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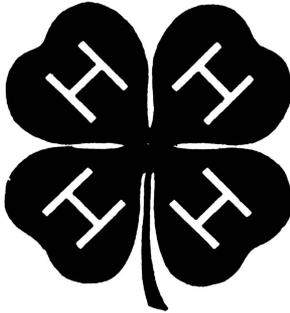
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UNIV. OF MISSOURI
COLLEGE OF AGRICULTURE

WILDLIFE CONSERVATION

(A 4-H Club Activity)

4-H CLUB CIRCULAR 68



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COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS

UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE AND THE UNITED
STATES DEPARTMENT OF AGRICULTURE COOPERATING

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I. INTRODUCTION TO STUDY OF WILDLIFE CONSERVATION*

A. Scope of Work

This circular has been prepared to guide leaders who are interested in Wildlife Conservation and to point out some of the many relationships between soils, waters, plants, and animals. Simply stated, conservation means the wisest use of our resources for the good of the greatest number of people for the longest possible time.

Wildlife, as used in this circular, includes all native animals and plants which live in or on the soils and waters. By studying soils, the forests, the ponds and streams, the birds, the wildflowers, the weeds, and the animals, we learn to think of the land in its broader meaning.

Since many wild plants and animals are affected by agricultural activities such as farming, forestry and livestock grazing, these must be included in our outlook on wildlife conservation.

The soil and sun grow a tree, the tree produces a walnut, the walnut feeds a squirrel and the squirrel feeds a man. The tree, however, furnishes other services to other animals: a worm feeds on the leaves, a woodpecker lives in the hollow trunk, songbirds find cover for nesting, insects find food and shelter from natural enemies.

Thus, each plant growing upon the soil may furnish food, shelter and other services to many members of the land community. So, then, in the same general manner does each plant and animal furnish some service to others within the community. In studying any animal, plant, water or land area, the dependence of each one on the others should be recognized so as to avoid seeing only one side of the picture.

The tool needed to manage any part of our existence is knowledge. Knowledge is secured by observation, testing, and application. Surveys may be called observations of many things which are combined to give a true picture of things as they are.

B. How to Use Wildlife As A 4-H Club Activity

1. **Purpose**—The chief reasons for suggesting wildlife conservation as a supplementary activity are to make the community 4-H club programs more interesting and instructive for the boys and girls enrolled in all projects of the club, both as a

*Prepared by L. E. McCormick, Extension Forester, and Lisle Jeffrey, Technician of the Missouri Conservation Commission, in collaboration with T. T. Martin, State Club Agent.

group and for additional activities carried out by individual members on the home farms.

2. Amount of Time—It is suggested that the community 4-H Club devote from 15 to 20 minutes (more or less depending upon the nature of the problem) at each of a series of club meetings during the year, beginning when the club is organized.

3. Annual Report—When the club work for the year is summarized, it is suggested that the annual report and record of 4-H Wildlife Activities be attached to it and turned in to the county extension office with the 4-H Club Secretary's Record Book.

4. Special Recognition*—Special recognition will be given 4-H club members and leaders who achieve high standards in conservation, as follows:

- a. A total of 60 or more members and about 15 leaders will be selected to attend the State 4-H Club Conservation Camp.
- b. Recognition will be given to the eight community clubs that reach the highest standard of achievement, two from each quarter of the State.
- c. The most outstanding 4-H club members in Wildlife Conservation will be considered for the two University 4-H Club Scholarships.

5. Demonstrations and Illustrated Talks by 4-H Club Members—Suggested for Community Club Meetings. See Section IV on Moving Pictures, Film Strips and Slides, page 22.

a. **Make a Wildlife Survey**—(From April to November.)

The following outlines for demonstrations and illustrated talks are submitted for use on the regular programs of community 4-H club meetings. However, they are only suggestions. Leaders should feel free to draw upon the actual experiences of their club members to supplement these activities. The interest of youth is at its peak when given an opportunity for expression through self-activity.

- (1) Explain how the survey was conducted and give a report of observations made.
- (2) Demonstrate inter-community wildlife relationships by bringing in some water plants and showing the different types of other life that live on the plants.
- (3) Demonstrate the value of soil fertility in water areas by bringing in some soil from the bottom of a stream or pond, sifting it and pointing out insect larvae, snail shells, pupa cases and seeds of various water plants which may

*For further information, see page 21.

be present. Compare the number of insect larvae, snail shells, pupa cases and water plant seeds found in a water area of high fertility with an area of low fertility. State the conclusion reached.

- (4) By observation and reading, study the food habits of common hawks of the community, learning to distinguish between the hawks that are helpful and those that are harmful. If you hear of any hawks being killed in the community, make an effort to have their stomachs sent to the Cooperative Wildlife Research Unit, Columbia, Missouri, express collect, for analysis.
- b. Establish a Nursery for Growing Trees, Shrubs and Vines Useful to Wildlife.
- (1) Members can establish small nurseries for the production of some of the trees and shrubs which are recommended for windbreaks, erosion control, fence posts and other farm uses as well as for wildlife food and cover. The seed from small-seeded species such as black locust, red cedar, osage orange, green ash, catalpa, dogwood, elderberry and mulberry, should be collected, after maturity and drilled in well-prepared seed beds. The seed of all of these species can be sown in the fall, provided the bed is kept mulched through the winter with straw or leaves. In case the seedling is to be done in the spring, red cedar and dogwood seed must be stratified through the winter by storing them in layers in boxes of sand which are placed in a cool dark place and kept moist at all times. Black locust seed can be stored dry through the winter then scarified before planting in the spring. The seed of all small-seeded species should be sown not deeper than twice the thickness of the individual seed.
 - (2) During the summer months, demonstrate how to propagate trees, shrubs and vines by making cuttings or by the process of layering.
 - (3) In order to establish woodlot plantations, increase the stocking in farm woodlots, or improve the supply of wildlife food in favorable locations on the farm, collect walnuts, acorns, hickory nuts, hazelnuts, pecans, persimmon seed, etc., and in October or November plant these seed in prepared seed spots over the selected areas. In case there is danger of rodent damage, stratify the nuts or seed and plant them the following spring.
- c. Create a Permanent Water Supply for Upland Wildlife. Explain and illustrate the proper method of figuring the size

of a pond on the bases of the watershed, the degree of slope and the spillway.

- d. Improve Food and Cover for Wildlife Along Fence Borders. (For use during the summer months.)

Conduct a field tour to observe food and cover plants.

- e. Improve Food and Cover for Wildlife and Erosion Control in and Along Gullies and Ditches.

(1) In the fall or early spring, demonstrate how to plant trees or shrubs for erosion control.

(2) Measure, calculate, illustrate and explain the amount of soil lost in a V-shaped gully. About 25 cubic feet of soil weighs a ton. The formula for this calculation is as follows:

$$\frac{\text{Width} \times \text{Depth} \times \text{Length}}{2} = \frac{\text{Tons of soil lost.}}{25}$$

(3) In order to observe roughly the amount of sheet erosion, drive marked stakes on several different types of slopes in both cultivated and grass areas; and after heavy rains in the spring and fall, observe the relative amounts of soil losses as shown by the stakes. State conclusions reached.

- f. Improve the Environment for Wildlife in Farm Woodlots. Draw a map of the farm to scale, and explain how to improve the environment for Wildlife.

- g. Conduct an Emergency Winter Feeding Program, Including the Construction of Shelters. Demonstrate the different types of practical shelters which are being built; and, explain the methods used in feeding. Also, name and explain the two major dangers of poorly constructed and located shelters.

- h. Establish a Small Sanctuary for Wild Flowers and Other Native Plants and Wildlife Where Natural Conditions May be Restored and Maintained. Observe and record before the refuge is established and at regular intervals each year thereafter the number and different kinds of plants and animals found on the area, and report the conclusions reached to the club group.

- i. Improve An Existing Water Area for Aquatic and Semi-Aquatic Wildlife. (For use during summer months.) Make, identify and exhibit a collection of seeds of water plants and tubers useful to wildlife, for the purpose of having a reference list of available native plants in the community that can be used to improve water areas.

j. Construct and Develop a Water Area.

- (1) Give a detailed report with drawings, showing how a pond was built.
- (2) Conduct field demonstrations at a pond, considering at least the following points:
 - (a) Why the location was selected.
 - (b) The proper location of the spillway.
 - (c) Show method of preparing the dam site. (Furrows, etc.)
 - (d) Demonstrate how to lay a pipe.
 - (e) At a return trip, show how the tank is connected and the way the float valve works when livestock use the water.

6. A Conservation Playlet—The Good Idea*.—Characters appearing in the playlet, in order of their appearance are the following:

RABBIT, Played by small boy or girl in costume.

BOY, wearing overalls.

GIRL, print dress and apron.

WILDLIFE CONSERVATION AGENT, in uniform.

SPOIL SPORT, a hunter, in sportsman's garb, his hunting coat bulging with game.

Propertities: Phonograph and record of background music (optional); Water whistles (optional); Cap-gun and caps (optional, as sound can be made of shooting by slapping folded newspaper on wall); Sign, "Game Refuge"; and Play shotgun (can be made from flat board and broomstick).

Scene: Bird calls (made with water whistles) are heard, with woodland background music (from record player) as the lights flash on the stage and the curtain is drawn.

It is the corner of a game management area on a Missouri farm. On a post is the sign of a game management refuge. RABBIT hops about the stage happily, stops to look into a tree and listens to birds singing when suddenly . . . A shot is heard. The sounds of more shots in rapid succession are heard and RABBIT bounds for cover, hiding in nearby bushes.

BOY—(enters running) Hey, there—who's shooting on a game refuge? You can't do that here . . . (looks around, fails to see anyone) Well . . . (turns back in direction from which he came and calls) Come on, Betsy, I thought sure there was someone here . . .

*Prepared by Townsend Godsey, Missouri Conservation Commission.

GIRL—(entering) You sure did run fast . . . I couldn't keep up . . . didn't you find anyone?

BOY—That shooting must have been over the hill, but I thought someone was shooting quail here in the refuge. But I'm telling you, Betsy, if I catch anyone shooting in here before the two-year time is up, I'll . . .

(sounds of more shooting)

GIRL—Listen!

(still more shooting)

BOY—I heard father say the other day that he wasn't worrying about just shootnig, but he did want to know who was doing it; and he says it's up to the hunters themselves how much hunting there'll be in the future.

GIRL—Well, that Conservation Agent who talked to us at our 4-H Club Camp last summer said that, too. Remember? He said that the farm boys and girls hold the key to wildlife conservation in Missouri.

BOY—Yes, but don't forget what he said, too, about everybody having a responsibility, and that goes for all folks who hunt and fish . . .

CONSERVATION AGENT—(entering) Howdy! I was just coming over here to find out what that shooting was, and heard what you were talking about. You're right . . . everybody in Missouri does have a responsibility. There's no room in **our** state for spoil-sports.

GIRL—Spoil-sports? What do you mean?

C. A.—A spoil-sport is just that. He spoils sport.

BOY—That must have been the man father was talking about—the one that shot at everything on the place last year and killed nearly all the quail.

C. A.—That fits his description, all right. He thinks he is a great sportsman, but generally he is so selfish that he is spoiling everybody else's sport.

BOY—Well, he spoils his own, that way, I'd think . . .

C. A.—Of course he does.

GIRL—And what else makes a spoil-sport?

C. A.—He leaves gates open, he shoots at stock, he starts fires anywhere, and doesn't bother to put them out . . .

BOY—He never asks permission to fish or hunt . . .

C. A.—He exceeds the bag limit, kills more than he can use . . .

GIRL—He's really just plain selfish, then, isn't he?

C. A.—That's it exactly—selfishness is the whole idea.

BOY—So that makes the spoil-sport a BAD idea, I guess.

C. A.—A **very** bad idea.

GIRL—There must be a lot of people who are spoil-sports, then.

C. A.—Some, of course, but there are many people who have good outdoor manners.

BOY—Sure. Friends of ours come out here to hunt and fish, and they are welcome. But when people we don't even know start coming without so much as asking our consent—why, then, it looks like all would have to stop.

C. A.—There ought to be some other way to settle it. Now, think it over. If we say a spoil-sport is selfishness, and selfishness is an idea, then the man himself may not be a bad fellow. He's just following a bad idea.

GIRL—Yes, a very bad idea . . .

C. A.—And if you have a bad idea, what can you do about it?

GIRL—Why, change it . . .

BOY—Sure, that's just what he means. See, Betsy, all you have to do is get the right idea instead.

C. A.—See? The answer is simple when you stop to think about it. But listen (holds up hand), I hear someone coming. (sound of footsteps)

GIRL—Let's hide and see who it is. Maybe it's the man who was shooting awhile ago. (all three hide)

SPOIL-SPORT—(enters, sees sign, laughs) So this is a game refuge, is it? I'd like to see some of that game about now.

RABBIT hops into view.

SPOIL-SPORT—(disgusted) Only a rabbit. Well, at least it's a target . . . (fumbles with gun)

C. A.—(stepping out, confronting S. S.) Just a minute, here . . . This is a game refuge, where animals and birds rear their young—and it's closed to hunting. You can do your shooting outside the refuge.

S. S.—And who do you think you are? (starts to raise gun)

C. A.—I am a Wildlife Conservation Agent, a good friend of all those who believe it is better to be a good sportsman than a good marksman. And you can't kill anything in the refuge.

S. S.—Humph! Do you know who I am?

BOY—(stepping out) I'll tell you who he is—he's a spoil-sport.

C. A.—The boy is right . . . I'm afraid that's just what you are. A selfish spoil-sport. You make us arrest more than 100 of your tribe every month here in Missouri, taking time that would be better spent helping farmers and their boys and girls make hunting and fishing better for everyone.

S. S.—(still belligerent) Selfish, Huh? Listen, you know very well if I don't get the game first somebody else will beat me to it . . .

C. A.—That idea won't stand up. Selfishness won't get you anything—not even more game, in the long run. The best thing for you to do is to believe in the conservation program, and help . . .

S. S.—(grudgingly) Well—even if you're right, it's hard to believe. And (triumphant) what about the other fellow?

BOY—Oh, you'll believe in it if you just stop to figure it out—we believe in conservation, don't we, Betsy?

GIRL—Of course. **You** look smart, Mister—I don't see how you can help believing.

S. S.—(flattered)—Well—I hope I'm smart, but—

BOY—But what?

S. S.—There's still the other fellow.

C. A.—And he's the reason we need to have you believe, so you can help us teach him . . .

S. S.—(weakening) But if just a few of us believe in conservation . . .

GIRL—(to audience) But **all** of you do, don't you?

BOY—(to audience) Will the audience clap its hands to show that it believes in conservation?

(Pause for response from audience)

S. S.—I believe you're right, Mr. Conservation Agent (to audience)—and all the rest of you. Thanks for the good idea!

CURTAIN.

7. **A Conservation Hike**—It is suggested that arrangements be made with the local conservation agent, or some other qualified person, to lead the club on a conservation hike.

REFUGEES



Cartoon by "Ding" Darling in Wildlife Review.

Ruthless destruction of our forests and our soil will decimate the supply of wildlife. If we want to send in good game reports in subsequent years we must protect these two great natural resources.

II. SUGGESTED WILDLIFE ACTIVITIES

A. The Situation

Before attempting any wildlife activity on the home farm, the 4-H club member should organize the material at hand by studying the existing conditions of the soil, land and water areas. To assist in preparing a map of the farm to make the suggested activities meet the needs of the individual farm, some survey of the plant, animal and soil relationships should be made and recorded.

Maps of the individual farm are merely a method of recording the finding made and it is not necessary to put down the number of each plant or animal found.

From the preliminary surveys, it may be possible for the club member to determine what essential needs of the animals or plants are missing and what can be done to furnish those needs. The supplying of the needs to soil, we call soils management; to livestock, livestock management; to wildlife, game management.

1. Make Wildlife Surveys—In making a wildlife survey, the club member may select either a water area (stream or pond), or a land area, including stream or pond.

- a. **Water Areas (Stream or pond)**—Select a farm pond or a quarter of a mile of permanent stream. Make a rough map of the area to be surveyed. Make a list of the different kinds of insects, plants, birds and mammals found and locate them on the map. Look for small insects on water plants; try to determine what each one eats; also what eats these insects. What larger animals are present? What are their foods? Where they live? Holes in bank? Cover along banks? etc. Make a simple diagram of this water community, using the soil as a base as described above in the situation and showing the progressive dependence and relation of each member.
- b. **Land Areas (Farm including streams and ponds)**—Make a drawing of the farm buildings, ponds, streams, woodlots, pasture and cultivated fields. List the animals found near streams, woods, fields, borders, weed patches, gullies, etc. What does each eat? Where does each live? What are the enemies of each? Make a simple diagram showing how each animal on the farm is dependent upon other animals and plants. Notice how better soils produce better vegetation and thus support more animals.

c. Survey Aids—

- (1) Common Mammals, Reptiles, and Amphibians—See mimeographed material, Extension Mailing Room, Waters Hall, Columbia, Missouri.
- (2) Birds—In beginning a study of birds, there are some simple steps which should be followed, such as:
 - (a) Study first the common birds with which you are probably already familiar, such as the robin, blue bird, blue jay, house wren, etc.
 - (b) Learn to recognize them by size, shape, actions, calls, songs, food habits and where usually found on the farm.
 - (c) Study each type of habitat separately. What birds are found in the field? In brushy cover along streams and ponds? In the deep woods? Along forest borders?
 - (d) Consult pictures of common birds to increase your knowledge about the various species. Look for distinctive markings which will aid in ready identification such as wing bars on sparrows, white rump marking on flicker, etc.
 - (e) References:
 - 1' A free set of bird cards entitled, "Series 9 and 10, Useful Birds of America", may be secured by members and the leader; and a free chart entitled, "Birds—Nature's Protectors", may be secured by the leader, from Church and Dwight Company, Inc., 70 Pine St., New York City, New York.
 - 2' Send to the National Association of Audubon Societies, 1775 Broadway, New York City, New York. for the Junior Audubon Group Plan of bird study.
 - 3' The Ashbrook series of bird books may be secured from local libraries and book stores, or from the Whitman Publishing Company, Racine, Wisconsin, as follows:

Red Book of Birds—Ducks, sandpipers, herons, pigeons and doves, hawks, owls and woodpeckers.

Blue Book of Birds—Whipporwills, swifts, flycatchers, larks, crows, jays, black birds and finches.

Green Book of Birds—Tanagers, wrens, thrushes, warblers, sparrows and other perching birds.

B. Improving the Situation

The suggested activities listed below have been prepared as a result of studying the general needs of wildlife; namely: food, cover and water; but the application to the individual farm can only be determined by observation and the survey. Each club member should study his personal farm situation and then select those activities which meet the needs of the home farm or the local community best.

1 Establish a Forestry Nursery—The club member may establish a small nursery for growing trees, shrubs and vines useful to wildlife. (Unit of 500 plants)

a. References:

“Improving Food and Cover for Wildlife on Missouri Farms”—E393.

“Propagation of Trees, Shrubs and Vines Valuable for Wildlife”.

“The Planting and Care of Forest Trees on Missouri Farms.” Missouri Extension Circular 409.

“Growing and Planting Hardwood Seedlings on the Farm.” U. S. D. A. F. B. 1123.

b. Plan of Procedure:

Prepare a written statement, explaining the situation which is to be corrected or improved by establishing a nursery. List the species to be propagated, with notes on the method of propagation to be used for each species, the general locations where each species will be planted, with reference to the age of stock, season of planting and use by wildlife.

c. Execution of Activity:

Establish a wildlife nursery consisting of at least 100 specimens (nuts, seeds, cuttings, etc.) of five different trees, shrubs or vines valuable for wildlife.

d. Report of Activity:

Write a report of the wildlife nursery, giving the number of kinds of specimens that were collected and stored in the nursery, how these were divided or distributed among the club members for planting and the number that came up and were thriving in a normal, healthy manner on October 1 of the year planted.

2 Create a Permanent Water Supply for Upland Wildlife.

a. References:

“Thirst on the Land”. Circular 32, National Audubon Society, 1775 Broadway, N. Y.

“Farm Ponds in Missouri”—E.351.

“Improvement of Farm Ponds and Watersheds for Erosion Control”—E392.

b. Plan of Procedure:

Prepare a map of the farm, showing the location of springs that can be improved for wildlife and the locations where small ponds (1/10 acre in size and 8 feet deep) can be built and protected from livestock. Show where the trees, shrubs or vines will go, with the number and kind of each used.

c. Execution of Activity:

Build a pond that is at least 1/10 acre in size and which will hold 8 feet of water over 1/4 of this area. Clean out a spring so that fresh water for wildlife will always be available. Extra credit will be given for fencing the above areas.

Plant the fenced area surrounding each pond or spring watering place built, or each old pond or spring watering place meeting the minimum specifications given above, to 10 or more specimens of each of 6 different kinds of trees, shrubs or vines valuable for wildlife.

d. Report of Activity:

Write a report, giving the total number of permanent water areas created for upland wildlife and the plants used for planting the surrounding areas, including also the improvements made for upland wildlife around the old water areas.

e. Additional Credits:

Plant a travel lane, consisting of a double row 4 feet apart of wildrose or other thorny bushes, from the water's edge of any of the water areas developed for upland wildlife to the nearest heavy cover.

3 Improve Food and Cover for Wildlife Along Field Borders. (Unit of 1/4 mile)

a. References:

“Improving the Farm Environment for Wildlife”—Farmers' Bulletin 1719.

“Game Management on the Farm”—F. B. I, 759.

“Improving Food and Cover for Wildlife on Missouri Farms”—E393.

“Planting the Roadside”—Farmers' Bulletin 1481.

“Tree Windbreaks for Missouri Farms”—Circular 343.

b. Plan of Procedure:

Draw a map of the entire farm, showing all fence rows, roadsides and field borders, and indicate on the map the areas you are going to improve for wildlife and include a brief description of the improvements to be made.

c. Execution of Activity:

Plant bare fence rows, roadsides or field borders with redbud, red cedar, bittersweet, dogwood, wild rose, winter-berry and other plants useful to wildlife. ($\frac{1}{4}$ mile strip of clean fence rows, roadsides or field borders planted to 200 or more trees, shrubs or vines valuable for wildlife.)

Provide temporary wildlife cover until more permanent cover can become established in overgrazed pasture areas.

Example: Select a large low value tree, preferably near the edge of a gully or draw, and cut it down, leaving the branches untrimmed. Plant some young red cedar, red haw, wild plum, wild grape, wild blackberry or other valuable wildlife trees, shrubs or vines under the protection of the limbs where the cattle cannot graze or trample.

d. Additional Credit:

Extra credit will be given for each large low value tree in a pastured area in the vicinity of a field border or fence row that is cut down and planted to five specimens of three different trees, shrubs or vines valuable for wildlife.

Place a loose pile of brush, 4 yards square or larger, in a fence row or ditch along side any cultivated field.

e. Report of Activity:

Write a report of the activity giving all the different improvement methods used, with the amount of area improved by each method.

4. Improve Food and Cover for Wildlife and Erosion Control In and Along Gullies and Ditches. (Unit of $\frac{1}{8}$ mile)

a. Reference:

"Improving Food and Cover for Wildlife on Missouri Farms"—E393.

"Wildlife Conservation Through Erosion Control in the Piedmont"—Farmers' Bulletin 1788.

"Topsoil—Its Preservation". U. S. D. A. Soil Conservation Service, Department of Agriculture, Washington, D. C.

b. Plan of Procedure:

Make a map of your farm, showing all the eroded gullies and ditches, and prepare a plan for planting these

with trees, shrubs and vines valuable for wildlife and erosion control.

c. Execution of Activity:

Sow 200 pounds of Korean lespedeza seed at the rate of 20 pounds per acre, or plant 100 trees, shrubs or vines valuable for wildlife and erosion control in an eroded gully or ditch.

d. Report of Activity:

Write a report, giving the total area of ditches and gullies planted to wildlife plants, kind of plants used, and the method employed to prevent grazing.

5. Improve the Environment for Wildlife in Farm Woodlots. (Unit of 1 acre)

a. References:

“Improving Food and Cover for Wildlife on Missouri Farms”—E393.

“Game Management on the Farm”—Farmers’ Bulletin 1759.

“Improving the Farm Environment for Wildlife”—Farmers’ Bulletin 1719.

b. Plan of Procedure:

Draw a map of the farm, showing all the woodland areas. Indicate the areas to be improved for wildlife and the methods to be employed.

c. Execution of Activity:

- (1) Provide temporary ground cover by leaving the tree top trimmings on the ground or piled in ditches, or cut five low value trees per acre in such a manner that a good part of both bark and wood remains attached to the stump and the tree will remain alive, even though its branches are lying on the ground.
- (2) Provide a permanent ground cover by planting around the edge of the woodlot at least 100 hazelnut, gooseberry, blackberry or other low growing shrubs or vines which are valuable for wildlife, or provide a year round water supply inside the fenced tract.
- (3) Plant 100 or more red cedar, shortleaf pine, walnut, black cherry or other valuable timber species which are also valuable for wildlife in any fenced woodlot.
- (4) For each area so managed that livestock, as well as fire, is kept out at all times.

d. Report of Activity:

Write a report, giving the number of acres of woodlot improved with all the improvement practices used, including the measures employed for protection against grazing.

6. Conduct An Emergency Winter Feeding Program, Including the Construction of Shelters. (Unit of 5 shelters, properly located)

a. References:

"Feeding Stations and Shelters for Quail on Missouri Farms"—E418.

"Feeding Wildlife in Winter"—Farmers' Bulletin 1783.

b. Plan of Procedure:

Prepare a map between December 15 and January 15, showing the location of each field on the farm and the territory used by each covey of quail on the farm.

c. Execution of Activity:

Plant or leave an ungrazed, uncut food patch of at least 16 square yards of cane, kafir, hegari, atlas sorgo or corn, or provide a good shelter, with food, for the quail during January, February and March.

d. Report of Activity:

Write a report, giving the number of food patches provided, the number of feeding shelters constructed, the number of each that were used and the total number of quail carried throughout the winter in this manner.

7. Establish a Small Sanctuary for Wild Flowers and Other Native Plants and Wildlife Where Natural Conditions May Be Restored and Maintained. (Unit of 1/2 acre.)

a. Plan of Procedure:

Prepare a map of the farm, showing all the places where an area of the following type can be established or developed. Include a description of the cover and water, and a list of all the important trees, shrubs, vines and flowers on the area or areas selected. Prepare a plan showing how the native flora will be restored, with kind and number of species needed.

b. Execution of Activity:

This area is to be a wildlife sanctuary and small game refuge where no trapping, flower picking, excessive picnicking or other abusive practices are permitted by anyone at any time. Fence and protect from burning, grazing,

hunting or excessive picnicking an area of 1/2 acre or more in size and plant it to low, bushy shrubbery, an abundance of wild flowers, wild fruit and nut trees, some dense thorny tangles. If water is needed, make a pond 8 feet deep. This area should not contain more than five per cent of the total acreage on the farm and must be posted by at least four conspicuous signs containing the words, "Wildlife Sanctuary and Game Refuge: All Hunting, Trapping, Flower Picking, Berry Picking and Nut Gathering Prohibited".

c. Report of Activity:

Write a report describing how the wildlife sanctuary was established and give all the improvements that were made to meet the requirements set forth above. This report should include a list of all the birds and animals known to have used the area some time during the year.

8. Improve An Existing Water Area for Aquatic and Semi-Aquatic Wildlife.

a. References:

"Aquatic Plants in Pond Culture". U. S. Fish and Wildlife Service, Document 948, Department of Interior, Washington, D. C.

"Waterfowl Food Plants". More Game Birds in America Foundation, New York City.

"Improvement of Farm Ponds and Watersheds for Erosion Control and Wildlife Production"—E392.

b. Plan of Procedure:

Prepare a map of each old pond or lake to be improved, showing how it will be protected from grazing and where the aquatic plants will go, including the different plants to be planted.

c. Execution of Activity:

Plant the pond or lake to one or more aquatic plants that are valuable for fish, or two or more that are valuable for waterfowl, at the rate of five plants per square yard.

Extra credit will be given for fencing the old pond or lake with a stock proof fence.

d. Report of Activity:

Write a report, giving the total number of ponds or lakes improved, their size and depths, and the improvements made.

9. Construct and Develop a Water Area—Lake, Pond or Marsh. (Unit of 100 feet of shore line)

a. References:

“Thirst on the Land” Circular 32, National Audubon Society, 1775 Broadway, N. Y.

“Farm Ponds in Missouri”—E.351.

“Improvements of Farm Ponds and Watersheds for Erosion Control and Wildlife Production”—E392.

b. Plan of Procedure:

Prepare a map, with outlines of fields and streams, showing the location of the ponds which you would recommend for your farm, on the basis of one pond for every unit of 80 acres that does not now have such a water area. Prepare a map of each water area to be constructed, showing the location of the stock-proof fence, the sodded spillway, and the stock-watering tank. It should also show the location, at their proper depths, of aquatic plants which can be secured from a nearby pond, lake, marsh, or slough. One or more of these plants should be valuable for fish, and two or more valuable for waterfowl.

c. Execution of Activity:

Build a pond which is $\frac{1}{4}$ acre in size and will hold water 10 feet deep over $\frac{1}{4}$ of this area, or a lake which will hold water 10 feet deep over $\frac{1}{4}$ of the lake area. Provide a stock tank below the dam and a sodded spillway or other emergency outlet.

Extra credit will be given for fencing with a stock proof fence the pond or lake as built above.

Note: If desired, part of the fence surrounding the pond may consist of two staggered rows of osage orange trees in such a manner that the rows will be one foot apart and the trees 18" apart in each row, providing these trees are not closer than 30' to the water's edge and providing further that the dam and spillway part of the pond will be fenced with wire.

Plant the pond bottom along the shoreline to one or more aquatic plants valuable for fish, or two or more that are valuable for waterfowl, at the rate of five plants per square yard.

d. Report of Activity:

Write a report, giving the total number of ponds built, with their size, depth, and whether they were fenced, with type of fence, and whether they were piped for stock water. Include also the plantings for aquatic wildlife, what plants were used and where they were planted.

III. RECOGNITION FOR ACHIEVEMENTS

A. The State 4-H Club Conservation Camp

A total of 60 or more members and about 15 leaders will be selected annually to attend the State 4-H Club Conservation Camp, which probably will be conducted in late June or early July. Members may qualify for this camp by reaching the standard of achievement in carrying out a wildlife activity, or a project in entomology, forestry, home grounds, soil conservation or weeds. The County Extension Offices will provide members and leaders of a community 4-H club with one set of suggestions on wildlife activities and entry blanks upon request. Entries close June 1.

B. The Wildlife Conservation 4-H Club Group Recognition

The Edward K. Love Foundation of St. Louis will provide annually means for recognizing 8 community 4-H clubs of Missouri (2 from each quarter of the State) that reach the standard of achievement in the development of wildlife environment during the year up to August 1. Entry blanks can be secured from the County Extension Offices.

Recognition will be given at the State 4-H Club Round-up to clubs in each of the four divisions of the State which are designated as Northwest, Northeast, Southwest and Southeast, respectively, and are described as follows: The State is divided into these four sections by a north to south line which bounds the east side of Mercer, Grundy, Livingston, Carroll, Saline, Cooper, Morgan, Miller, Pulaski, Laclede, Wright, Douglas and Ozark counties; and by a west to east line which marks the northern boundary of Bates, Henry, Benton, Morgan, Miller, Maries and Gasconade counties, and then follows the Missouri river to the Mississippi river.

The Standard of Achievement for Clubs

- | | |
|---|-----|
| 1. Wildlife Conservation Record* | 80% |
| a. Statement of the Situation Before Starting
the Activities, Including a Plan of Pro-
cedure | 25% |
| b. Explanation of How the Activities were
Carried out | 40% |
| c. Report of Progress, Including the Record of
Results Secured | 15% |
| 2. The 4-H Club Record | 20% |
| a. One or more years of completed club work
by August 1. | |
| b. Quality of work. | |

*The work of clubs with the highest achievements will be inspected in the field.

C. The University Scholarships for 4-H Wildlife Achievements

The Edward K. Love Foundation of St. Louis will provide annually two scholarships to the University of Missouri, beginning in September, which will be announced during the State 4-H Club Round-up. These two scholarships will go to 4-H club boys or girls who have done outstanding work in wildlife activities during the current year. The entries are due at the State Club Offices by August 1. Entry blanks can be secured from the County Extension Offices.

Suggested activities are found on page—; however, other activities with similar objectives may be used.

As a prerequisite, each entrant shall be eligible to enter the University as a freshman in September. The entrants will be selected in the counties from the 4-H club members who rank in the upper 40% of their high school graduating classes.

The Standard of Achievement for Scholarships

1. Wildlife Conservation Record*	60%
a. Statement of the Situation before Starting the Activities, Including Plan of Pro- cedure	15%
b. Explanation of how the Activities were Carried Out	30%
c. Report of Progress, Including the Record of Results Secured	15%
2. The 4-H Club Record	20%
a. Three or more years of completed club work.	
b. Quality of work.	
3. Personal Development	20%
a. Character.	
b. Personality.	
c. Leadership.	
Total	100%

*The work of the members with the highest achievements will be inspected in the field.

IV. MOVING PICTURES, FILM STRIPS AND SLIDES

It is suggested that leaders who desire to feature wildlife conservation on the community 4-H program by use of visual aids, should advise with their county extension agent.

A. Visual Aids from the University of Missouri

Moving pictures may be secured from the Visual Education Service, Jesse Hall, University of Missouri, Columbia, for the cost of transportation, and on some films a small rental fee is charged in addition.

Local arrangements would need to be made for showing these films.

A complete list of visual aids can be secured from the Visual Education Service upon application.

B. Visual Aids from the Missouri Conservation Commission

The services of a field representative of the Missouri Conservation Commission, including a Visual Education Unit, may be secured without cost for showing conservation pictures at an important community 4-H club meeting during the year. This unit consists of a truck equipped to generate its own power to run the projector for sound or silent pictures where A. C. current is not available.

All requests for this service, and for lists of moving picture films, film strips and slides of the Commission should be addressed to the Information and Education Division, Conservation Commission, Jefferson City, Missouri. These requests should be submitted at least two weeks in advance of the desired date of meeting.

V. SUBJECT MATTER REFERENCES

Special references are given on each of the suggested wildlife activities outlined in this circular. Additional reference material may be secured from the county extension agent as available in his office.

Before ordering more reference material, it is suggested that lists of available bulletins, circulars and leaflets be secured so that only the special literature desired will be requested.

The following sources are suggested:

A. The Missouri College of Agriculture

Send to the Mailing Room, No. 125 Mumford Hall, Columbia, Missouri, for a classified list of publications.

B. The Missouri Conservation Commission

Send to the Information and Education Division, Monroe Building, Jefferson City, Missouri, for a list of publications.

This report is to be attached to and turned in with the 4-H Club Secretary's Record Book.

ANNUAL REPORT AND RECORD OF 4-H CLUB WILDLIFE ACTIVITIES.

(County)

(Date)

(This report may be judged and, if worthy, the club placed in a blue or red ribbon group.)

I. General Report of Club.

- 1. Name of community 4-H club
2. Club enrollment: Boys Girls Total
3. No. of community club meetings held during the year
4. No. of club meetings at which some phase of wildlife was presented.
5. No. of demonstrations on wildlife given at club meetings
6. No. of other public meetings at which members presented some phase of wildlife. No. members participating
7. No. of members and leaders of club who attended the State 4-H Conservation Camp.
8. Check blank, if entry was made for Wildlife Conservation Club Group Recognition
9. Check blank, if entry was made for University Scholarship on Wildlife Conservation

II. Special Report of Wildlife Activities.

- 1. No. of members making the water area survey. No. making land survey
2. Total No. of different kinds of wildlife identified (Amphibians, reptiles, mammals, birds, insects, trees, flowers, weeds, etc.)
3. Total No. of ponds constructed on farms of members
4. Total No. of food patches established
5. Total No. of pounds of lespedeza sown near cover for wildlife
6. Total No. of trees planted. No. shrubs and vines planted
7. Total No. pounds of grain used during Winter Feeding Program
a. No. of quail fed. b. No. other birds and mammals fed.
8. Total No of acres of woodlot (formerly burned) unburned and ungrazed
9. Total No. of miles of fence (formerly burned or cleared) left unmolested
10. Total No. of rods of ditches planted to lespedeza or grass and now ungrazed
11. Total No. of brush piles or shelters built

(Turn to other side)

III. Story of the Wildlife Activities of the Club.

(Signed) _____

(Club Secretary)

(Approved) _____

(Community Club Leader)

(Address)