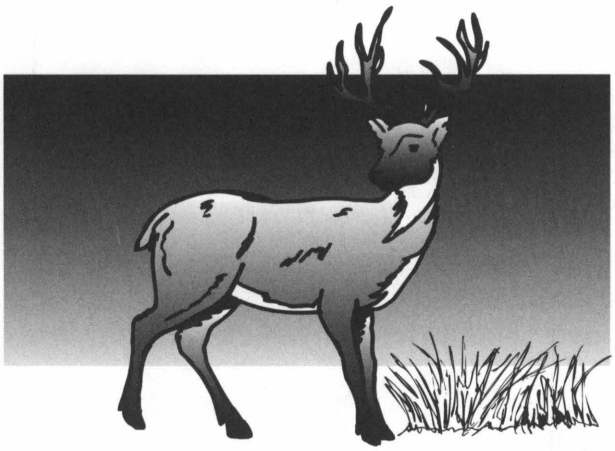
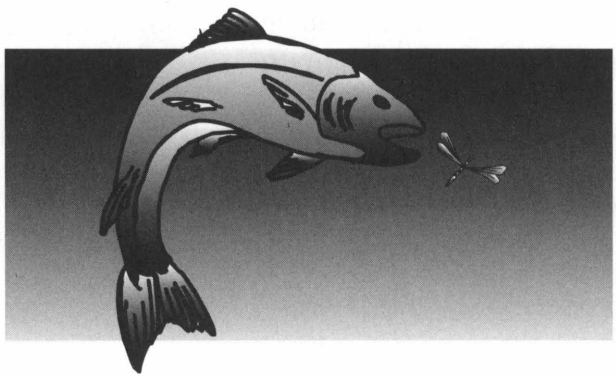


18 USC 707

4-H Wildlife Projects - Book One: Wildlife Foods





Name of 4-H Member _____

4-H Club _____

Date _____

Virginia Tech
1872
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Virginia Cooperative Extension

VIRGINIA STATE UNIVERSITY

4-H Wildlife Projects - Book One: Wildlife Foods

Ann P. Gallus and Jeffery L. Kirwan,
Volunteer 4-H Leader, Loudoun County, Virginia; Extension Specialist,
College of Natural Resources, Virginia Tech; respectively

Introduction

This project book introduces junior 4-H members, ages 9 - 13, to the 4-H Wildlife Habitat Evaluation Program (WHEP), which provides competitive events and recognition for 4-H members. Habitat evaluation is important because our ever-growing human population is leaving less land and water available for wildlife. Three 4-H projects complete the introduction to WHEP:

- Book One Wildlife Foods
- Book Two Key Fish and Wildlife Species
- Book Three Fish and Wildlife Habitat

Project Objectives

- Youth will demonstrate an understanding of food webs by creating examples.
- Youth will be able to identify 15 categories of wildlife food.
- Youth will use their knowledge of foods and food webs to evaluate habitat for its importance to wildlife.

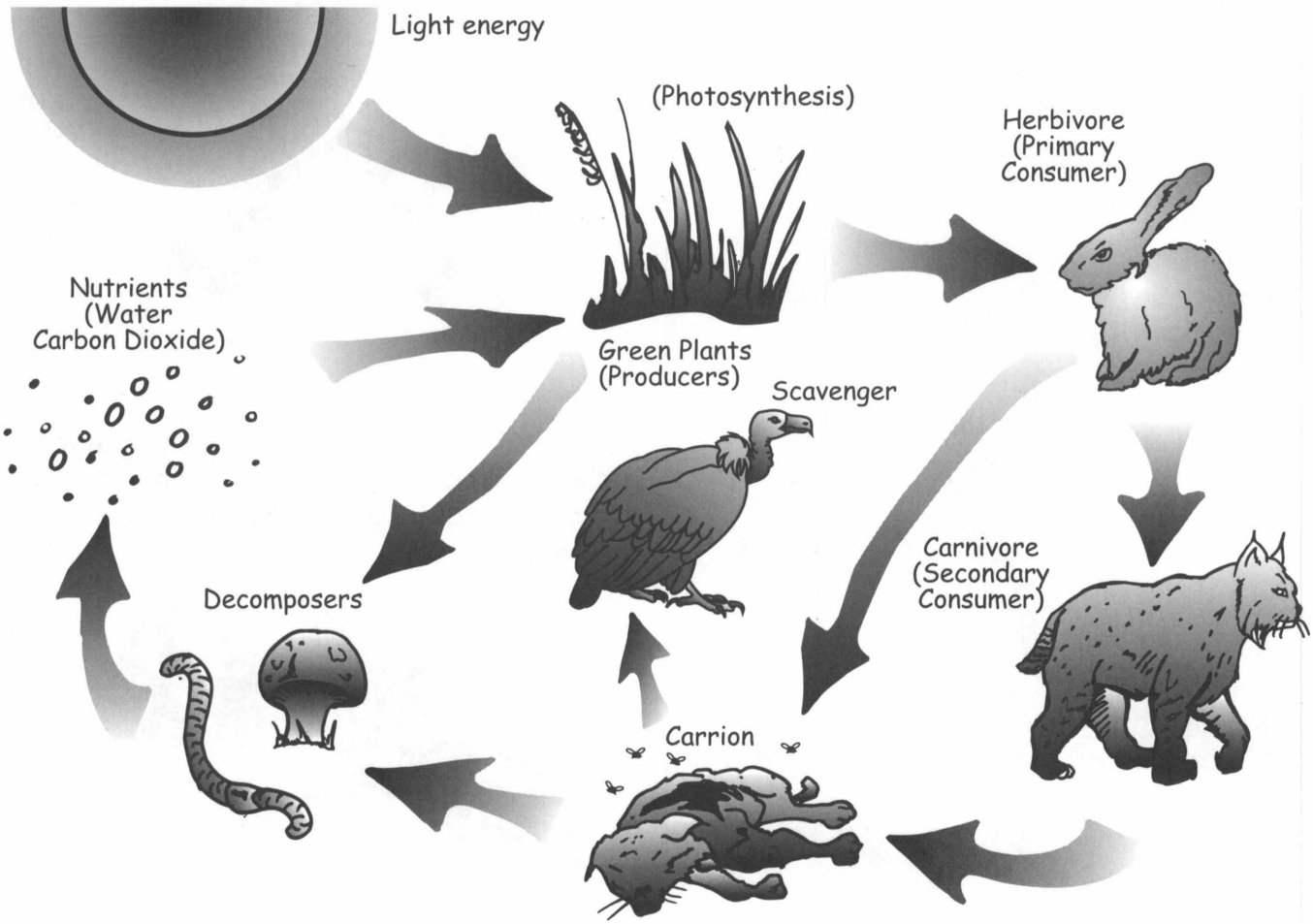
Correlations with the Virginia Standards of Learning

- Science 3.5 Producer, consumer, herbivore, carnivore, omnivore.
- Science 3.10 Conservation and habitat management.
- Science 4.5 Flow of energy through food webs; habitats and niches.
- Science 4.8 Virginia's natural resources, including animals and plants.
- Science 6.9 Producers, consumers, decomposers, food webs.
- Science 6.11 Management of renewable resources.

Activity One. Learning about Food Webs.

Most plants and animals will become food for something else at some point in their lives. Animals and birds eat many different kinds of food and can be put into groups by what they eat.

Herbivores, like rabbits and deer, eat grasses, leaves, twigs, and other plant material. Bobcats are carnivores. They will eat other animals. Omnivores, like bears and opossums, eat both plants and meat. Scavengers eat dead animals. Different animals can be connected by placing them in a food web.



The food web shows how animals are dependent on each other for their food. Primary producers are the base of the food chain. Primary consumers eat the producers. Secondary consumers are carnivores that eat primary consumers. Decomposers break down plant and animal remains, releasing water, CO_2, and nutrients. Can you give an example of each?

Things to do:

Visit an animal's habitat and draw a food web.

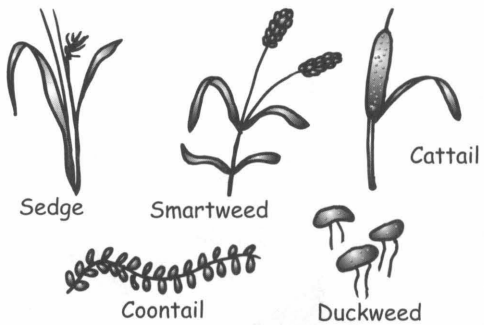
Look at an animal's <u>scat</u>. How can you tell if it is an herbivore, omnivore, or carnivore?

Ask a hunter or fisherman to let you look at the stomach contents of a fish or game animal. What can you learn from this?

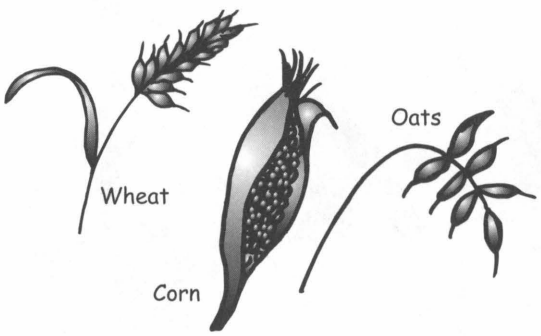
Activity Two. Learning about Wildlife Foods.

Wildlife food is everywhere. Open your eyes and look! Some of the more confusing wildlife food groups are illustrated here. The checklist on page 6 includes all the food groups.

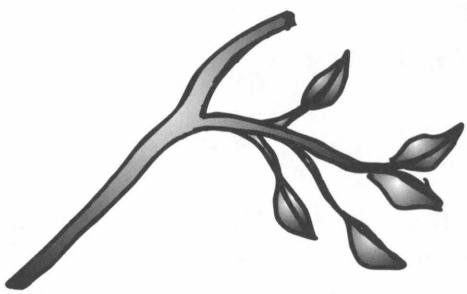
Aquatic plants grow under water, are rooted in water, or grow where it is always damp.



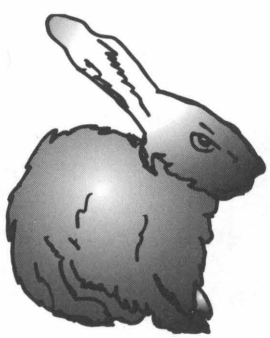
Cereal grains are the seeds of oats, wheat, barley, corn, rye and rice.



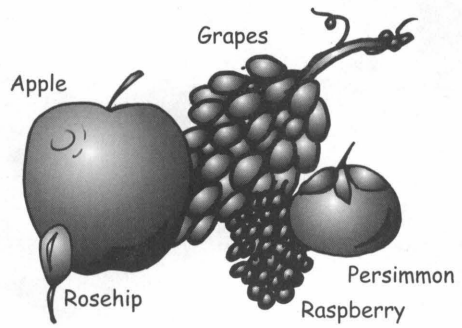
Leaves and twigs are grouped together. There has to be a woody stem to be in this group.



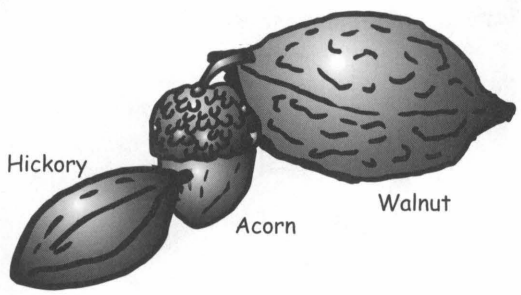
Mammals are animals with hair, regardless of size.



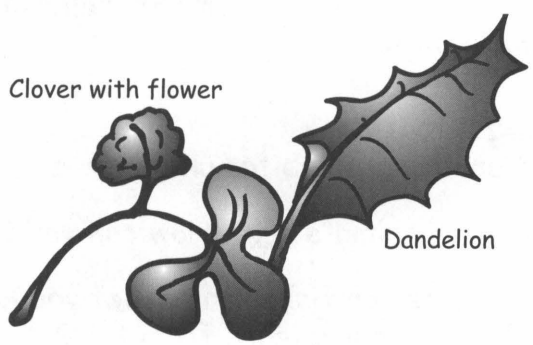
Fruits and berries have seeds surrounded by a highly nutritious soft pulp that is eaten by animals. Fruits are most available through the summer and early fall. Some, like persimmons and grapes, last into the winter.



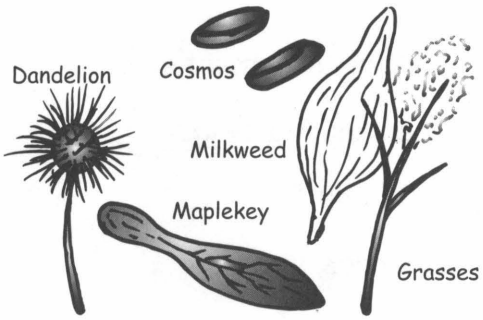
Nuts are the fruits of trees like walnut, hickory, beech and oak. As a group they are called mast. Nuts are rich in fats and protein.



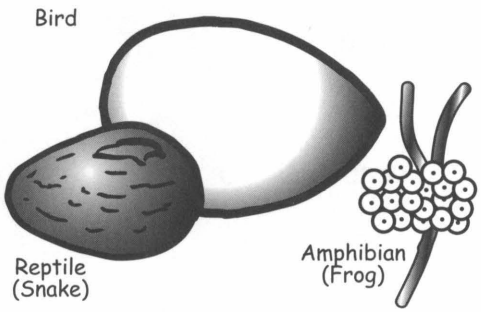
Forbs are short, non-woody plants. The leaves of forbs come in a variety of shapes. The veins have a net-like appearance. They are sometimes called weeds. Some have flowers.



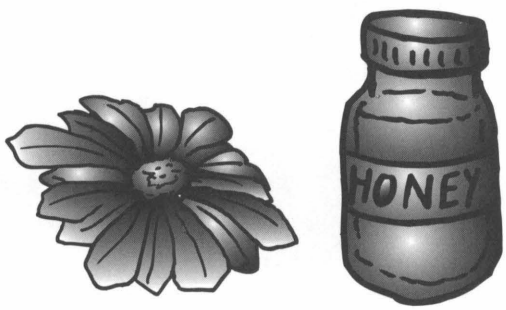
Seeds can be single, covered with a thin shell, or many can be clustered together in a "container." They are high in fat and protein.



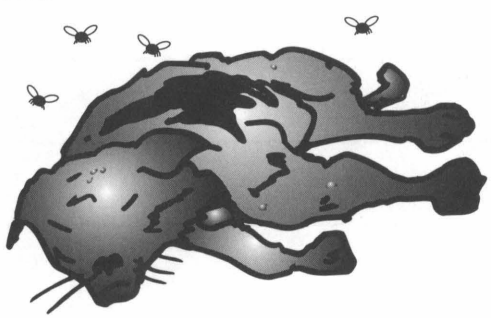
Eggs are only those produced by the vertebrates. Eggs from insects and spiders are not considered in this food group.



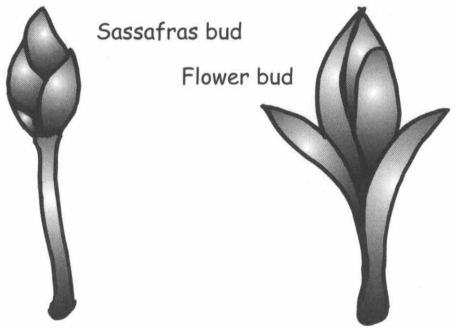
Nectar is an important food with high sugar content. Nectar can be illustrated by either a flower with no other part attached or by a jar of honey.



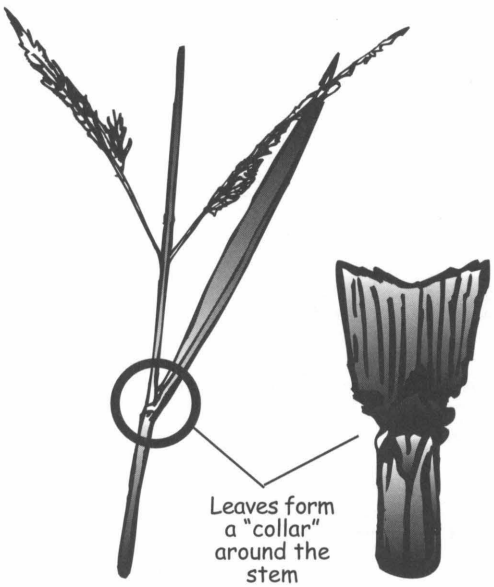
Carrion is stinking, rotten flesh. It often has fly larvae wriggling inside of it. If it smells dead, it is dead and, therefore, it is carrion.



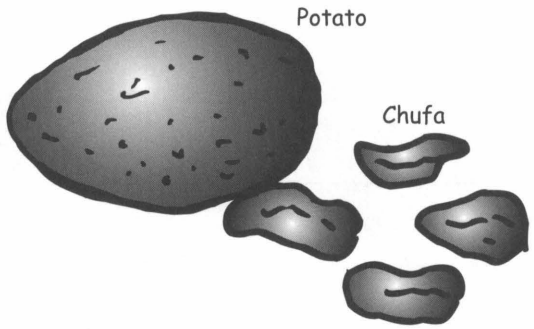
Buds are the growing end of a twig or flower before it opens.



Grasses are plants that are usually tall and narrow, with leaves that are thin. The veins are parallel. The leaves of grasses form a collar around the stem.



Tubers grow underground. Two important tubers are potatoes and chufa, the tuber of sedges.



Activity Three. Completing a Wildlife Food Checklist.

Make copies of this checklist and use it each time you go on a field trip or take a wildlife food quiz. Try to identify at least 10 food groups each time.

____ Aquatic plants	____ Insects and insect eggs
____ Bark	____ Leaves and twigs
____ Birds	____ Lichens
____ Buds	____ Lizards
____ Carrion	____ Mammals
____ Centipedes, millipedes	____ Mushrooms
____ Crayfish	____ Mussels
____ Earthworms	____ Nectar
____ Eggs	____ Nuts
____ Ferns	____ Scorpions
____ Fish	____ Seeds
____ Forbs	____ Snails
____ Frogs, salamanders	____ Snakes
____ Fruit	____ Spiders
____ Grain	____ Tubers
____ Grass	____ Turtles

Notes:

Activity Four. Learning about Succession.

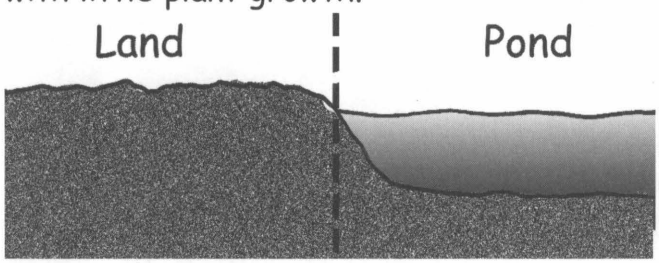
These pictures show what happens if you build a pond or plow a field, and then leave for several years. When you return nature has created the habitat that it wants there. This process is called succession.

The amount of food available in a habitat is one of the limiting factors. It will limit the number and kind of animals that will survive in a habitat.

Look at the pictures below. Can you create food webs from them? Which stage will provide for the most richness of species? Where is the most variety of food produced?

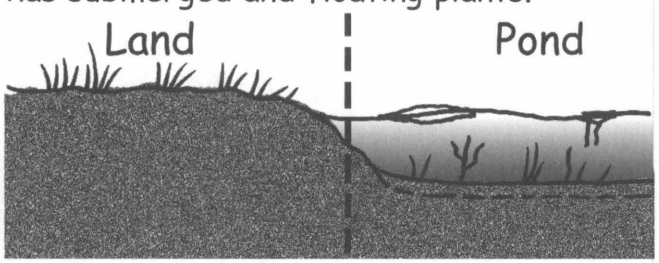
Stage 1

Land starts with bare ground. Pond starts with little plant growth.



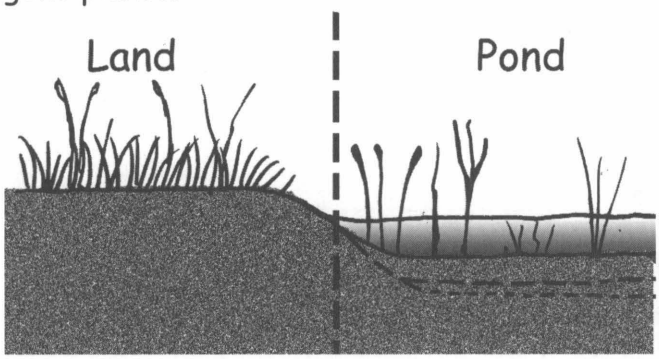
Stage 2

Land has annual forbs and grasses. Pond has submerged and floating plants.



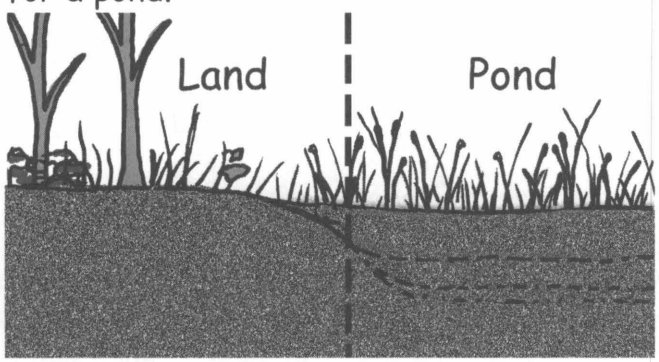
Stage 3

Land has perennial forbs and grasses. Pond becomes more shallow and has emergent plants.



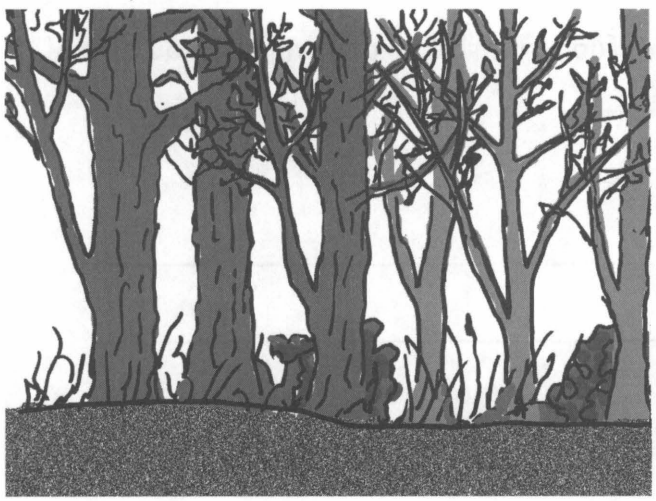
Stage 4

Land has shrubs and small saplings. Pond has become a wetland. This is the last stage for a pond.



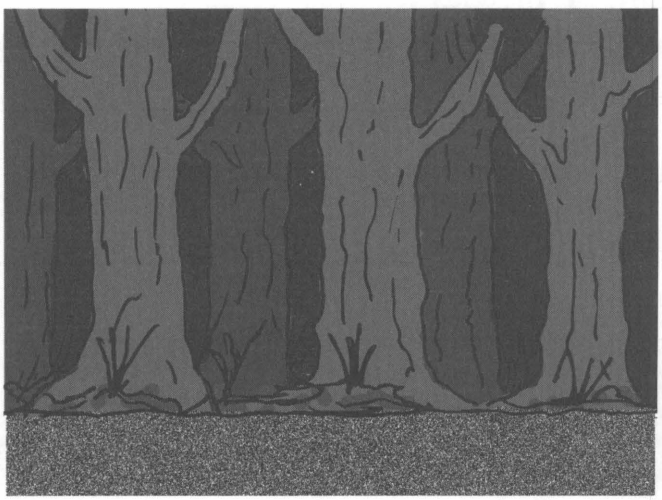
Stage 5

Land is now a young woodland. Trees are less than 70 years old.



Stage 6

Land is now a mature woodland.



Activity Five. Putting It All Together.

Find a book that lists the foods eaten by wildlife, such as the 4-H WHEP manual. Answer the following questions.

Match the animal with the food it eats:

_____Bass	A. Birds
	B. Bark
_____Deer	C. Ferns
	D. Mussels
_____Hawk	E. Frogs and Salamanders
	F. Aquatic Plants
_____Mole	G. Mammals
	H. Scorpions
_____Rabbit	I. Centipedes and Millipedes

Fill in the blank:

_____ is stinking, rotting flesh.

Soft, pulp-covered seeds are called _____.

Grains include wheat, oats, rye, barley rice, and _____.

Coontail, duckweed and smartweed are _____ _____.

_____ are sometimes called weeds.

Short answer:

Which succession stage offers more choices of food for the largest number of animal species? _____

List foods that are suitable for one animal species:

Animal_____ Foods _____

_____

Words to Know

Annual: plants that complete their life cycle in one year.

Carnivore: an animal that feeds on meat.

Carrying Capacity: the limit to how many animals can survive in a habitat.

Climax Stage: when the plant growth in a habitat reaches a point where the vegetation will not change over a long period of time.

Consumer: an organism that eats another organism for energy.

Cover: plants or features of the land that provide a place for wildlife to hide, sleep, eat and reproduce.

Forb: low-growing plants that are not grass. Forbs usually have veins in their leaves that are in a "net" pattern.

Grass: short plants that have long narrow leaves and hollow, jointed stems. The veins in grasses are usually parallel.

Habitat: the place that provides food, shelter, and space for an animal to live.

Habitat Requirements: the things animals need to live. The four basic habitat requirements are food, water, space, and cover.

Herbivore: an animal that feeds on plant material.

Limiting Factor: determines the number of species or individuals that can live successfully in a habitat. Limiting factors include the amount of water, space, cover and food in an area.

Omnivore: animals that eat both plant material and meat. Raccoons and bears are a good example.

Perennial: a plant that lives for several years.

Producer: an organism that produces its own food. A producer is eaten by a consumer.

Scat: the waste or feces produced by an animal.

Species Richness: the number of different species that are found in one area.

Succession: land and water have a pattern of plant growth over a period of time. The different stages of this pattern are called succession.

Suggestions for Exhibits, Presentations and Community Service

Exhibits

- Collection of nuts, fruits and seeds that are food for wildlife.
- Poster illustrating the wildlife food groups.
- A mobile of animals and the foods they eat. Use tree branches for the arms of the mobile. Attach pictures of animals and the foods they eat.
- A leaf collection of important wildlife foods. Dry leaves in a telephone book and paste them on poster board.

Presentations

- "My backyard food web"
- "How to recognize important wildlife foods"
- "Do you know your wildlife foods?" (Quiz)
- "The mammals of Virginia"
- "The foods eaten by a white-tailed deer"
- "Nothing succeeds like succession!"

Citizenship and Community Service

- Plant a butterfly garden. The garden does not have to be large. One or two perennial plants that have a long bloom time will do.
- Plant a wildlife food plot.
- Read a book about wildlife to a younger audience.
- Donate a leaf/seed/foods collection to a library or teacher.

Activity Six. Completing a 4-H Project Record.

Part A. Project Activities

Listed below are the suggested activities in this book. Several can be done more than one time. Complete at least five of them and have a 4-H leader check your work.

Name of Activity	Date(s) Completed	4-H Leader
1. Draw a food web	_____	_____
2. Look at animal scat	_____	_____
3. Look at stomach contents of an animal	_____	_____
4. Complete a food checklist	_____	_____
5. Take a wildlife food quiz	_____	_____
6. Make a wildlife food collection	_____	_____

Part B. Exhibits, Presentations and Citizenship Activities

Complete at least two of the suggested activities.

Activity	Title	Date	Award
Ex. Presentation	"Foods of the largemouth bass"	5/5/01	blue ribbon
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Part C. 4-H Story

Write a story about your experiences in this project. Tell where you took your field trips, why you decided to go there, and any surprises you encountered. Also tell us what foods were hard to identify and how you solved any problems. Finally, identify who helped you learn about foods and wildlife. Did you say, "thank you"?

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."

2001 **PUBLICATION 390-405**

VT/643/0601/100/212418/390405