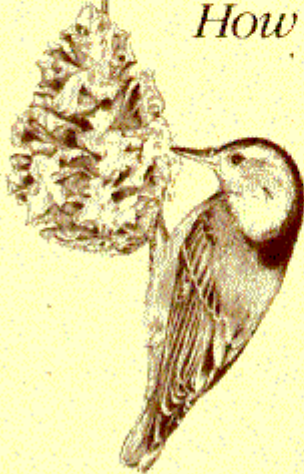
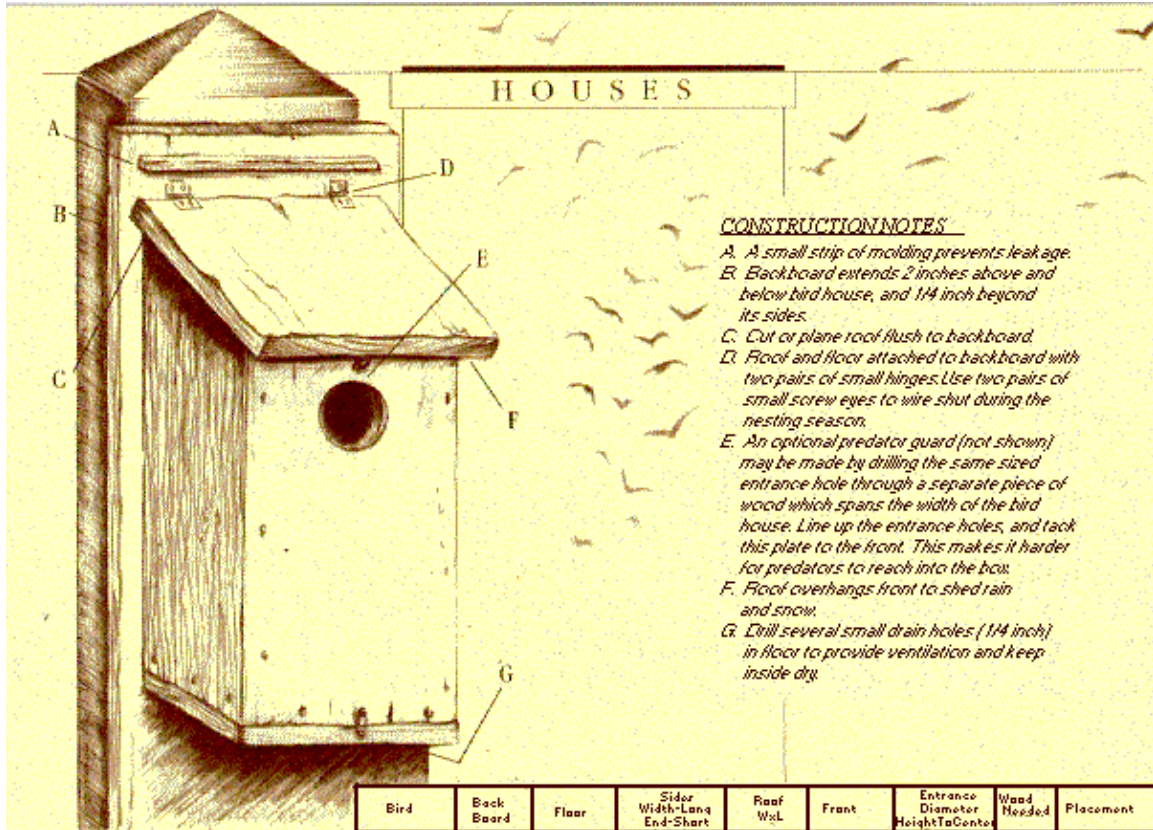


# Bird Houses & Feeders

*How To Build And Enjoy Them*



DIVISION of CONSERVATION EDUCATION, NORTH CAROLINA WILDLIFE RESOURCES COMMISSION



#### CONSTRUCTION NOTES

- A. A small strip of molding prevents leakage.
- B. Backboard extends 2 inches above and below bird house, and 1/4 inch beyond its sides.
- C. Cut or plane roof flush to backboard.
- D. Roof and floor attached to backboard with two pairs of small hinges. Use two pairs of small screw eyes to wire shut during the nesting season.
- E. An optional predator guard (not shown) may be made by drilling a same sized entrance hole through a separate piece of wood which spans the width of the bird house. Line up the entrance holes, and tack this plate to the front. This makes it harder for predators to reach into the box.
- F. Roof overhangs front to shed rain and snow.
- G. Drill several small drain holes (1/4 inch) in floor to provide ventilation and keep inside dry.

#### UNIVERSAL BIRD HOUSE

This universal bird house is suitable for many birds. The table to the right gives the dimensions of its parts for various species.

The hinged top and bottom allow monitoring of the nest and easy clean-out after the nest has been abandoned.

Bird	Back Board	Floor	Side Width-Lana End-Short	Roof WxL	Front	Entrance Diameter	Height To Center	Wood Needed	Placement
Bluebirds, Wren Chickadee, Swallow, Nuthatch, and Warblers	7"x15 1/2"	5 3/4"x6 1/2"	5 3/4"x10"x9"	6 5/8"x7"	5"x9"	1 1/2"	6 3/4"	5 feet of 1"x8"	4-10 feet above ground, backyard and edge of field and woods
Finches, Flycatcher, Sparrow	8"x17 1/2"	6 3/4"x7 1/2"	6 3/4"x12"x10"	7 5/8"x8 3/8"	6"x10"	2 1/2"	7 1/4"	6 feet of 1"x8"	8-20 feet above ground, backyard and open area
Downy Woodpecker	6"x15 1/2"	4 3/4"x5 1/2"	4 3/4"x10"x9"	5 5/8"x8 1/2"	4"x9"	1 1/4"	6 1/2"	11 1/2 feet of 1"x8"	5-15 feet above ground, backyard and open area
Hairy, Red-headed, Red-bellied Woodpecker	8"x20 1/2"	6 3/4"x7 1/2"	6 3/4"x16"x14"	7 5/8"x8 1/2"	6"x14"	2 1/2"	11 1/2"	8 feet of 1"x8"	10-20 feet above ground, woods and clearing
Common Flicker	9"x23 1/2"	7 3/4"x8 1/2"	7 3/4"x18"x16"	8 5/8"x9 3/4"	7"x16"	2 1/2"	14"	8 feet of 1"x10"	6-30 feet above ground, open area and woods
Wood Duck	12"x31 1/2"	11 1/4"x12"	11 1/4"x26"x24"	12"x13"	10 1/2"x24"	3"x20"		12 feet of 1"x12"	10-20 feet above ground or water wooded wetland





## HOUSES

### DOVE NESTING BASKET

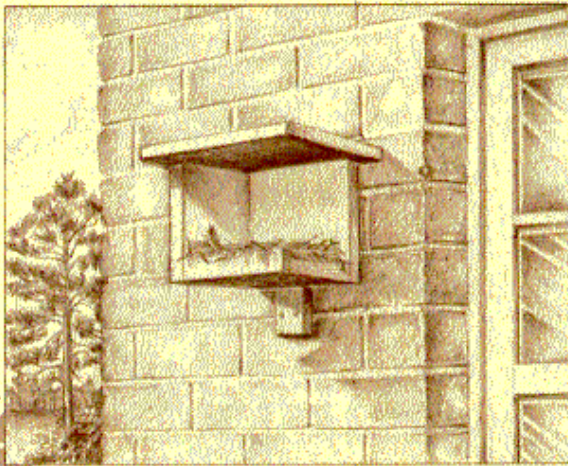
Mourning doves nest in the open, usually in the crotch of a tree limb. They can be encouraged to nest by erecting a nest basket. From a 12 inch square of 1/4 or 1/2 inch mesh hardware cloth (wire screen), cut a 12 inch circle. Then, cut a 2 1/2 inch pie-shaped wedge from the circle and discard. Pull the circle into a cone, overlapping the edges, and wire together. Secure the nest basket in the crotch of a tree limb 8 to 16 feet above the ground.

**B**IRD HOUSES can be as simple or elaborate as you wish to make them. These basic designs will serve very well. Additional creative touches will do no harm, but usually mean more to the builder than to the birds.

Bird houses should be placed near natural cover. If a house is not used after a season, however, try moving it to a new location.

### NESTING SHELF

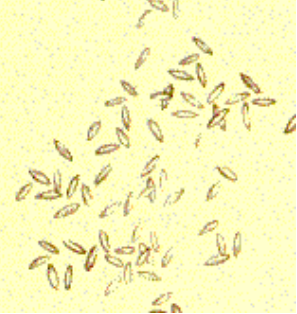
Robins, barn swallows and phoebes don't need cavities for nesting but will use this simple nesting shelf. Dimensions can vary. However, the bottom should be at least 6 by 8 inches, and the sides should be a minimum of 6 inches high on the short side. Angle one side so the roof will shed rain. Mount nesting shelves about 10 feet off the ground on a tree trunk or the wall of a building.



### RUSTIC LOG HOUSE

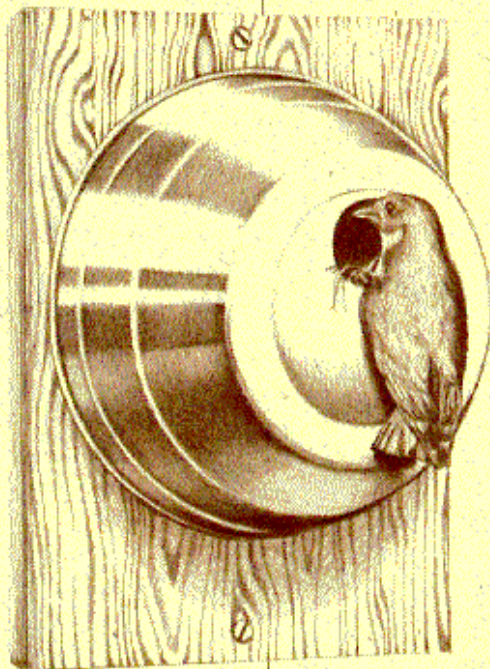
A short section of log makes a picturesque rustic bird house. Split a piece off the back, and use drills and chisels to hollow out a large cavity approximately 6 inches deep and 4 inches in diameter. Cut or drill an entrance hole no larger than 1 1/2 inches in diameter near the top of the cavity, and attach house to a backboard. Hinge the top for easy cleaning.

*Canary seeds*



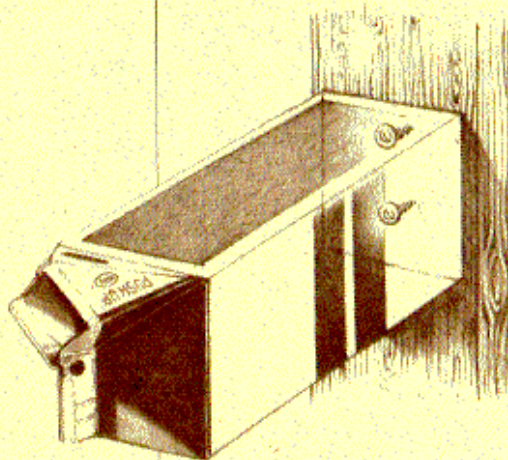


## HOUSES



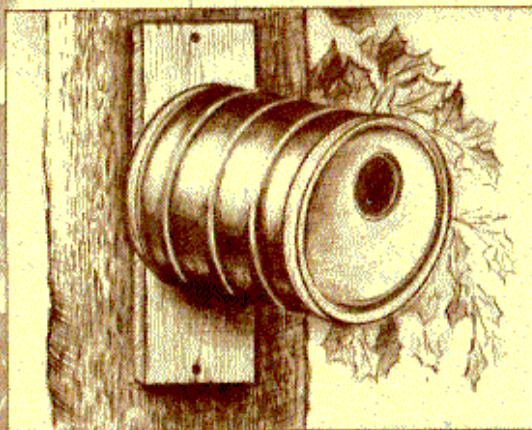
### **MARGARINE TUB MANSION**

Attach the tub's lid to the backboard with staples or nails, and set aside. Then, using a 50 cent piece as a pattern, trace and cut an entrance hole through the bottom of the tub. A 50 cent piece is about 1 1/2 inches in diameter, the ideal size for an entrance. Be careful not to make the entrance any larger, or the mansion may be taken over by nuisance birds such as starlings. Snap the tub into its cover, and mount.



### **MILK CARTON CABIN**

Take a half-gallon milk carton, and open its top completely. Clean thoroughly. Poke two small holes through the bottom of the carton, and mark their positions on the backboard. Drill two small holes in the backboard, and attach the carton to the backboard with wood screws and washers. Close the top of the carton halfway with brass clasps as shown.



### **COFFEE CAN COTTAGE**

Remove the plastic cover, and use a 50 cent piece to mark an entrance, then cut out as shown. Punch a hole through the bottom of the can, and secure it to the backboard with a single wood screw and washer.

*American  
Holly*

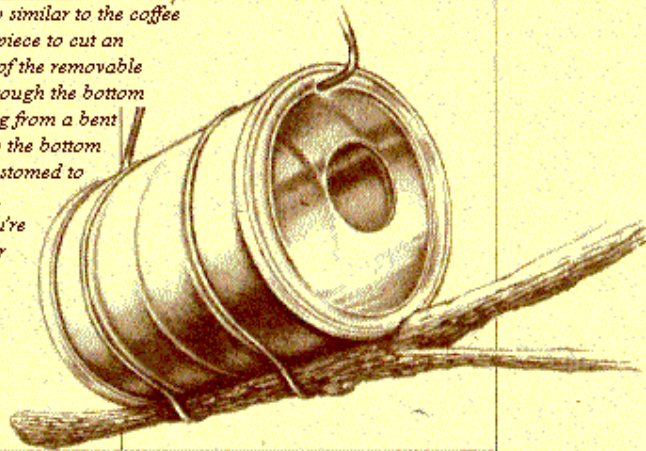


## FEEDERS

### **COFFEE CAN FEEDER**

The coffee can feeder is very similar to the coffee can cottage. Use a 50 cent piece to cut an entrance hole in the center of the removable lid. Poke two small holes through the bottom and lid of the can, and hang from a bent coat hanger. Wire a perch to the bottom until the birds become accustomed to feeding, and then remove it.

This is a great feeder if you're having problems with larger birds hogging all the feed. Grackles and blue jays, for example, are unable to use the small entrance hole.

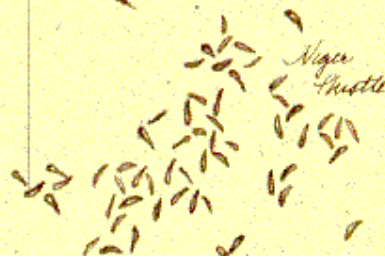
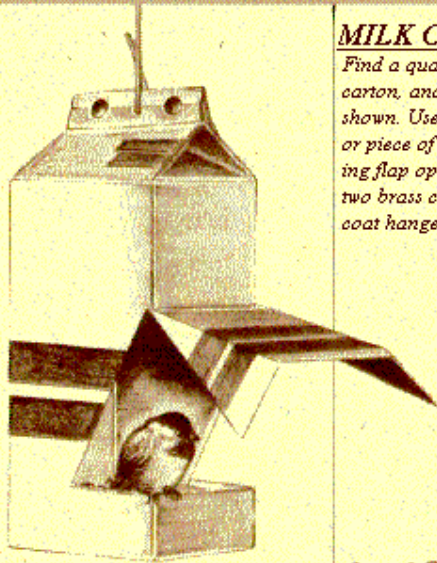


**E**MPTY COFFEE cans, milk cartons, and plastic tubs make excellent bird houses and feeders. These feeders and houses were designed by the National Wildlife Federation, and make great craft projects for children.

All of these houses are suitable for small songbirds, including bluebirds. However, these houses should be placed only in the shade. In direct sunlight they may overheat, which can destroy eggs and kill young birds. Be sure to poke several small holes in protected areas of each house to provide drainage and ventilation.

### **MILK CARTON FEEDER**

Find a quart or half-gallon milk carton, and cut the entrance flap as shown. Use a straightened paper clip or piece of wire to hold the overhanging flap open. Secure the top with two brass clasps, and hang from a coat hanger.



### **MESH FEEDER FOR SUET**

An old onion sack hung along the trunk for a tree makes a great suet holder for woodpecker flickers, nuthatches and other insect-eating birds.

### **SUET PUDDING**

Suet may be purchased in a grocery store, or a suet pudding may be made at home. Suet pudding can be made in large batches, and the excess may be frozen. Thaw and use as needed.

- 1 part peanut butter
- 1 part precooked cereal (oatmeal, cream of wheat or cornmeal mush)
- 1 part suet

Heat until suet and peanut butter melt and mixture can be stirred together. Harden in refrigerator in a clean coffee can.



## FEEDERS

**F**EEDING BIRDS is a wonderful way to enjoy them, and the variety of feeders that may be made at home is almost endless. It's best to place feeders near natural cover. Attaching a small, cone-shaped predator guard made of a small piece of sheet metal above or below feeders will help foil cats and sometimes squirrels.

Once you begin a feeding program, be sure to continue through early spring. Many birds spend the winter near feeders instead of migrating south, and are dependent upon regular feeding for survival.



### **PINE CONE FEEDER**

*A pine cone on a string is perhaps the simplest bird feeder. Smear the cone with peanut butter or suet pudding (see recipe on page 4) and hang from a tree to attract wrens, nuthatches and other small insect-eating birds.*

### **FAVORITE BIRD FOODS**

**SUET**-blue jay, woodpecker, red and white breasted nuthatch, wren, tufted titmouse, chickadee, golden and ruby crowned kinglet, starling, grackle, flicker, brown creeper, redwinged blackbird.

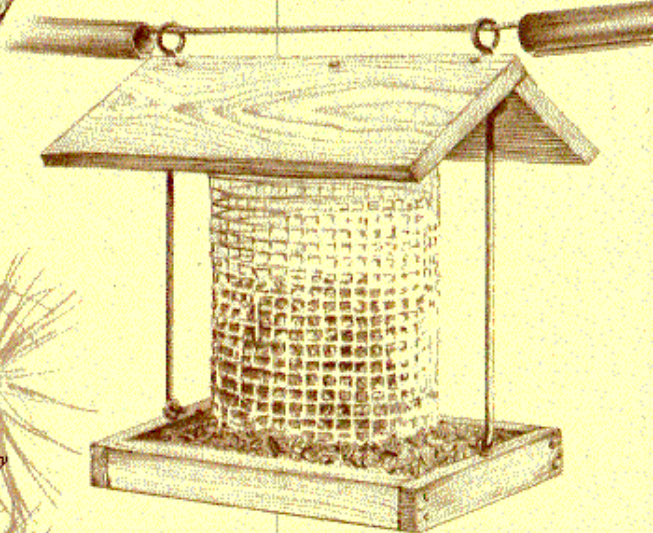
**SUNFLOWER SEEDS**-chickadee, purple finch, junco, sparrow, brown thrasher, catbird, blue jay, tufted titmouse, Carolina wren, cardinal, chickadee.

**SMALL MIXED SEEDS** (hemp, millet, rye, canary seed, chick feed, cracked corn)-cowbird, grackle, redwing blackbird, brown thrasher, hermit thrush, house finch, catbird, snow bunting, horned lark, cardinal, pine siskin, pine grosbeak, goldfinch, purple finch, sparrow, junco.

**LARGE SEEDS** (sunflower, wheat, oats, corn, millet, rye, buckwheat, soybean)-quail, mourning dove, ruffed grouse.

**PEANUT BUTTER, NUTMEATS**-grosbeak, nuthatch, woodpecker, chickadee, blue jay, tufted titmouse, finch, cardinal, catbird, sparrow.

**FRUIT** (chopped apple, banana, raisins)-thrasher, robin, myrtle warbler, hermit thrush, catbird, blue bird, woodpecker, mockingbird, cedar waxwing.



### **TROLLEY FEEDER**

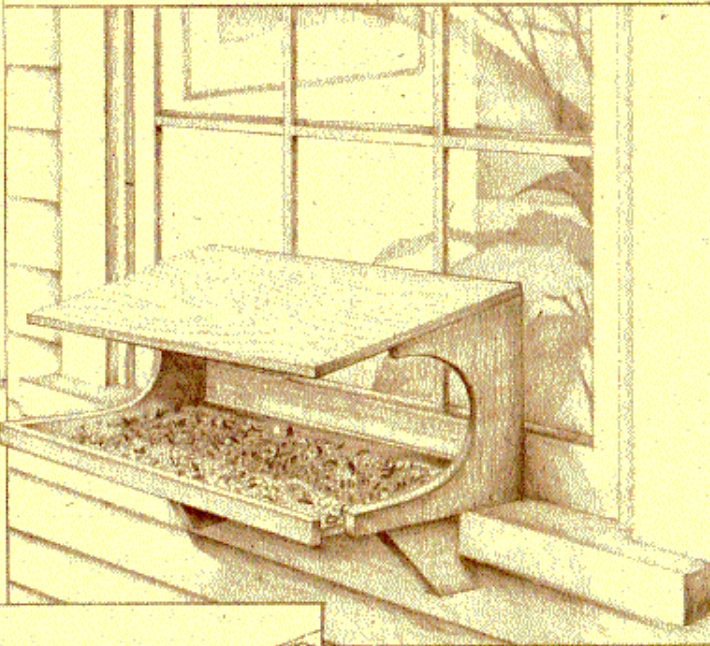
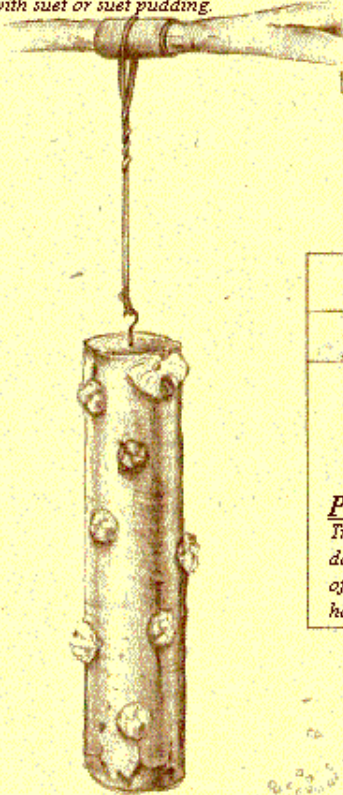
*Trolley feeders are suspended from a wire between two objects, and slide within reach for easy filling. Dimensions are unimportant, but the wire cone should be made of 1/4 inch mesh hardware cloth. Placing short lengths (2-3 feet) of garden hose on the wire on either side of the feeder will help foil squirrels.*



## FEEDERS

### SUET LOG

A suet log hung from a limb attracts woodpeckers, flickers, nuthatches and wrens. Take a short length of firewood (approximately 2 feet long and 3 to 4 inches in diameter) and drill or chisel shallow holes into or through it (about 1 inch in diameter and 2 inches deep). The exact size and spacing of the holes is unimportant. Perches aren't needed, but leave the bark on the log so that the birds can grip it while climbing. Put a screw eye in one end of the log, and hang from tree. Pack holes with suet or suet pudding.



### PROTECT YOUR TREE

Tree limbs may be protected from damage by wrapping a thin piece of foam around the limb before hanging bird houses or feeders.

### WINDOW FEEDER

A window still feeder may be made of boards or plywood. Length and width vary depending on the size of the window and materials on hand. A feeder 10 inches wide with a 12 inch roof works well, and the gap in front allows for easy cleaning.

White proso millet

Red proso millet

Handina



## IMPROVING HABITAT FOR BIRDS

Landscaping your yard is an excellent way to attract more birds. Trees and shrubs offer cover and two sources of food to birds—the seeds, berries and fruits produced by the plants, and the insects attracted to the vegetation.

The most attractive habitat has a mix of trees, shrubs and grasses. Evergreen and deciduous trees and shrubs offer shelter and cover year-round. It's also important to have a source of water nearby such as a bird bath or backyard pool. Even a small pool below a rainspout can be freshened regularly with a hose.

The following trees and shrubs will attract a wide variety of birds. Check with a nursery or horticulturalist for cultural techniques and suitability to your area.

### GRASSES, FLOWERS, GROUND COVERS

Millets

Sunflowers

### SHRUBS

Beautyberry

Blueberry

Blackberry

Smooth sumac

Elderberries

Pokeberries

Honeysuckle

Pyracantha

Nandina

### SMALL TREES

Cherries

Crabapples

Dogwood

Hawthorns

Hollies

Mulberry

Plums

Serviceberry

### LARGE TREES

Hackberry

Oaks

Pecans

Tulip poplar

Magnolia

Loblolly or longleaf pine

Carolina Hemlock

Eastern red cedar

## RESOURCES

### BUILDING TIPS

Expensive power tools or an elaborate shop aren't needed to build bird houses and feeders. A few basic hand tools—such as a hammer, saw, screwdriver, chisel, and a hand or electric-powered drill are fine. Here are some hints on construction.

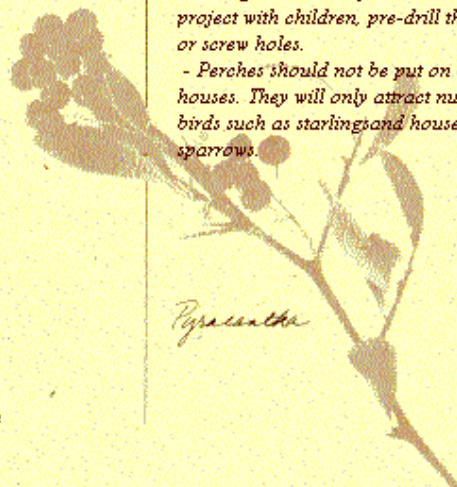
- Treated lumber may produce fumes that are harmful to birds. Don't use it for bird houses. Common lumber, such as pine and spruce or fir, is fine for bird houses and feeders. More rot resistant wood, such as cypress, cedar and redwood, also works very well, but is harder to find and more expensive. Exterior plywood may also be used, but must be painted and is more difficult to work with.

- Remember that lumber sizes are larger than their true dimensions. Because of shrinkage, one-inch boards are really only about 5/8 inches wide (take a tape measure to the lumber yard).

- Bird houses may be treated on the outside with a latex-based paint or stain. Keep the inside natural, however. Feeders may be painted or varnished. Do not treat a house or feeder with creosote because it is toxic.

- Screws or nails may be used as fasteners. Screws are more permanent, although a little more trouble. If you're building houses and feeders as a craft project with children, pre-drill the nail or screw holes.

- Perches should not be put on bird houses. They will only attract nuisance birds such as starlings and house sparrows.



## INFORMATION

*Invite Wildlife To Your Backyard and Birdwatching* With Roger Tory Peterson (brochures). Single copies available free from the Division of Conservation Education, N.C. Wildlife Resources Commission, 512 N. Salisbury St., Raleigh, N.C. 27611.

*Backyard Wildlife Habitat Program* Information available from the National Wildlife Federation, Dept. MO, 1400 16th St. N.W., Washington, DC 20036.

### Books

*The Complete Book of Birdhouse Construction for Woodworkers* by Scott Campbell. Published by Dover Publications, 31 East 2nd St., Mineola, N.Y. 11501.

*A Complete Guide to Bird Feeding* by J.V. Dennis. Published by Alfred A. Knopf, New York.

*Woodworking for Wildlife Homes for Birds and Mammals*. Published by the Nongame Wildlife Program, Minnesota Department of Natural Resources, Box 7, Centennial Bldg., St. Paul, MN 55155.

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