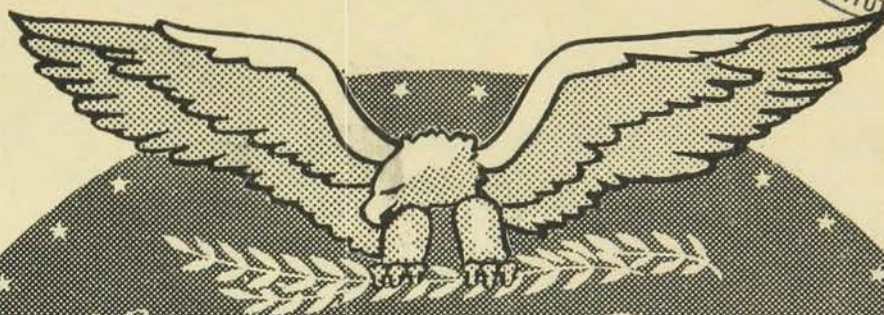


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GOVS

# 4-H Conservation Activity



## 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

UNIVERSITY OF MINNESOTA  
*Agricultural Extension Service*  
U. S. DEPARTMENT OF AGRICULTURE

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THE 4-H CONSERVATION ACTIVITY

By Norman C. Mindrum  
Assistant State 4-H Club Leader

Introduction

You are now enrolled in the 4-H Conservation Activity. The first thing you should do is to write your name in the box below: Keep this pamphlet as long as you are enrolled in the 4-H Conservation Activity.

My name is _____
and I am a member of the _____
_____ 4-H Club.

The 4-H Conservation program consists of three phases. In addition to the 4-H Conservation Activity in which you are now enrolled, you may also enroll in the 4-H Soil Conservation Project and the 4-H Forestry Project. The Conservation Activity covers the whole field of conservation. If you follow the suggestions in this pamphlet and carry out some of the activities, you should learn something about our conservation program in Minnesota and develop an appreciation of our many natural resources.

This activity, as well as the other two projects, should help you to:

1. Learn to appreciate the beauty and value of our many natural resources.
2. Learn how you as a 4-H Club member can protect our natural resources.
3. Restore some of the natural resources which have been destroyed in the past.

You will find that most of the information given here deals with the broad aspects of conservation. It will also give some specific help in the Wildlife Program.

Forestry and soils will be discussed more thoroughly in other publications.

Learning to Appreciate Our Natural Resources

There is no substitute for spending time out in the open if you wish to learn about nature. Bulletins, pamphlets, and books are helpful because these serve as tools and teach you what to look for. You should begin immediately training yourself to become observant. Many people spend hours and hours outdoors and yet do not learn much about nature because they have not used their time to learn anything.

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The Pledge on our cover originated in a national competition conducted in 1946 by Outdoor Life Magazine.

The first page of your Conservation Activity record lists some things that you can do to develop appreciation. Use these suggestions as goals to work toward. Every time that you take a hike or spend some time outdoors, make an attempt to learn a few more things about nature.

A conservation notebook and scrapbook is always handy to use. In this notebook you can keep notes of what you have seen and learned and you can also collect conservation materials that you wish to keep.

Four-H Club members living on farms have a golden opportunity to study nature. As you go about your everyday tasks and chores you can make these tasks more interesting by having them help you in your Conservation Activity.

Four-H Club members who live in villages and suburban areas can hike or bicycle to nearby areas where nature can be observed. Since your opportunities are not as many as those of members on the farm, you should set very definite goals as to what you are going to accomplish whenever you take hikes or other excursions.

All 4-H Club members, regardless of where they live, will find that a study of conservation will bring them many rewards. In addition to improving their knowledge of conservation, it will also give them a better outlook on life. Man has, from his earliest beginning, lifted his eyes to the hills when he sought things beyond himself.

### Learning to Protect Our Remaining Natural Resources

Nature has its own check and balance system. Wherever man has upset nature's system of balances, we find disastrous results.

If we study the early history of the State of Minnesota, we find that it must have been a paradise of nature. Probably no other similar area anywhere in the country or in the world was ever populated with so many kinds of wildlife. Game, fish, and fur-bearing animals were in abundance because of our excellent soil, woodland, prairie, and water. Wildlife did not have to go hungry or thirsty because there was always plenty of food and fresh water.

As the state became more thickly populated and farming became more extensive, we find that wildlife disappeared quickly. Man was upsetting nature's balance by cutting down the woods and plowing up the prairie. Gulleys began to appear on the hillsides where trees had grown before. Wildlife quickly lost both natural cover and also food. The streams became cloudy with silt from the eroded hillsides injuring fish and damaging the water supply for other forms of wildlife.

In the early days there were no hunting restrictions. With wildlife abundant everywhere it seemed almost ridiculous to try to reduce the amount of hunting.

### Protection of Woodland

Thousands of acres of land in Minnesota are suited only for woodland. Many of these acres are burned over or cut over. There are also thousands of acres of good forest in our state. Fire is the greatest single enemy of our woodland. More than 98 percent of the forest fires in Minnesota are manmade. Smokers, campers, hunters, berry pickers, grass and brush burners, fishermen, and others start these fires. One tree can make a million matches--one match can destroy a million trees.

In our southern counties the hardwood woodlot needs to be properly managed. If these woodlands are taken care of, they provide some of the best protective cover for wildlife on Minnesota farms, as well as producing a permanent supply of wood for many farm needs. If, however, the farm woodlot is grazed or fire is allowed to sweep through it, damage to the underbrush, including young trees, makes the woodland infinitely less valuable to wildlife and also destroys natural reproduction.

Pheasants, quail, even prairie chickens will often roost in the protection of woodlands during severe winter weather, and songbirds will nest in them in summer. Nut-bearing trees, such as oak, butternut, or walnut also improve the area for wildlife.

If one or two hollowed trees are allowed to remain for each acre of woodland, racoons, opossums, squirrels, woodpeckers, and even wood ducks will be encouraged. An occasional hollow log left lying will provide a place of protection for wild creatures.

A few brush piles will supply some cover for wildlife and will often encourage wildlife to appear when otherwise the area would not have any game or birds. They are, however, no substitute for natural cover.

During the winter, brush piles will be used chiefly by cottontail rabbits, but sometimes quail, pheasants, and some of the fur-bearers will make use of them. In summer, the brush piles serve as nesting places for some birds. The brown thrasher is especially fond of such places and sometimes the catbird and mourning dove will use them.

### Stream Bank Protection

Many Minnesota streams are being harmed by heavy floods and silts. The banks are caving in and more and more of the surrounding pastures or fields are washed away.

The banks along the streams can be improved only if you can get grass and trees to grow on them. In order to do this it is necessary to protect the banks and streams completely from grazing. Cattle destroy the vegetation and also trample the banks so that more of them cave in.

When the area has been fenced off, willow cuttings and other soil tie-in shrubs can be planted. The willows are especially rapid growers and are easy to establish, involving little or no expense. If the banks are eroding rapidly, it may be necessary to slope the bank somewhat and cover it with a mat of long willow branches with the butt end in the water. These branches will begin to grow and will sometimes correct the bank within a year. Banks which are left sloping will need only to be protected from grazing in order to develop an excellent mat of grasses and other plants.

Naturally a stream cannot be brought back to its original clearness unless you have the support of all farmers in the area. If all the farmers will use their land properly so that there will not be a great deal of runoff and erosion, then the water will clear up and fish will again come in abundance.

### Control the Cat

In well-settled communities the house cat is probably the greatest single enemy of game birds and songbird conservation. Cats have been known to eat eggs just about to hatch. They capture young songbirds in their nests. They kill incubating quail and prairie chickens on their nest. You can help prevent some of this damage in three ways:

1. Keep the cat supply down; not more than two to a farm.
2. Lock those two in a storehouse at night.
3. Kill stray cats. Cats do most of their damage at night and early morning.

Keeping them up at night and feeding them will help a lot. You are justified in making war on the stray cat.

### The Flushing Bar

In fields of alfalfa or sweet clover or other types of hay, mowing usually comes at a time when pheasants and other birds are incubating their eggs. In many cases the mower will kill or cripple the hen, as well as destroy the nest. Four-H Club members can save many birds by insisting that a flushing bar be used. The bar will not save all hens because some will stay on the nest no matter how much they are frightened, but most of the birds will flush soon enough to escape the sickle. Even if a nest is destroyed or the birds deserted, the hen herself has been saved and will probably nest again elsewhere.

A flushing bar is simple to construct. A 9½ or ten foot bamboo pole which is stout and strong can be used. From the pole suspend remnants of old grain sacks, cut into strips. Weight each strip with old nuts or links of chain, - these strips frighten the incubating birds from the nest as they swing near her head a few feet before the sickle. By raising the sickle when the bird flushes, one can leave an island of undisturbed hay around the nest and some birds may return and lead off their young successfully..

### Help Restore Some of our Natural Resources

If you have been observing the condition of our soil, our forests, and other natural resources, you will have noticed that there is much you as an individual can do to restore them. If you are interested in making a more intensive study of forestry and soils, you can do so by enrolling in those two projects.

In the Conservation Activity you can do many things to restore some of our wildlife. There are many things that you can do to help birds, game, and fish propagate themselves and become more plentiful.'

Many 4-H Club members make and locate houses for bird nesting. Others establish feeding and watering stations for birds.

While you are working with birds, you can learn to identify the common birds residing in Minnesota. Use a good field guide for identification of birds that you observe in the birdhouses and nests and around feeding stations. You can also use a camera to record with photographs the different species of birds that you see. You might also keep a notebook or a conservation calendar and record observations made on the habits and other facts regarding birds.

Upland game can be helped by salvaging and hatching eggs from abandoned nests. Helping to make natural food available is another big factor in helping game come through the winter.

The crop of game animals or fur-bearers is harvested by hunting and trapping, but it is very important to leave an adequate supply of the animals as breeding stock for the next year's crop. Hunting or trapping should, therefore, be carefully regulated so that harvest is never 100 per cent complete. The amount one can take safely depends upon the size of the breeding population that can be carried through the winter. Only the surplus over this amount can be removed.

Unfortunately, it is usually difficult to determine exactly the size of the ideal over wintering wildlife population in any area and a familiarity with conditions over

several winters is necessary. In the case of upland game, such as pheasant, quail, and cottontails, a good arbitrary rule to follow is to leave a half or two-thirds of the fall population for next year's breeding stock. Frequently, the Minnesota Division of Game and Fish will ask farmers and 4-H Club members to cooperate in giving estimates of population of game. Always cooperate with these programs. The information that 4-H Club members and others send in is the Department of Conservation's only way of determining how to regulate hunting seasons. They also appreciate receiving reports in regard to disease or any other difficulties that wildlife may be encountering.

Minnesota is famous as a fishing state. With the many lakes and streams and rivers, our state is known all over the nation for its supply of desirable kinds of fish.

In this Conservation Activity you can learn some of the kinds of fish that exist. You can encourage restocking of game fish and encourage and help with the removal of rough fish.

Planting trees and shrubs on stream and river banks and in gulleys and on hillsides will help to control erosion and will prevent polluting streams, rivers, and lakes with silt which is very injurious to fish.

Feeders and Foods for Winter Bird Visitors -- This section prepared from material provided by Minnesota Extension Foresters.

Artificial feeding is best done in the early fall so that the birds may become accustomed to the feeding station and its location before the cold weather sets in. This fact, however, does not prevent a 4-H'er from starting the artificial feeding at any time. It will simply limit the number of birds that make use of the feeding stations.

After feeding has been started, it is very important that it be carried on through to the summer season. A great deal of harm will result if the birds come to depend upon the regular supply of food, and feeding is stopped before native foods can become available. The heavy concentration of birds around the feeding area would not be able to adapt themselves quickly to finding new food supplies should the artificial supply suddenly be cut off.

### Food

Birds differ considerably in the foods they eat. Those that ordinarily eat insects must be fed animal food entirely such as suet, beef fat, or chopped meat, while seed-eating birds will eat little but vegetable food. Some birds will eat both the animal food and seeds. With each of these foods some grit is always acceptable with most of the birds. It is essential that about five per cent of the food mixture should be grit such as coarse sand.

Some of the most satisfactory foods are as follows:

Suet - Firm white beef suet is the best as a bird food. Only birds driven by cold and hunger will feed on stringy or bloody suet. The various woodpeckers will eat very little else offered other than suet. Blue Jays, Chickadees, and Nuthatches will feed on suet.

Sunflower Seed - Chickadees and many other birds eat these large seeds of the common sunflower. If possible, the seeds should be left in the head to be ex-

tracted by the birds.

**Hemp** - The common hemp is a favorite of nearly all the seed-eating birds.

**Millet** - Most seed eating birds will eat this readily, and it is second only to hemp as a bird food.

**Cracked Corn** - The cracked corn is eaten by juncos when hemp or millet are not available. The coarser sizes of cracked corn are better foods for pheasants and other upland game birds.

**Chaff** - Snow Buntings and Horned Larks will pick up loose chaff scattered about the edges of weedy fields.

Other satisfactory foods which are often used in bird feeders are bread crumbs, dog biscuits, chickfeed, canary seed, peanuts, and peanut butter.

## Feeders

There are many variations in feed stations from the simple feeding tray placed on the ground or attached to the window sill to the more complex weather vane food houses, trolley feeders, and window boxes. Most of the simple feeders, such as a good window tray of suet feeds, or a tree box, will work equally as well as those that require more ingenuity to construct. They also can be easily set up.

**Suet Cages** - The suet cage is made by merely tying the hard lumps of suet to the trunk or limb of a tree with many wrappings of stout cord. Squirrels or rodents may visit the suet cage, removing the suet by gnawing through the cord, so use thin, insulated wire to fasten the suet.

**Suet Sticks and Bags** - Suet can also be crammed into holes bored at intervals along a large limb or small log. This stick or limb when suspended from a branch by wire will outwit all of the squirrels and other rodents that might attempt to eat all the suet. Crocheted bags of ordinary white material filled with suet can be hung from trees where birds can find them.

**Window Shelf** - The window shelf is a simple tray the length of the window and at least twelve inches wide. A rim approximately two inches high all around the tray will help you keep the food in it. This sort of feeding station makes it possible to enjoy the birds from the living room or kitchen window.

**Tree Box** - An open-fronted box with closed sides and a back is an easy feeder to construct. This wooden box should be fastened to a tree facing away from the prevailing wind so that the snow will not drift over the food. Suet can be fastened to the inside wall by means of a bracket and feed scatter on the floor and on the ground below the box. The feed scattered on the ground will attract the birds to the box and will accommodate additional birds.

**Weather Vane Feeder** - The ideal feeder to use in the open areas is the weather vane feeder. The long arm vane of this feeder will swing the opened face box out of the wind and away from the driving snow. It takes but a little more carpentry skill to construct this type of feeder.

**Ground Feeding and Shelters** - Often the feeding tray will be crowded and, too, some of the more shy birds prefer to feed on the ground. Therefore, it is a good plan to scatter as much feed on the ground below the feeding station as is in the tray. In places where it snows seldom, all feedings can be done on the ground. In other areas,

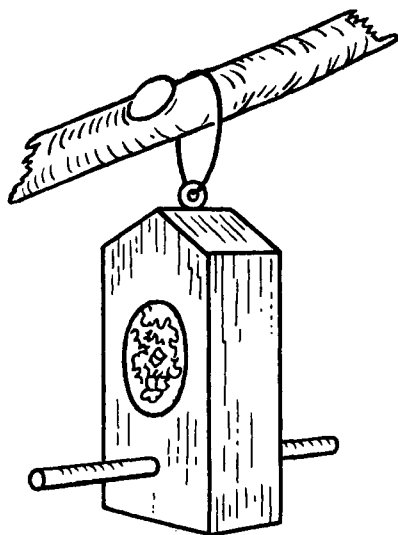
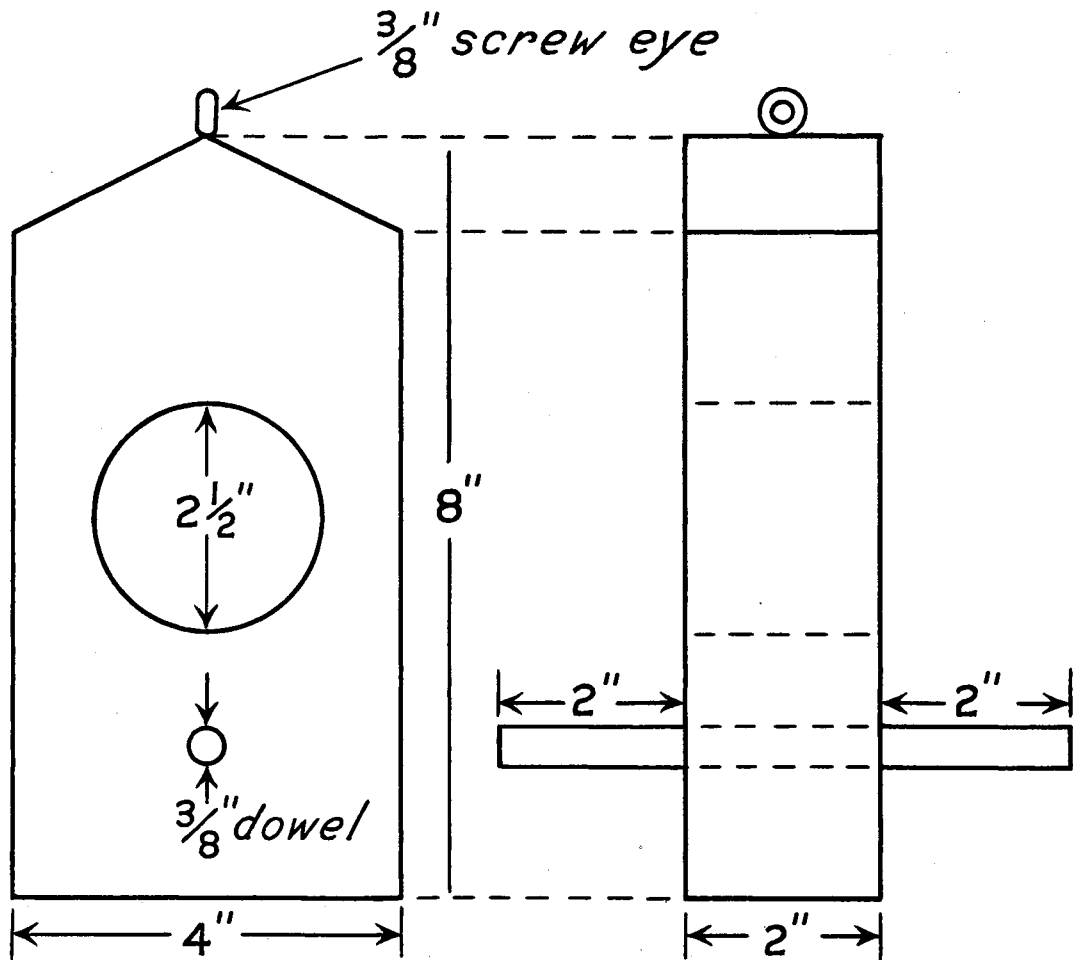


the snow can be trampled down in protected spots in the woods or fields to form a hard surface on which the feed can be provided to give the birds some protection against predators. Such cover is very important in winter feeding.

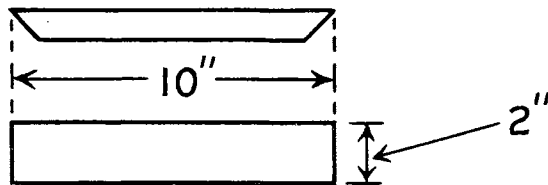
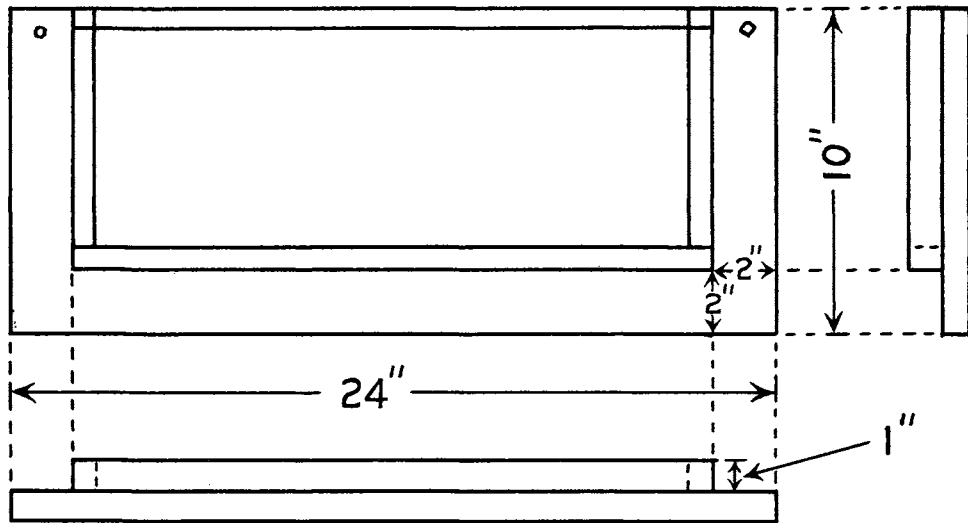
A lean-to or a large pile of brush will furnish protection to grouse, quail, and pheasants while they are feeding. These shelters should be placed along the edges of shrubbery fence rows, and along the edges of wooded areas. This will offer the birds protection in traveling to and from the shelter. Whole or cracked corn should be spread out for them. Ears of corn can also be attached on the underside of the lean-to at the right height above the ground so that the pheasants and other game birds can reach it.

Loosely stacked shocks of corn make very good winter cover for birds. Where there is heavy snow they are particularly desirable as the entire bottom of the shock can be loosened up to make outlets on several sides. The feed can be spread around and under the shock without much difficulty. Shocks of corn used for this purpose should be set up close to the edge of small permanent cover to give the birds more security.

# Hanging Bird Feeder

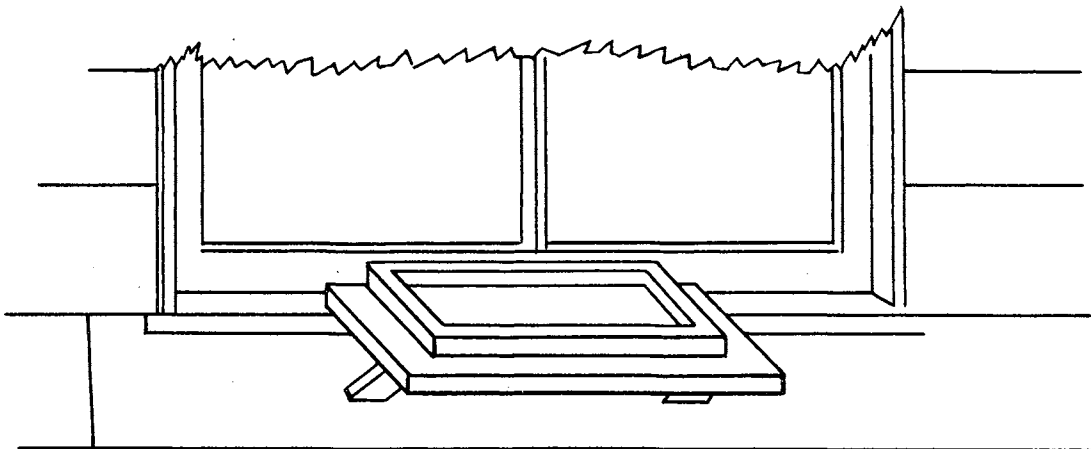


# Window Tray Bird Feeder

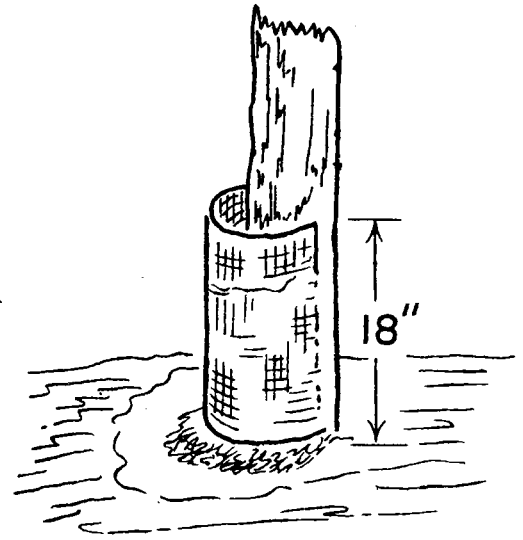
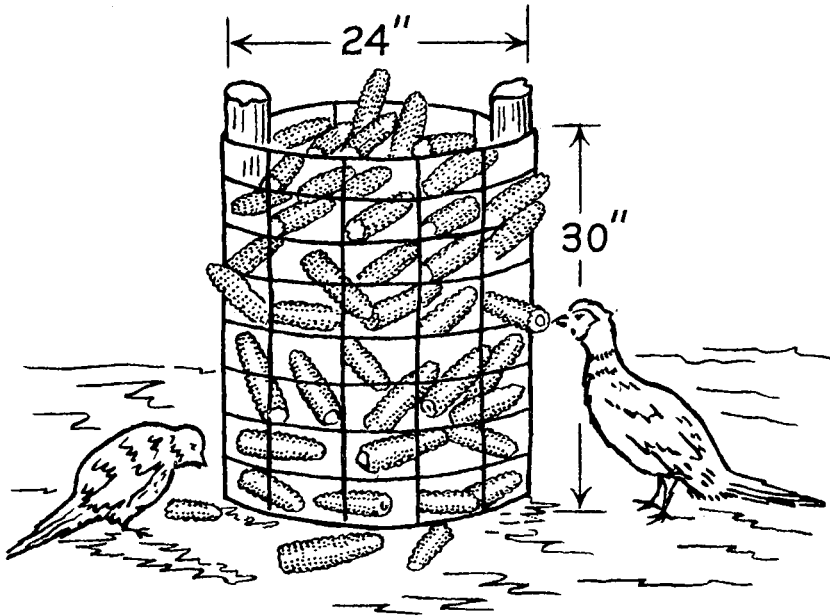


2 Brackets needed ↗

Use 1 inch material in  
constructing this feeder

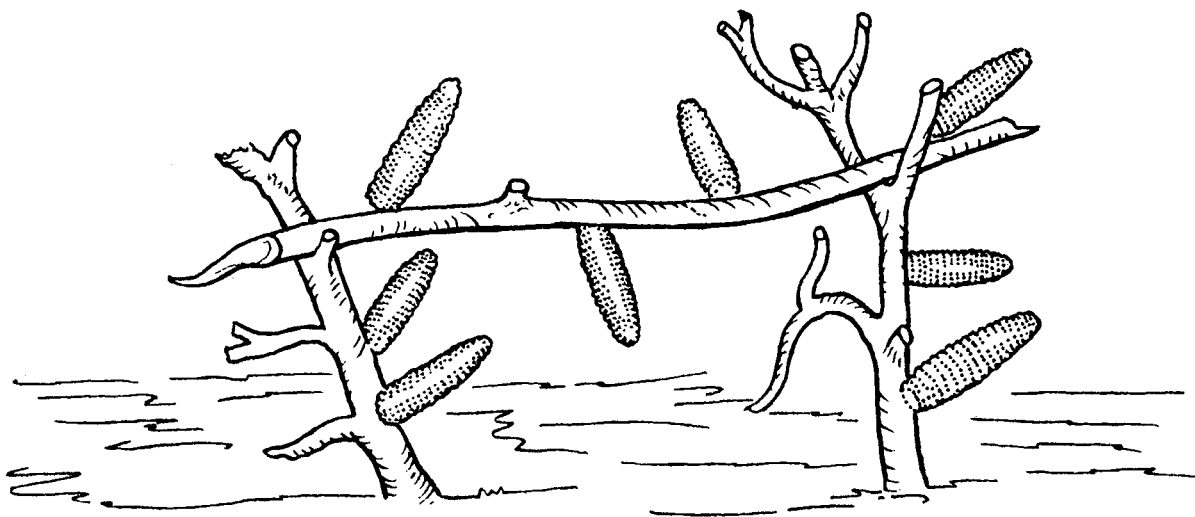


# Game Bird Feeders



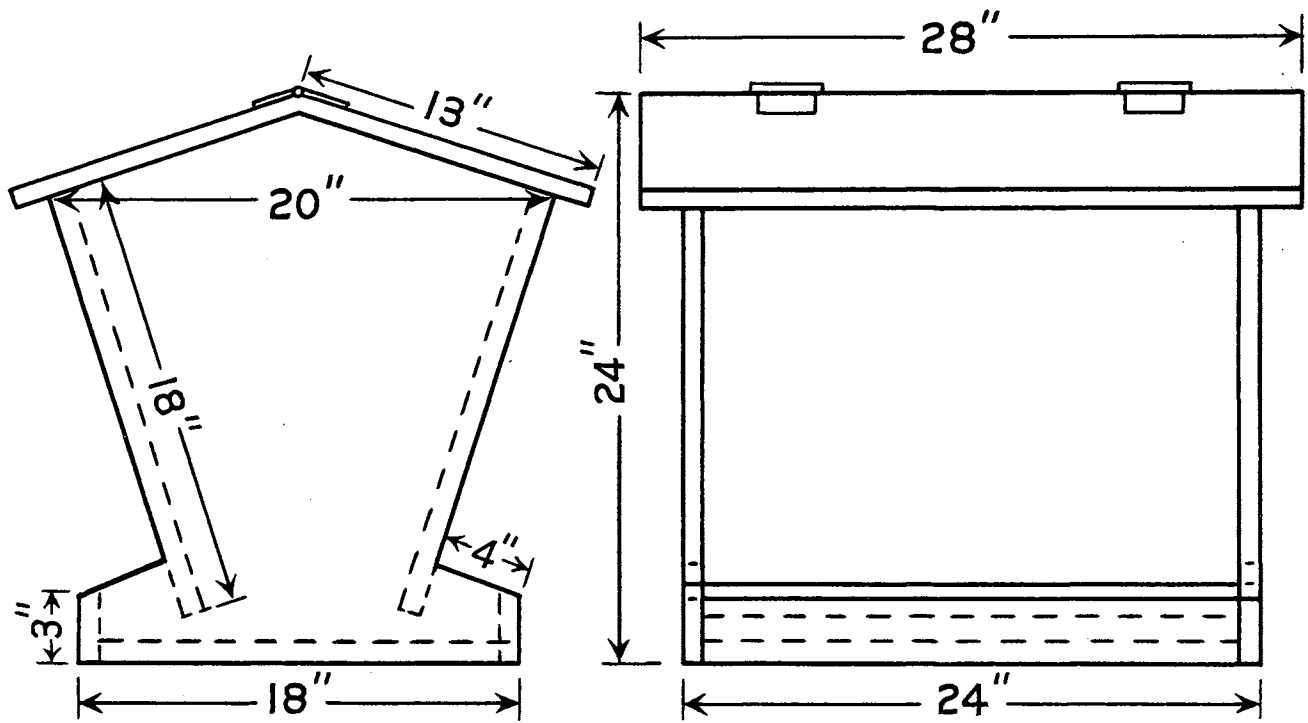
*Woven Wire Hopper*

*Hardware Cloth Hopper*

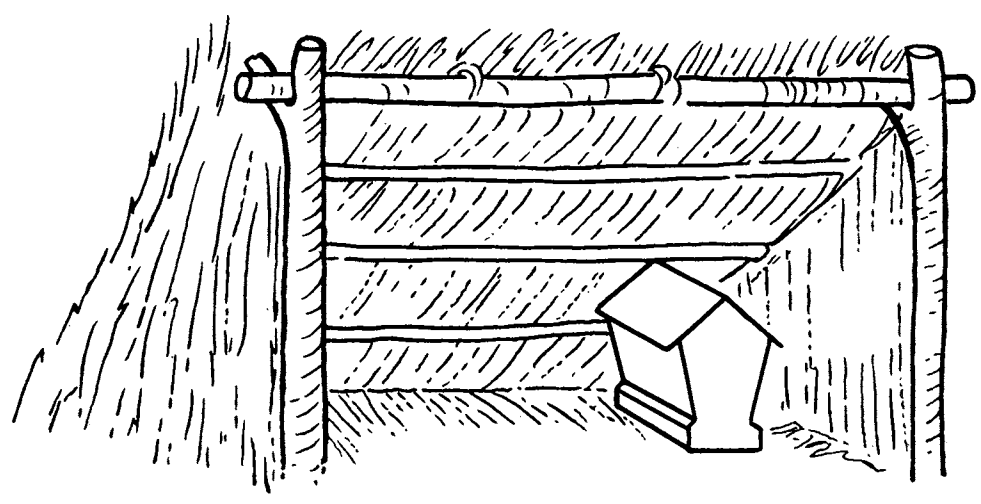


*Corn Feeding Station*

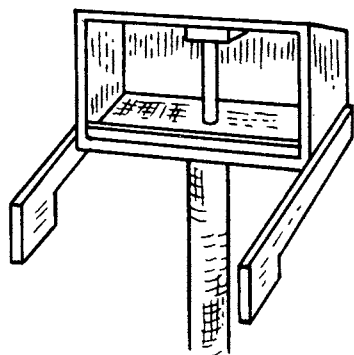
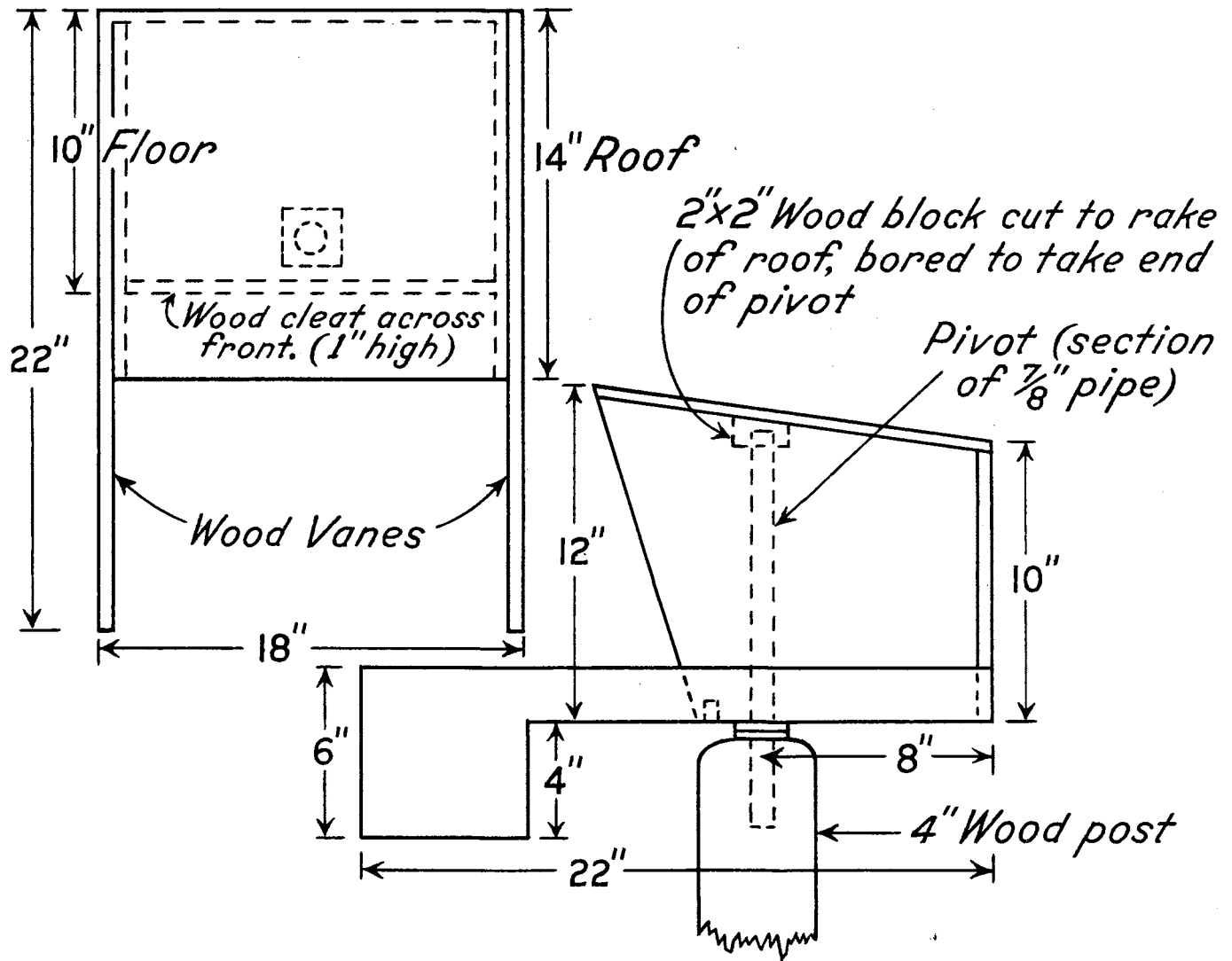
# Game Bird Feeder



*Use 1 inch material in constructing this feeder*



# Weather-Vane Feeder



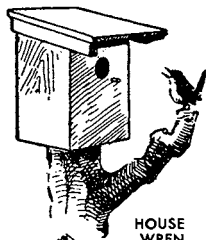
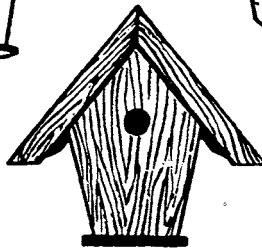
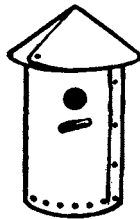
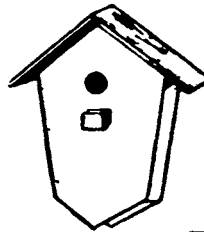
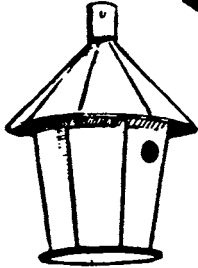
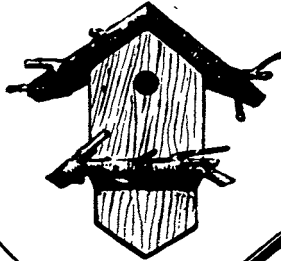
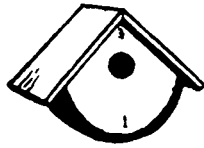
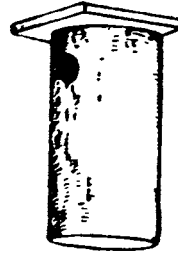
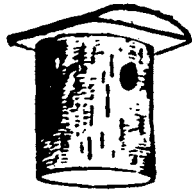
# Nine Common Types of Bird Boxes With Dimensions Recommended by the U. S. Department of Agriculture

- |   |  |  |
|---|--|--|
| <p><b>1 Bluebird</b></p> <p>Floor of cavity....5 by 5 inches<br/>         Depth of cavity.....8 inches<br/>         Hole above floor.....6 inches<br/>         Diameter of hole.....1½ inches<br/>         Height above ground...5-10 feet<br/>         Place Bluebird houses in sunny places—<br/>         along roadsides, etc.</p> | <p><b>4 Chickadee</b></p> <p>Floor of cavity....4 by 4 inches<br/>         Depth of cavity....8 to 10 inches<br/>         Diameter of hole.....1½ inches<br/>         Hole above floor....6 to 8 inches<br/>         Height above ground..5 to 15 feet<br/>         A bark-covered box, looking like an old<br/>         Woodpecker's house is best.</p> | <p><b>7 Flicker</b></p> <p>Floor of cavity....7 by 7 inches<br/>         Depth of cavity...16 to 18 inches<br/>         Diameter of hole.....3 inches<br/>         Hole above floor...14 to 16 inches<br/>         Height above ground..8 to 20 feet<br/>         Make sides of soft, thick wood; sprinkle<br/>         shavings inside.</p> |
| <p><b>2 Robin</b></p> <p>Floor of bracket...6 by 8 inches<br/>         Depth of bracket.....8 inches<br/>         Height above ground..6 to 15 feet<br/>         Robins will not use closed boxes; they<br/>         prefer an open bracket.</p>  | <p><b>5 Tree Swallow</b></p> <p>Floor of cavity....5 by 5 inches<br/>         Depth of cavity.....6 inches<br/>         Diameter of hole.....1½ inches<br/>         Hole above floor.....5 inches<br/>         Height above ground..5 to 15 feet<br/>         Place in the open on a post or dead tree.</p>  | <p><b>8 Screech Owl</b></p> <p>Floor of cavity....8 by 10 inches<br/>         Depth of cavity...12 to 15 inches<br/>         Diameter of hole.....3¼ inches<br/>         Hole above floor...9 to 12 inches<br/>         Height above ground.10 to 30 feet<br/>         Flicker boxes are sometimes used by<br/>         Screech Owls.</p>    |
| <p><b>3 House Wren</b></p> <p>Floor of cavity....4 by 4 inches<br/>         Depth of cavity....6 to 8 inches<br/>         Hole above floor.....6 inches<br/>         Diameter of hole.....1 inch<br/>         Height above ground..5 to 10 feet<br/>         Place boxes out by mid-April, not too<br/>         close together.</p>   | <p><b>6 Crested Flycatcher</b></p> <p>Bottom.....6 by 6 inches<br/>         Depth.....8 to 10 inches<br/>         Hole.....2 inches<br/>         Height.....8 to 20 feet<br/>         Cover with bark; place in orchard.</p>   | <p><b>9 Wood Duck</b></p> <p>Bottom.....10 by 18 inches<br/>         Hole.....6 inches<br/>         Depth.....10 to 15 inches<br/>         Height.....4 to 20 feet<br/>         A natural-looking box on a dead stump<br/>         near the water is best.</p>   |

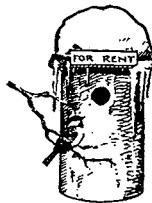
A partial list of other species that will use nesting devices. If any of them nest commonly in your district, why not make a try for them?

<p>English Sparrow House Finch Prothonotary Warbler</p> <p>Starling Mountain Bluebird Western Bluebird Bewick's Wren Carolina Wren</p> <p>Brown Creeper</p> <p>White-breasted Nuthatch</p> <p>Red-breasted Nuthatch</p> <p>Tufted Titmouse Plain Titmouse Chestnut-backed Chickadee Mountain Chickadee Carolina Chickadee Barn Swallow</p> <p>Violet-green Swallow Purple Martin</p>	<p>Any house with 1½ inch opening. Use No. 1.</p> <p>Use No. 4 or gourd placed 3 ft. up along creek.</p> <p>Use No. 6 (if you want Starlings).</p> <p>Use No. 1.</p> <p>Use No. 3; put up in March.</p> <p>Use No. 3 with slightly larger hole (1½ inches).</p> <p>Nail top of strip of bark to tree and let hang loose.</p> <p>Use No. 4 (hole 1¼ inches). Place 12 to 20 feet from ground.</p> <p>Use No. 4 (hole 1¼ inches). Put pitch or rosin around hole.</p> <p>Use No. 4 (hole 1¼ inches).</p> <p>Use No. 4 (hole 1¼ inches).</p> <p>Use No. 4.</p> <p>Use No. 4.</p> <p>Use No. 4.</p> <p>Cleats or small supports nailed to barn rafters.</p> <p>Use No. 5.</p> <p>See "Bird Homes and How to Build Them," Boy Scouts of America, Service Library.</p>	<p>Phoebe Red-shafted Flicker Golden-fronted Woodpecker Red-headed Woodpecker</p> <p>Downy Woodpecker Hairy Woodpecker Sparrow Hawk Osprey Saw-whet Owl Barn Owl Golden-eye Hooded Merganser</p>	<p>Use No. 2. Use No. 7. Use No. 7. Similar to No. 7 (hole 2 inches) 8 to 10 feet up.</p> <p>Use No. 4 (hole 1¼ inches). Use No. 4 (add 50% to all dimensions). Use No. 9. Place cart wheel on 20 foot pole. Use No. 9. Similar to No. 9. Use No. 9 (opening larger). Use No. 9 (place low).</p>
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A FEW BIRDHOUSES YOU CAN MAKE QUITE EASILY



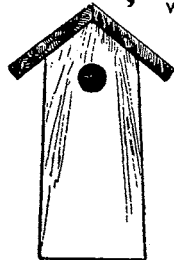
HOUSE  
WREN



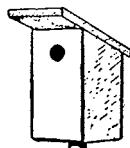
CHICKADEE



ROBIN



FLICKER



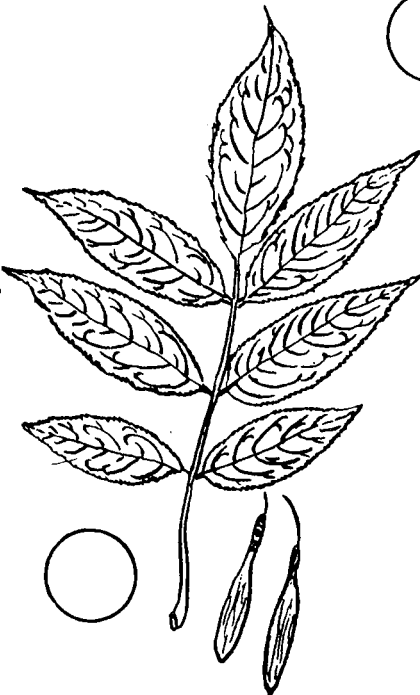
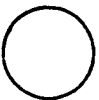
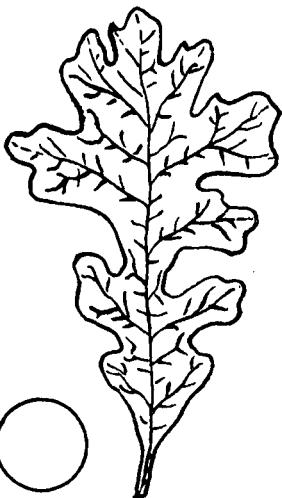
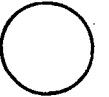
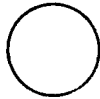
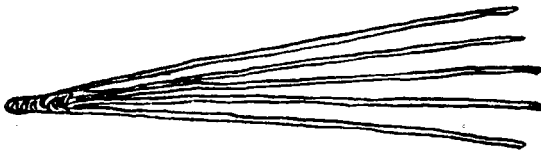
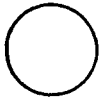
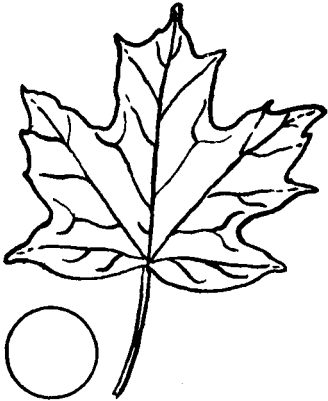
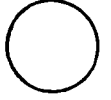
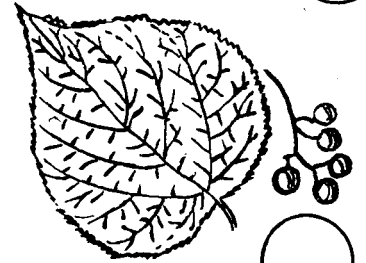
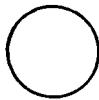
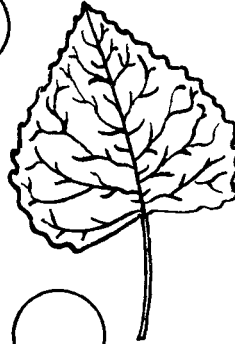
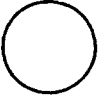
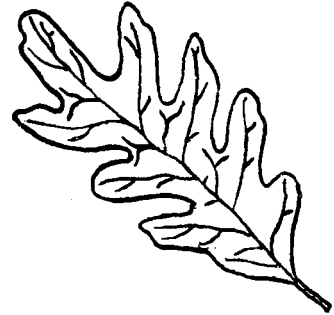
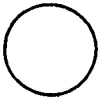
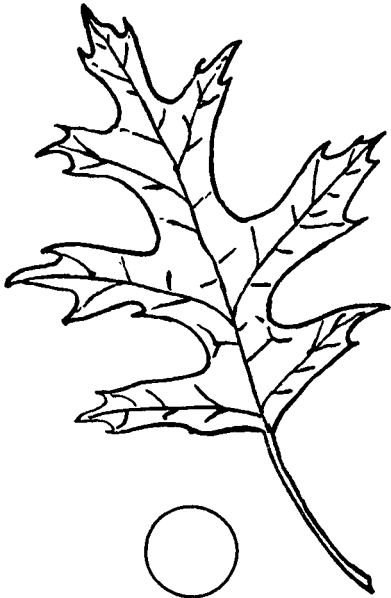
TREE  
SWALLOW



SCREECH OWL



# TREE IDENTIFICATION



Can you name the tree leaves above?  
Fill the empty circle with the correct  
number as taken from the following  
list.

- |                 |               |
|-----------------|---------------|
| 1. Bur Oak      | 6. Cottonwood |
| 2. White Pine   | 7. Hard Maple |
| 3. Basswood     | 8. White Oak  |
| 4. American Elm | 9. Green Ash  |
| 5. Boxelder     | 10. Jack Oak  |

## Our 4-H Club - What Can It Do?

The 4-H Conservation Activity is an excellent phase of Club work that can be engaged in by the entire club. In the fall of the year when the 4-H Club program is planned, make sure that at least one meeting during the year is devoted to conservation. At this meeting or other meetings of the club have good speakers on conservation and show movies on the many phases of conservation. If some parent in the club is very interested in conservation, make that person your conservation project leader. He or she can do a great deal to assist you with this program.

Here are some specific things that your entire club can do in the 4-H Conservation Activity:

1. Carry on a tree-planting program in the community.
2. Encourage every member to protect and feed birds.
3. The entire club can give support to the kind of conservation program the community needs.
4. Support game laws and encourage their observance.

### Bulletins and Folders Available for 4-H Conservation Projects from County Extension Office

Bulletin 196	Planting the Farmstead Shelterbelt
Folder 85	Tips on Tree Planting
" 140	Windbreaks for Field Protection
" 104	Better Lumber Through Good Piling
" 75	Controlling the Pocket Gopher

### From Superintendent of Documents, Washington 25, D.C. at a small charge

Farmers' Bulletin 1177	Care and Improvement of Farm Woods
" " 1210	Measuring and Marketing Farm Timber
" " 1492	Arbor Day - Purpose etc.
" " 1643	Fire Safeguards for Farm
" " 1664	Christmas Trees as Cash Crop
" " 1759	Game Management on the Farm
" " 1501	Nut Tree Propagation
" " 1567	Propagation of Trees and Shrubs
" " 1366	Production of Maple Sirup and Sugar
" " 869	The Muskrat as a Fur Bearer
" " 630	Some Common Birds Useful to the Farmer
Conservation Bulletin 14	Homes for Birds

From Department of Conservation, State Office Building, St. Paul 1, Minnesota-free  
Minnesota Fish Facts, The Conservationist Magazine, and many other publication

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