



Fact sheet

For a comprehensive list of our publications visit www.rce.rutgers.edu

New Jersey Forest Stewardship Series

Build Bird Nest Boxes

Practice Standards

Mark C. Vodak, Ph.D., Extension Specialist in Forestry & Gina L. Fox, Former Extension Assistant in Forestry

Birds are beautiful, colorful, and melodious additions to any landscape. Many New Jersey forest stewards are interested in attracting various species to their properties and incorporate these objectives into their management plans. Correctly building and placing nest boxes is an activity that can help meet these objectives.

Why Build Nest Boxes for Birds?

Nest boxes provide cover for and protect them from predators. This is important because birds keep weed seeds and insect populations under control. Birds can also be excellent biological indicators of environmental health.

What Birds Will Use Nest Boxes?

Many “hole-nesting” birds will settle for nest boxes due to the scarcity of tree cavities. More than two dozen North American birds will use nest boxes, although many species like cardinals, doves and orioles prefer nesting in trees. Birds have different habitat requirements. The species of bird attracted to a nest box depends on the dimensions of the box, size of the entrance hole, height of the nest box above the ground, and location of the box.

Table 1 provides a list of birds, nest box dimensions, and habitats. This should help target the desired species of bird best-suited to a particular property.

Constructing a Nest Box

Use Table 1 with the following illustrations and directions to construct nest boxes for desired species.

Materials needed:

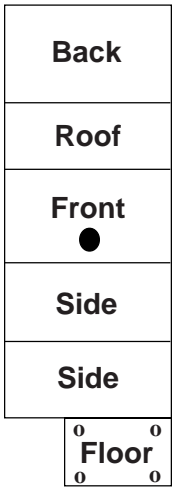
- ✓ Tape measure
- ✓ Hammer
- ✓ 1 ½" to 1 ¾" galvanized nails
- ✓ Pencil or chalk for marking
- ✓ Saw
- ✓ Lumber (Preferably durable woods such as cedar, cypress, and pressure-treated pine.)
- ✓ Glue
- ✓ Hinges

Carefully measure and cut lumber into specified dimensions for the desired bird as recommended in Table 1.

Floor. Cut off all corners of the floorboard of the box to allow for drainage. Also drill four one-quarter-inch holes in the floor for drainage as well.

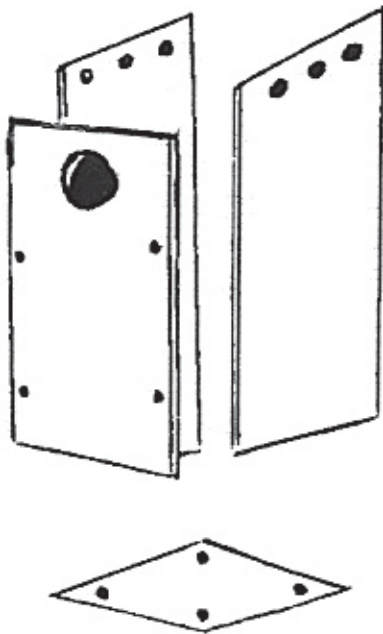
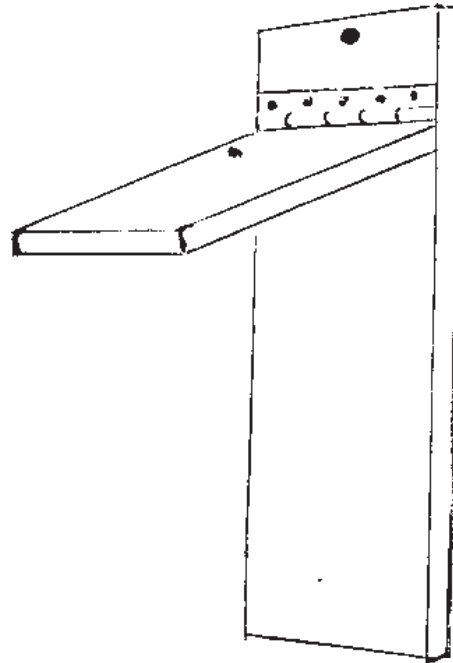


Table 1. Nest box requirements by species.					
Species	Box Floor (Inches)	Box Height (Inches)	Entrance Height (Inches)	Entrance Diameter (Inches)	Placement Height (Feet)
Chickadees Woodland clearings and wooded edges are the preferred habitats of chickadees.	4x4	8-10	6-8	1-1/8	4-15
Downy Woodpecker Downy woodpeckers prefer woodland clearings and wooded edges.	4x4	8-10	6-8	1-1/4	5-15
Eastern Bluebird Bluebirds nest in open sunny areas like pastures, golf courses, and fields.	5x5	8-12	6-10	1-1/2	4-6
Flickers Flickers nest in open sunny areas or wooded edges and clearings.	7x7	16-18	14-16	2-1/2	6-20
Flycatchers Flycatchers prefer sunny clearings and wooded edges.	6x6	8-12	6-10	1-3/4	5-15
Hairy Woodpecker Hairy woodpeckers also nest near woodland clearings and wooded edges.	6x6	12-15	9-12	1-1/2	8-20
House Wrens Woodland clearings, wooded edges, and backyards make perfect nesting sites for house wrens.	4x4	6-8	4-6	1-1/4	5-10
Kestrels Kestrels prefer big sunny old tree trunks, old barns, silos, water towers, and steeples.	8x8	12-15	9-12	3	10-30
Nuthatches Wooded edges and woodland clearings are nesting sites for nuthatches.	4x4	8-10	6-8	1-3/8	5-15
Purple Martins Purple martins like open sunny fields, golf courses, and pastures.	6x6	6	1-2	2-1/4	6-20
Red-Headed Woodpecker Red-headed woodpeckers also prefer woods edges and woodland clearings.	6x6	12-15	9-12	2	10-20
Screech Owls Screech owls prefer woodland clearings and edges.	8x8	12-15	9-12	3	10-30
Swallows Woodland clearings and wooded edges are the preferred environments of swallows.	5x5	6-8	4-6	1-1/2	5-15
Titmice Titmice also prefer wooded edges and woodland clearings.	4x4	10-12	6-10	1-1/4	5-15
Wood Ducks Flooded river valleys, swamps, moist forest bottomlands and areas above and near water make perfect home environments for Wood ducks.	10x18	10-24	12-16	4	10-20



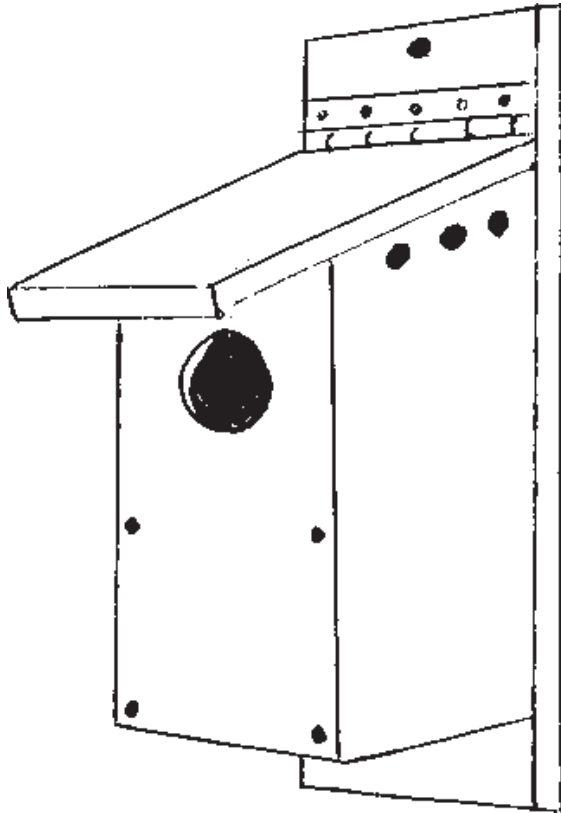
Sides. Cut one end of each board so that the roof will slant when placed on top. Drill two one-quarter-inch holes near the slants on each side to allow for ventilation.

Front. The inside of the front of the box should be rough textured to allow ease of exit to adult birds and fledglings. If the inside is smooth, add grooves or wire mesh. Bore the entrance hole opening at an upward slant to aid in keeping water out.



Roof. Attach roof with hinge and nails to the back plate wood. Make sure it is slanted and will hang two-three inches over the entrance hole on the front of the house to help keep out rain. The roof is hinged so the house can be cleaned after every brood leaves the nest, and to ease the eviction of predators and pests. Adding a latch or safety hook to hold the roof in place can help discourage some predators.

Glue the nest box together and then nail it for increased durability. Painting the exterior of the bird box is not recommended since the paint can potentially trap heat in the box, which is dangerous for nestlings. If weather resistance of the bird box is a concern, use a weather-resistant wood, such as suggested previously on page 1. Never paint the inside or entrance hole of the box. Paint fumes/vapors could be detrimental to the health of the tenants.



Installing and Monitoring Nest Boxes

Locate your nest boxes in an area where the target species would nest (see Table 1), and where the box is easily accessible for monitoring and cleaning when the time comes. Install all nest boxes by late March or early April. When installing multiple nest boxes, place them 200 to 300 feet apart to account for the territorial nature of most species. Firmly attach boxes to posts, trees, or buildings. On live trees, use crimped wire or lag bolts that can be loosened as the tree grows. Monitor nest boxes on a somewhat

regular basis, by first observing them from afar, watching for any 'tenants', and then make sure to listen for birds in the box before checking so you don't disturb a nest. Monitoring and disturbing birds while the box is in use can cause them to abandon the nest box and/or possibly attract predators. Don't be surprised to find house sparrows, starlings, rodents, snakes, insects, squirrels and mice inside. Leaving boxes out for the winter will provide much needed shelter for birds, flying squirrels, and other animals. Make sure to clean out the nest boxes every spring.

Protection from Predators

Predators of birds include cats, dogs, squirrels, raccoons, opossums, and snakes. Installing the nest box on a metal pole slathered in petroleum jelly and hot pepper sauce can offer protection from predators. Alternatively, attaching a flat sheet of metal around the trunk of a tree serves as a predator guard even though it can be somewhat unattractive.

References

Homes for Birds, <http://migratorybirds.fws.gov/pamphlet/pamphlets.html>, information from a U.S. Fish & Wildlife Service Pamphlet edited by Terry Ross, updated 2003.

Building Songbird Boxes, North Carolina State Cooperative Extension, www.ces.ncsu.edu/nreos/forest/steward/www16.html, 1995.

Enhancement of Wildlife Habitat on Private Lands, Daniel J. Decker and John W. Kelley, Cornell Cooperative Extension, Information Bulletin 181, 1982, 40 pp.

© 2004 by Rutgers Cooperative Research & Extension, NJAES, Rutgers, The State University of New Jersey.

Desktop publishing by Rutgers-Cook College Resource Center

Published: February 2004

**RUTGERS COOPERATIVE RESEARCH & EXTENSION
N.J. AGRICULTURAL EXPERIMENT STATION
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY
NEW BRUNSWICK**

Distributed in cooperation with U.S. Department of Agriculture in furtherance of the Acts of Congress on May 8 and June 30, 1914. Rutgers Cooperative Extension works in agriculture, family and community health sciences, and 4-H youth development. Dr. Karyn Malinowski, Director of Extension, Rutgers Cooperative Research & Extension provides information and educational services to all people without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Rutgers Cooperative Research & Extension is an Equal Opportunity Program Provider and Employer.