4-H Wildlife Projects - Book One: Wildlife Foods

Name of 4-H Member __________________________

4-H Club __________________________

Date __________________________
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, CO₂, 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 scat. 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?
Aquatic plants grow under water, are rooted in water, or grow where it is always damp. 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.

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.

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.
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:
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
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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.

<table>
<thead>
<tr>
<th>Name of Activity</th>
<th>Date(s) Completed</th>
<th>4-H Leader</th>
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<tbody>
<tr>
<td>1. Draw a food web</td>
<td>______________</td>
<td>__________</td>
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<tr>
<td>2. Look at animal scat</td>
<td>______________</td>
<td>__________</td>
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<tr>
<td>3. Look at stomach contents of an animal</td>
<td>______________</td>
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<td>4. Complete a food checklist</td>
<td>______________</td>
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<td>5. Take a wildlife food quiz</td>
<td>______________</td>
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<td>6. Make a wildlife food collection</td>
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Part B. Exhibits, Presentations and Citizenship Activities
Complete at least two of the suggested activities.

<table>
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<tr>
<th>Activity</th>
<th>Title</th>
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<tbody>
<tr>
<td>Ex. Presentation</td>
<td>“Foods of the largemouth bass”</td>
<td>5/5/01</td>
<td>blue ribbon</td>
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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”? 

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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."