

SQUIRREL NEST BOXES

Charles W. Ramsey*

All wildlife species need food, cover, water and living space. Squirrels, for example, need den trees in which to live. Often these den trees are old hardwoods with natural hollows. In cut-over forests, there often are an insufficient number of good den trees for squirrels.

Squirrel numbers may reach five to an acre, but one to three is considered a maximum population. The density of squirrels depends upon available living space in the habitat. At least three dens per acre are necessary to insure a good population of squirrels. If other necessities, such as food, are present, the use of squirrel nest boxes can increase a squirrel population.

Texas Tree Squirrels

There are two common species of tree squirrels in Texas, excluding the secretive flying squirrel. Gray or "cat squirrels" are almost entirely restricted to the eastern portion of the state in big hardwood timber areas of river bottoms. Fox squirrels also live in East Texas, as well as farther west through Central Texas and along river ways into West Texas. Fox squirrels inhabit more open woods areas than gray squirrels do.

Fox squirrels weigh about 2 pounds, while grays weigh about 1 pound. Fox squirrels usually have an orange or fox-colored breast. Gray squirrels, as the name suggests, are usually gray on the back and sides with whitish underparts. Various color phases in both species overlap somewhat, making color distinction between species difficult. One identifying characteristic, as many hunters know, is that when cooked the bones of fox squirrels are pink, while the bones of gray squirrels are white.

These two squirrel species have different habits. Grays are most active in early morning and late after-

noon, while fox squirrels are most active from morning through mid-day and into the afternoon. Fox squirrels return to their dens or nests in the evening about the time their livelier and noisier cousins, the gray squirrels, come out for their evening foraging.

Fox squirrels seem less active and more retiring than grays, do much of their traveling on the ground, and are not nearly as agile as grays in running and leaping through the treetops.

Mating Habits

Fox squirrels appear monogamous, and may pair for life. At any rate, if undisturbed, one pair may be found inhabiting the same area for a number of years. Field observations indicate that gray squirrels are polygamous.

Both species have two distinct mating seasons. The heavier winter breeding season occurs in December and January, while the light summer season extends from late May through August. Food and weather have an effect on these seasons and on litter sizes. The winter breeding season is more variable than the summer mating period. Squirrels that do not breed in winter usually do the following summer.

The gestation period is 42 to 45 days. Therefore, the number of births is highest during March and July. Squirrels usually have from one to four young, though they may sometimes have as many as six per litter. Females may have two litters per year.

Squirrel Homes

Both species use tree dens and leaf nests. Woodpecker holes or holes in decayed limbs are most commonly used as dens. Den trees are extremely important to squirrel survival because they provide escape cover as well as protection from winter weather.

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In addition, between 85 and 90 percent of young squirrels are born in den holes, although the young may later be transferred to nests.

Squirrels build two kinds of nests. Summer nests are made of loosely woven sticks and twigs. They are quickly built and last only a few months. Winter nests are constructed of limbs with leaves attached, and lined with layers of leaves and shreds of inner bark pressed tightly together to keep out the weather. These winter nests may last several years.

Nest Box Placement

Placement of squirrel nest boxes is important to make these manmade structures acceptable to wild squirrels. Houses should be placed in trees that are at least 10 inches in diameter. Houses should be placed about 20 feet above the ground. The entrance hole should face south or east, away from prevailing winter winds. The house should be half filled with dry leaves to make it more attractive.

Houses in dense woods are more apt to attract gray squirrels, while houses in open stands or on the edge of woods are more apt to attract fox squirrels.

Construction

Following are instructions for building a durable nest box. The shape, size and location of the entrance discourages predators. The hardware cloth floor allows quick drainage and lets old leaf fragments fall through. The box is easily removed from the tree for checking and maintenance.

List of Materials

- 1) *Lumber.* 1-inch rough-sawed heart cypress, pentachlorophenol-treated pine, or western red cedar is used to make the following sections:

Front and back: 7 inches wide. Bottom cut square; top angled; 19 $\frac{3}{4}$ inches long on one side and 18 $\frac{1}{2}$ inches long on the other. 2 $\frac{1}{2}$ -inch circular entrance cut in front, 14 $\frac{1}{2}$ inches from the bottom.

Side near tree: 9 $\frac{1}{4}$ inches \times 19 $\frac{3}{4}$ inches

Side away from tree: 9 $\frac{1}{4}$ inches \times 18 $\frac{1}{2}$ inches

Roof: 10 inches \times 12 inches. Cleats should be just under 7 inches long. They should be located on the roof board so that they will fit fairly snugly inside the 7 inches \times 7 inches box top, thereby preventing shifting of the roof. The roof should overhang sides and back about $\frac{3}{8}$ inch and should overhang front and back about 1 $\frac{3}{8}$ inch.

Batten: 2 inches \times 21 $\frac{1}{2}$ inches. Cut $\frac{1}{4}$ -inch-wide slot, 1 inch long, in center of one end.

- 2) *Sheet steel (for hanger):* 2 inches \times 8 inches, 20 gauge galvanized. Drill "keyhole" large enough to fit over 40-penny nail head near one end; drill five nail holes to fit shaft of 6-penny nails near other end.
- 3) *Hardware cloth (for floor):* 8 inches \times 8 inches square of $\frac{1}{2}$ -inch by $\frac{1}{2}$ -inch mesh, galvanized-after-welding, 14 gauge iron wire. Bend each side at right angles $\frac{1}{2}$ inch from margin, to form 7 inches \times 7 inches \times $\frac{1}{2}$ inch pan.
- 4) *Wire (for steadying box when mounted in tree):* #10 solid, polyethylene covered THW conductor, or similar solid core, flexible plastic-covered wire.
- 5) *Nails:* 8-penny galvanized box — 12 for box construction and 2 to pin roof to box. 6-penny common galvanized box — 5 to attach hanger to batten and 6 for cleats. 6-penny common galvanized — 5 to attach batten to box. 40-penny common galvanized — 2 to suspend completed box from tree. Staples — 8 small galvanized to attach hardware cloth bottom.

How to Build

Install floor after sides, front and back have been assembled. Turn hardware cloth pan so edges point downward. Insert into bottom of box until wire edge is even with box edge. Staple in place.

Fasten batten to side of box by driving 6-penny galvanized nails through batten well into, but not through, side of box.

After box has been assembled and roof set in place, drill one hole each through the top center of the box's sides (or front and back) and through roof cleats. Nails can then be inserted to secure roof.

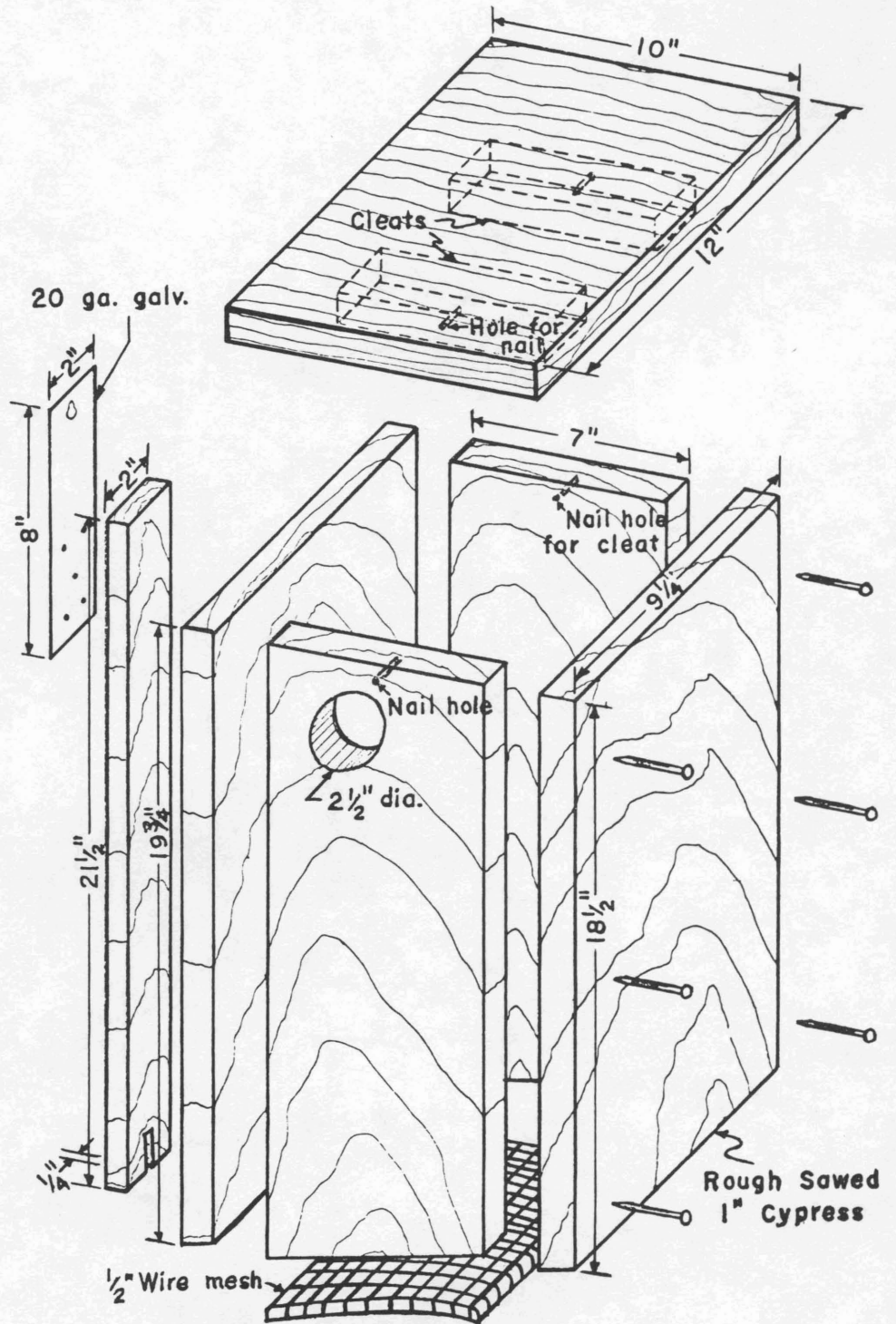
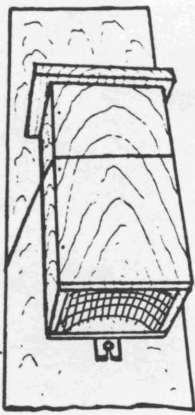
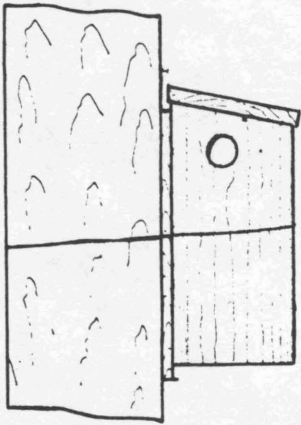
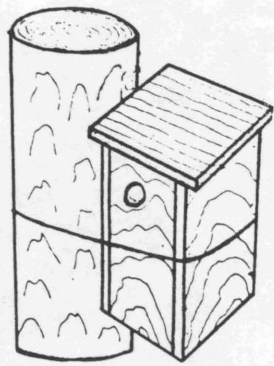
Attach hanger to bottom by driving 6-penny galvanized box nails through hanger and bottom. Clinch projecting ends into batten.

Leave at least 2 inches clearance between tree and heads of 4-penny suspension nails to allow for tree growth.

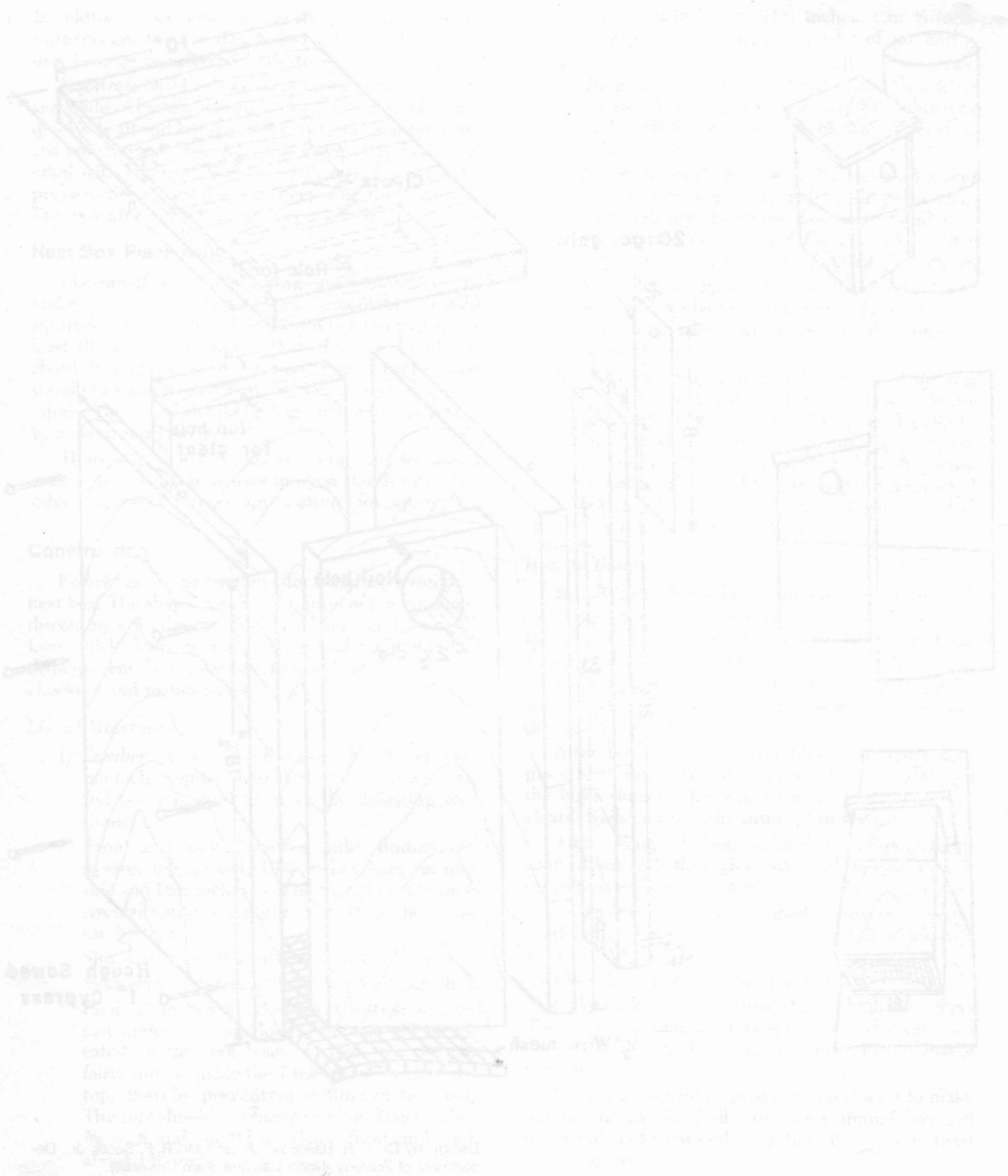
Place 1-inch layer of dry leaves on wire floor.

Pick box location on trunk of tree, high enough to discourage vandalism or possible shot damage. Do not rest box on limb, as this will eventually damage tree and box.

Use single strand of plastic-covered wire to make box mount sturdy. Pull wire taut around box and tree trunk and twist ends together. Wire will untwist as tree grows.



Design by Dr. F. S. Barkalow, Jr. and Mr. R. F. Soots, Jr., Department of Zoology, North Carolina State University.



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