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4-H Bulletin 134.1C

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Wildlife Conservation 4-H Project III



DEER

MANAGEMENT

A 4-H PROJECT FOR YOUTH 14 and OVER

Michigan State University Cooperative Extension Service 4-H -- Youth Programs COOPERATIVE EXTENSION SERVICE Newaygo County Community Building Fremont, Michigan 49412 Phone 924-0500

4-H Project III - Wildlife Conservation

DEER MANAGEMENT - A 4-H PROJECT FOR YOUNG PEOPLE 1/

In this project you'll become acquainted with:

- . How soil, water, plants and wildlife are related
- . Some important facts about deer
- . Why deer and other wildlife are important
- . Problems about deer management
- . Management measures that benefit deer
- . Where to find information about deer
- . Gain a deeper appreciation and greater interest in wildlife.

How to use this outline

This outline is a guide to help you do the above. It is not intended to cover everything about deer. For this reason you should read at least some of the publications listed as reference on page 14. Sources of good movies and resource people also have been included for your convenience.

You probably can't take advantage of all the suggestions made, especially field trips. It is hoped that you and your group will do most of the activities mentioned. It would be worthwhile to take at least two field trips. Time and interest will determine how many movies you will be able to see.

The outline is divided into sections. Each one treats several important topics about deer. More detailed information is found in the suggested reference bulletins.

It is suggested that you make a note book summarizing what you have learned from each section of this outline. Answers to questions at the end of each section should help you remember important facts. They can be included in a note book along with photographs, pictures and/or new items. A brief summary of your field trips also might be added.

SECTION I

Deer - a renewable natural resource.

Deer represent an important <u>renewable</u> natural resource; one which can be restored with proper care (good management). Forest trees make up another important renewable natural resource. Both can be harvested and replenished for the benefit of man. Soil is also a renewable resource, but it may take a thousand years or more for nature to make one inch of top-soil. <u>Minerals are non-renewable</u> natural resources; once gone, they cannot be restored. Included are oil, iron ore, coal, sand, gravel, salt, limestone, uranium and many others.

Prepared by Charles Shick, Extension Specialist on Game Management. Illustrated by Oscar Warbach.

Deer and other wildlife are valuable

Deer are important to Michigan people because:

- . The animals are enjoyed by tourists, picnickers, campers, photographers, sportsmen, naturalists and others who simply like to see deer in their natural homes.
- . Deer provide sport and recreation for thousands of hunters.
- . Deer and other wildlife are interesting attractions and therefore are important to Michigan's tourist industry. Tourists, sportsmen and others who enjoy animals, spend money for lodging, gasoline, meals, hunting equipment, souvenirs and other items. Money spent for these things is important to many people living in northern communities.
- The meat from deer harvested by hunters amounts to 200-250 tons annually. With good management, additional venison could be had.
- . Some deer hides are made into buckskin jackets, gloves and other items of clothing.
- Like the weather, deer hunting provides topics for conversation long after the season is closed. (With some factual knowledge about deer and deer hunting, you should be able to separate fact from fiction. The tall stories' reported by deer hunters often rival those told by fishermen.)

Discussion Questions

- 1. Discuss the objectives of the project. What do you expect to learn from it?
- 2. Name the two large groups of natural resources. To what group do deer belong?
- 3. List five resources in each of the two groups.
- 4. List five reasons why deer are important to the people of Michigan.
- 5. What are some resources involved in deer management?

Activities

- 1. Write for some publications listed as references on page 14.
- 2. With the help of your leader determine future activities of your club.
- 3. Your group should prepare a news release for your local paper. Tell about the organization of your club, its objectives and future activities.

SECTION II

Deer Facts

Where They Are

White-tailed deer belong to the family cervidae. Other members include elk and moose. White-tailed deer are found in varying numbers from the Atlantic to Pacific. But they're most abundant east of the Mississippi River. In Michigan, the animals live in every county; with greatest numbers found north of a line running from Muskegon to Bay City. In recent years deer have been increasing south of this line in a region with many farms and 90 per cent of the State's population. As a result the animals have caused some damages to farm crops and have been involved in numerous auto accidents. Although most of us enjoy seeing deer and want them in southern counties, it is very possible that their numbers will need to be regulated. This is because farming, a large number of cars and a large deer herd result in problems.

What They Eat

Deer are mainly browsing animals, preferring to eat a combination of leaves, tener twigs and buds of many kinds of trees and shrubs. This mixture is called



"deer browse". When available, acorns are good deer food and at times cultivated crops and grasses are also eaten. Some people believe deer feed mainly on the tree bark. Others think of pine cones as being

good deer food. This is not so. The animals generally do not eat bark or pine cones even when good foods are scarce.

White cedar foliage is Michigan's best deer food. Other foods of varying quality are needles or leaves, and-twigs and buds of aspen (popple), hard maple, soft maple, yellow birch, black ash, wild cherry, Juneberry, hemlock, white pine, jackpine, white birch, oak, sumacs, dogwoods, sweetfern, viburnums, witch-hazel and willows. They must, however, be taken in combination. Deer will usually starve on food from only one kind of tree or shrub. The one exception is white cedar. In general, a good diet consists of a mixture of food from several kinds of trees and shrubs.

Not all trees and shrubs produce good deer food. Twigs and leaves from white and black spruce, balsam fir, red pine, tag alder, and leather-leaf provide little nourishment for deer. Evidence of animals feeding on these plants is a good indicator of an acute food shortage. Such feeding would be almost similar to sheep or cattle feeding on sawdust. Any one interested in the health and vigor of deer must know how to identify trees and shrubs which provide good food and those that provide little nourishment.

How Much They Eat

A healthy 60-pound fawn, about the size of a large collie dog, needs about four pounds good browse every day. Four pounds of tender twigs and buds would be more than one-half bushel of browse. Larger deer must eat more. A 100-pound deer needs about six to eight pounds or a full bushel of good food each day. The daily diet of a deer weighing 150 pounds must average about 10-12 pounds, or more than $l_2^{\frac{1}{2}}$ bushels of preferred browse.

Food Digestion

As with other animals, deer must have good food for energy and body tissue. However, before it can be used for these purposes, the browse must be broken down and dissolved. This process is called "digestion". It begins in the mouth with cudchewing and the mixing of the food with a digestive juice called saliva. Saliva is able to change starch in twigs and leaves to sugar. Additional food digestion takes place in the stomach. Here other kinds of digestive juices and some very tiny plants and animals continue to break down and dissolve food. The small plants and animals living in a deer's stomach can only be seen through a microscope. For this reason they are sometimes called microorganisms. Bacteria and protozoa are microorganisms found in stomachs of deer. Some aid in breaking down certain kinds of leaves, twigs and buds into materials that are used for body tissue and energy.

The leaves and twigs of some plants are poor deer foods. This is because the digestive juices and microorganisms in the stomachs of the animals cannot break down and dissolve the material taken as food. For this reason deer will starve on a steady diet of needles from spruce and balsam fir trees. This will happen even though the animals are able to get large amounts of these poor foods.

Discussion Questions

- 1. What is meant by "deer browse"?
- 2. List ten trees and shrubs which provide good browse for deer.
- 3. List three trees which provide poor deer browse.
- 4. Why do deer sometimes eat poor quality foods?
- 5. On the average, how much food must a 150 pound deer eat each day to stay healthy and vigorous?
- 6. What problems can a large deer herd create in farming areas and in counties having a large number of people?
- 7. Explain how food is digested by deer.
- 8. Why are some plants considered poor deer foods?

Activities

- 1. Make a leaf and/or twig collection of 10 trees and shrubs which make good browse for deer when eaten in combination. Make a similar collection of leaves and/or twigs taken from five trees and from shrubs which provide poor food. Learn to identify the twigs or leaves you collect. (<u>A leaflet entitled A Funters Guide for</u> <u>Identifying Deer Foods</u> will be helpful to you. It is included in the reference list.) Your leaf or twig collections can be used as part of your exhibit. It should show some originality and be able to express a few single facts. Several publications in the reference list should help you to prepare your exhibit.
- 2. If possible, accompany an experienced person on a deer hunt. Look for deer "signs". List them. Identify some of the trees and shrubs. Which ones are good deer foods? Are there "browse lines" in the area. Note the hunting technique used by your hunter friend. How does he determine where to hunt? How does he handle his rifle?

SECTION III

Deer Migrations

Where They Go

Deer seldom move more than a few miles from where they were born. However, it is possible that some deer may move or migrate 20 miles or more from summer range to winter range. (Range is the area on which deer live at various times of the year.) In warm months, the animals travel without being hampered by deep snow and are scattered over a large area. Winter's snow generally forces animals to stay in small areas, usually less than 10 percent of their summer range. In northern Michigan, deer generally seek winter refuge in coniferous swamps*: in heavy cover next to lakes and streams or in dense evergreen cover on the uplands. A place where deer concentrate in winter is called a "deer yard". The animals generally remain in the yards from 90 to 115 days, depending on snow depth and length of time snow is on the ground. When large numbers congregate in a deer yard for a long period, availability of winter food becomes a serious problem.

Deer Reproduction

Deer are polygomuous animals. One buck deer will have more than one mate at the same time, usually four or more breeding does. In one experiment with captive deer, one buck mated successfully with 18 does. Most breeding in Michigan occurs from mid-October through mid-December. About 33 out of 100 well-fed female fawns will mate when six months old and give birth to young when about 12 months old. Under poor food conditions, only about 4 out of 100 will breed and produce young at this early age. These facts are important to "biologists", who are greatly concerned about present and future deer population.

A healthy, vigorous adult deer usually produces twin fawns each summer; on rare occasions triplets and quadruplets. A doe in poor physical condition because of poor food could die before spring; she could live and not produce any fawns, or at most only one. Thus the amount of available good winter browse affects fawn production. It has a bearing on when a doe deer will give birth to her first young and also on the number she will produce each summer.

Deer - A Crop to Harvest

The rate at which deer produce fawns under ideal conditons is called the "breeding potential". The animals are very fertile and under the most favorable living situations, one buck and five does could increase to 1,000 animals in 10 years. This fact is an important consideration in all good management plans. It should also be remembered that area of land can support only a certain number of animals through winter. Because deer numbers can increase rapidly and since the land is limited in the number of deer it can support, the animals should be considered a crop to be harvested. If surplus animals are not removed by hunting, mother nature steps in to reduce the herd through starvation and/or disease. Surplus deer are represented by the number of animals which should be harvested

^{*} Coniferous swamps are low areas growing white cedar, spruce and/or balsam fir trees.

to keep the breeding stock in good condition. Surplus deer and other wildlife cannot be stockpiled. If the crop is not harvested, it will be wasted. Allowing this to happen would not be good management or wise use of a resource.

Antler Development and Weights

Male deer grow a new set of antlers each spring and summer, shedding the old ones each December or January. These are soon eaten by rodents and are seldom found. Except on rare occasions, female deer do not grow antlers.

Anther growth depends more on good food supplies than on age, or on inherited traits. When deer are well-fed and in good physical condition, the older animals usually will produce the largest racks. It's not uncommon to find well-fed yearlings $(l_2^{\frac{1}{2}} \text{ year-old})$ with small racks instead of spikes. Most healthy, vigorous bucks generally will have legal-sized antlers (3-inches) when they are $l_2^{\frac{1}{2}}$ years old. They would be legal games by the start of their second hunting season. It may take $2\frac{1}{2}$ years or more for three-inch spikes to develop on animals in poor condition. Thus many bucks in food stortage areas must be fed an extra year or more before they become legal targets under a "one-buck law". 2^{-1} This should be of special interest to deer hunters and a factor to consider in managing areas where food is already scarce.

Antler size is not a reliable indicator of age. The development stage and condition of teeth tell the age of deer with a greater accuracy. By 18 months, milk ("baby") teeth are replaced by permanent ones. An animal having a new set of permanent premolars is generally $l_2^{\frac{1}{2}}$ years old. The age of older deer is judged by the degree of wear on the teeth.

The live-weight of an average Michigan deer is rarely more than 135 pounds. A 200-pound animal would be unusually heavy and would receive some notation in newspapers.

Discussion Questions

- 1. Where do northern Michigan deer usually spend their winters and summers? Why?
- 2. What is a "deer yard"?
- 3. Why are deer and other game animals considered a crop to be harvested?
- 4. Explain how antler development can be used to tell something about winter food conditions.
- 5. What is a polygamous animal? When do deer mate in Michigan?
- 6. How can you tell the age of deer with some degree of accuracy? Is a "spike horn buck" always a young deer?
- 7. What is a "one buck law"? What is an "anterless deer season"?

Activities

1. Visit one of Michigan's wildlife experiment stations. Make arrangements several weeks in advance of your visit. You can get first hand information about game research and management at the following experiment stations:

^{2/} A "one-buck law" refers to a Michigan hunting season when each licensed hunter is legally allowed to harvest a buck deer having antlers at least 3-inches long.

Cusino Wildlife Experiment Station Michigan Conservation Department Shingleton, Michigan

Swan Creek Wildlife Experiment Station Michigan Conservation Repartment Allegon, Michigan

Houghton Lake Wilälife Experiment Station Michigan Conservation Department Houghton Lake, Michigan

Rose Lake Wildlife Experiment Station Michigan Conservation Department R#2] East Lansing, Michigan

SECTION IV

Scar And Their Homes

The lands deer must live on are constantly changing -- a fact that must be recognized in all good deer management plans. Most of today's northers Michigan landscape differs from that of 1900, 1940, 1960--or even one year ago. It will be different 10 years from now.

After the logging operation and extensive forest fires of Michigan's early years, a new growth of small trees and shrubs covered the land. For a time, these

plants, sometimes called "second growth", produced much good food for deer and other wildlife. The deer population increased to an all-time high during the period of 1940-1950. This "second growth" grew up; many trees and shrubs were crowded out. "Natural pruning" took place; the lower browse-producing branches died from lack of sunlight. The tender twigs high on the trunks could not be reached by deer. These changes do not favor deer and as a result, deer numbers have decreased somewhat since 1950.

Seedling tree and shrub growth is practically absent in a mature forest. Only s few trees such as hard maple, hemlock and beech can grow in semi-shade and even these may not grow in extremely dense shade. Many cedar swamps used by deer in winter lack young plants. The youngest white cedars growing in some places are 20 to 30 years old. This is an indication that shade, competition for soil mutrients and moisture, and in many instances over-browsing by deer have prevented young trees from growing.

When deer become too numerous, they will destroy their own habitat in a very short time. By over-browsing, they kill small food-producing plants and thereby



change the plant community. The animals will eat all good food within reach; resulting in a "browse line". A browse line is the height to which deer have removed foliage and end-twigs from trees. It can be readily seen in many cedar swamps. Continued heavy browsing will result in a forest consisting of trees and shrubs of little or no value to deer. This has happened in Pennsylvania, Wisconsin, New York, Michigan and other states.

Planting trees and shrubs would be useless where deer are eating more food than is being produced each year. The animals will destroy seedlings before the plants could get established.

As previously mentioned, a short supply of good winter food can cause starva-



tion, stunted animals and reduced fawn production. In poor physical condition, a doe will average about one fawn, or may die before spring. A well fed adult female deer will average about two fawns per year. On good deer range, 25 healthy, vigorous adult females will produce 50 fawns. On the same acreage of poor range, 25 hungry does will produce about 25 fawns or less. How many fawns could 500 does produce under favorable and unfavorable range situation? Such calculations become

important in a good deer and forest management plan.

It is important to keep in mind that many female fawns on good range will mate in the fall when only six months and produce young when 12 months old. On poor range does are usually two-years old before they produce their first young. Too many deer will not only ruin the herd's food supply but will reduce their own numbers through starvation and low fawn production. They will weigh less--and low average weights are a good sign of deteriorating range.

In many Michigan localities, high deer populations have destroyed desirable forest reproduction and changed plant succession (stages in forest development). This could be serious to a long range tree economy such as found in many northern Michigan communities. The forests provide raw materials for homes and hundreds of other items. They provide employment for woods workers and people who make things out of wood.

Therefore, when possible, long range management programs should consider present and future deer populations, as well as needs of both wood-utilizing industries and an increasing human population. Remember that it takes many years for trees to grow before they can be harvested and made into useful products. Corn can be grown and harvested in a single year but it may take 40 years or more to grow a stick of pulpwood and many more years to grow a sawlog. Thus the things which happen to our forest today will have an effect on people, deer and other wildlife 40 and possibly a 100 years from now.

Discussion Questions

- 1. Discuss the history of Michigan's forests and deer populations.
- 2. What happens to living condition (habitat) for deer when young trees in a forest "grow up" or mature?
- 3. What is meant by "natural pruning"?
- 4. What is a "browse line"? What does it indicate?
- 5. How do food shortages affect the weight and antler-size of deer?
- 6. How do food shortages affect fawn production?
- 7. How does over-browsing by deer affect forest reproduction? The future needs of wood-using industries? People in general?
- 8. Why is it a risky venture to plant seedling trees and shrubs near places where browse line are evident?
- 9. About how many fawns could be produced in a single year by one buck and five healthy, vigorous adult does? How many fawns could 500 adult does produce under ideal conditions? Under poor food conditions?

Activities

1. If possible, visit a deer yard in winter with person acquainted with the lives and needs of a deer. He could be a forester or biologist of the Michigan Conservation Department or the U.S. Forest Service. Make a list of trees and shrubs in the area. Which provide good food for deer? Note natural pruning and browse lines. Using pruning shears, collect a little more than one-half bushel of deer browse. This is about equal to the amount needed by a 60-pound fawn. If possible take pictures of living conditions faced by deer.

SECTION V

Problems in Deer Management

Deer find living conditions best on lands producing a variety of plants in all stages of development. They like a combination of open grass area, brushlands and cover-areas growing timber trees of all ages. Thus the objective of deer management



is to create such living conditions (habitat). This can be done in two ways. The first is to harvest the deer crop adequately. This should include removal of some antlerless deer from winter food shortage areas. The second is to remove mature trees and encourage young tree and shrub growth.

Although we have a good idea about the needs of deer, some things prevent the development of ideal habitat for deer. Some are:

. It could be that deer cannot be harvested adequately. Restrictive game laws, distance from population centers and posting of private lands against hunting affect hunting pressure and, finally, the deer harvest.

Deer Management Measures



Below are listed some important deer management measure that will benefit deer. The factors discussed under the previous topic will determine whether they can be applied. Certainly, it is not expected that all of them can be employed on a given area.

- . Maintain a balance between deer numbers and the amount of natural food produced each year. This requires harvesting surplus animals. When state regulations make it legal, this should include the removal of antlerless deer from winter food shortage areas.
- After deer numbers are in balance with their natural food supply, habitat management activities can be undertaken to improve food and cover conditions. Important ones are listed below.
 - 1. Harvesting mature timber for commercial or home use. When possible, cutting operations should take place in winter to enable deer to feed on the downed tree-tops. Young trees and shrubs usually will replace harvested trees, creating more food and future timber crops.
 - 2. Removing mature trees of no commercial value by bulldozing in winter or by applying herbicides (chemical brush killers) in June. Young trees and shrubs will generally take their place and thus food will be available within reach of deer.

- 3. Planting portions of large open tracts of land (160 acres or more) to pine trees and shrubs. However, the entire unit should not be made into a solid plantation because deer need open and brush areas. The plantings should be scattered units about one to five acres in size. Another possibility is to plant the trees on long strips about 50-60 feet wide. Fairly good deer habitat will have food and cover well distributed. Each 100-acres in an ideally managed tract of land will have roughly these proportions of cover: 15 acres of grass land, 35 acres of brush and young trees, 35 acres of upland woods and, if possible 15 acres in lowland or swamp type woods. This break-down is usually difficult to attain because of the previously mentioned reasons. Good deer management programs have as a goal the establishment of a variety and well distributed cover.
- 4. Encourage native tree and shrub reproduction on large tracts of open land. Disking the land sometimes will favor seedling tree and shrub growth. If the desired growth does not take place, a tree and shrub planting program may be needed.
- 5. Saving acorn-producing oak trees close to winter deer yards.
- 6. Artificial winter feeding programs should be carried on only in case of an extreme emergency. Such an emergency would be caused by an unusually long and severe winter--a winter with above average snow-fall and below normal temperature.

Discussion Questions

- 1. What are the two related operations in deer management?
- 2. List and discuss things that limit the application of good deer management measures.
- 3. What are some practical things we can do to improve deer habitat.
- 4. Discuss how land, forests and deer are "tied" together.

Activities

- 1. If possible visit an area where deer management is being applied to the land. This could be where winter logging operations are taking place. A forester or biologist may be able to help you locate such a place. Look for deer "signs"-tracks, droppings or evidence of deer browsing.
- 2. If possible visit a "deer exclosure", a small area fenced to prevent deer from browsing on trees and shrubs. (This activity might be tied in with a visit to a deer yard or a place where deer management is being carried on). The purpose of deer exclosures is to show people what the animals can do to forest reproduction and to their own food supplies. Trees and shrubs on the outside of the fence are usually heavily browsed by deer. Deer exclosures have been erected in several locations by the Michigan Conservation Department and the U.S. Fish and Wildlife Service. By contacting one of these agencies you can learn the location of the nearest one.
- 3. Prepare a new release for your local paper. Tell what club members have learned from this project. Include activities such as field trips. Your newspaper will appreciate a good photograph showing your group in action.

Suggested Club Exhibit

- Your club may wish to exhibit a display showing the daily average winter browse needs of a 100-pound deer. Using pruning shears, members should collect enough twigs with buds and/or needles to fill a bushel basket. This amount of food would weigh about seven pounds. The twigs should be collected after leaf-fall from trees and shrubs known to provide fair to good deer food. The thickness of twigs should not be greater than half the thickness of a pencil. Include only browse material found between one-foot and five-feet above ground level. Browse less than one-foot off the ground generally is not available in winter. Deep snow usually will cover it. Then too, the average adult deer can't reach more than about five to six feet for food. You will be amazed at the length of time you and your fellow club members will spend collecting a bushel of browse. Include a few labeled twigs as part of your exhibit.
- Your club may wish to display photographs showing your club activities. Such an exhibit may include photographs taken on your deer yard tour or your visit to a wildlife experiment station. Some photographs could tell a story about various kinds of deer habitat, --examples of winter range, summer range, good deer habitat, browse lines, etc. Other photographs could show examples of good game management practices; the deer harvest, timber harvest, etc.

Reference Publications

There are many good books and bulletins about deer. Some helpful ones are listed below:

The Deer of North America, edited by Walter P. Taylor, is one of the most complete and up-to-date books about deer. The 668-page book contains information supplied by 16 deer experts from Canada and United States. It has some information about Michigan's deer herd. If it is in your school or local library you or your leader may wish to borrow it. The book can be purchased from the Stackpole Company, Harrisburg, Pennsylvania.

The leaflets listed below can be requested from the Michigan Conservation Department, Lansing 26, Michigan. There is no cost. Have your club secretary write for them.

Hunter's Guide for Identifying Deer Foods A Report on the Past Deer Season

The pamphlets listed below can be requested from the Fisheries and Wildlife Department, Conservation Building, Michigan State University, East Lansing, Michigan. Have your club secretary write for enough copies to supply each member.

Natural Resources and You (Circular 26) Facts About Wildlife (Circular 12)

Trees and Game-Twin Crops should help you with this project. It is available from the American Forest Products Industries, Inc., 1816 "N" Street, N.W., Washington 6, D. C. The bulletin tells about the relationship between deer and forests. Have your secretary write for copies. Leaders or teachers should write for The White-Tailed Deer. Single copies of this excellent publication can be obtained without cost. Write to Conservation Department, Olin Mathieson Chemical Corp., East Alton, Illinois.

Aids For Making An Exhibit

Preparing an exhibit may be one of your club activities. Keep in mind that good displays require thought and planning. Several good pamphlets which will help you make a worthwhile exhibit are listed below. You leader or teacher can obtain single copies from your local extension office or from the Bulletin Office, 10 Agriculture Hall, Michigan State University, East Lansing, Michigan.

Let's Make a 4-H Exhibit (4-H Club Bulletin 317) Me, Plan an Exhibit? Why Sure! (USDA Pub.) by Duane I. Nelson

Motion Pictures About Deer and Related Topics

Several good conservation films are available on a loan basis. The films listed below can be borrowed from the Michigan Conservation Department, Lansing 26, Michigan.

The Michigan Deer Story tells the history of Michigan's deer herd, and gives some facts about management. It is a color-sound film. The running time is 27 minutes.

<u>Michigan Mammals</u> shows common animals of Michigan. It is a color-sound film with a running time of 18 minutes.

<u>Michigan Moose</u> portrays Isle Royal's moose herd. Includes information on feeding habit of the animals. The film is black and white with sound. Running time is 10 minutes.

Forests and People tells about the relationship between forests, wood products, wildlife, recreation and people. It is a color-sound movie. Running time is 30 minutes.

Realm of the Wild was produced by the U.S. Forest Service. It tells about the need for year-round food supplies for deer in our national forests. This is an excellent sound-color movie. Running time is 27 minutes.

Buck Fever tells about the importance of deer and explains deer hunting. The running time for this color-sound movie is 22 minutes.

<u>Venison</u> shows the proper way to dress out a deer and how to prepare the meat for table use. The running time for this color-sound movie is 20 minutes.

The motion pictures listed above are 16mm safety films. Your group may borrow them without rental charge. The films are shipped from Lansing by parcel post. Your group must pay for mailing costs when returning them to the Michigan Conservation Department.

Your secretary should order the desired film at least TWO WEEKS in advance. Alternate film choices should be mentioned. The secretary should state the NAME of the picture, DATE on which it will be used and MAILING ADDRESS. A member of your organization should be responsible for making arrangements for a lomm movie projector, screen and extension cord. This should be done at least two weeks before the date on which the movies will be shown. Have a qualified person there to operate the projector.

Resource People

Representative of the Michigan Conservation Department can help your club. You may wish to invite a game biologist or forester to discuss deer management at one of your meetings. If you live north of Bay City, Mt. Pleasant or Muskegon, one of these people can take your group on a field trip to check on living conditions for deer.

Your secretary should make arrangements by letter about four weeks in advance of your field trip. Alternate dates for the trip should be mentioned in the letter. Address the letter to the nearest Regional Office of the Michigan Conservation Department.

Upper Pedinsula people should write to:

Regional Office Michigan Conservation Department Marquette, Michigan

People of the northern half of the Lower Peninsula should write to:

Regional Office Michigan Conservation Department Roscommon, Michigan

Your local conservation officer is a source of information. You may wish to invite him to discuss gun safety and game laws. He has knowledge about deer, especially the animals living in his county.

If you live near a National Forest, you may wish to invite one of the foresters to discuss the relationship between deer and forests.

Illustration Credit: Oscar Warbach