

# Facts and Fallacies of Bird Box Construction

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**Abstract.**- There are many directions published for bird box construction, most of it correct, but not all of it. This paper discusses some incorrect directions.

During medieval times houses were made for birds and the young eaten. Now people build bird houses that are beneficial for the birds and provide entertainment for the spectators. These houses have become important for the propagation of cavity nesting birds. Dead trees with holes are frequently scarce and in many areas where dead trees are quickly removed bird houses are essential.

When Richard moved to Central Florida in 1968, he lived a short drive to property owned by Florida Audubon. Someone suggested that he place bird boxes in the property. His father, an excellent carpenter, said he would make the boxes. Richard consulted many "how to" books about bird box construction and he started building. Other people contributed boxes so there was a variety of designs. The boxes at the Audubon lot were examined for over 30 years. Richard's father died and he began making boxes ten years ago. Some are sold with proceeds to Orange Audubon. Others go to schools, parks and friends and we are able to monitor most of these boxes as well as boxes in our yard. As the years progressed, we learned that birds don't read. When selecting boxes, many birds disregard completely specifications written about what size box they should use.

We are going to address six myths about nest boxes and tell you why they are wrong.

1. **NOMENCLATURE.** Take the term "bird boxes." Residents in our boxes include: squirrels, flying and gray, various species of snakes, mice, bats, anoles, bees, wasps, raccoons and opossums. We call our boxes "nest boxes."
2. **HEIGHT ABOVE GROUND.** One of the first questions I am asked when discussing boxes is, "How high should I place my box." My reply, "Just high enough so that when you climb the ladder you can easily open the top and take a picture." For my boxes the height is usually 9-10 feet to box entrance. The impetus for this article occurred when I read, "screech owl boxes should be 30-40 feet high." A friend had a screech owl nest in a box 7 feet high. We have had many screech owls nest in our boxes. "Everyone knows, a purple martin box should be 10 feet plus high." I have seen two martin nests in one wood duck box with the entrance 6 feet above ground. "A great crested flycatcher box should be over 8 feet high." A great crested flycatcher nested in a 'bluebird box' with a hole 4 feet above the ground.
3. **BIRDS WANT A SPECIFIC SIZE BOX.** "If you want a certain bird, you have to build a box for that bird's specifications." See purple martins above. We have raccoons and opossums in the neighborhood. I decided they should have a box. The floor was 10" x 10", the height 18 inches, hole 6". A great crested flycatcher nested in it (Fig. 1). Some commercial boxes for red-bellied woodpeckers are 9 1/2 x 7 3/4 inches (Duncraft). Question: what is the diameter of a hole made by a red-bellied woodpecker? Maybe four inches at the most and I have had red-bellied woodpeckers nest in boxes as small as 3.5" x 5.5" x 10" (Fig 2).
4. **VENTILATION.** "Without air vents, boxes can turn into bird ovens (US Fish and Wildlife Service, Homes for Birds)." Knowing heat rises I had trouble thinking anyone would write this. I decided to have a test. Yes, the test showed the ventilated boxes were cooler, by 0.9 degrees C. The experimental procedure and results are published in Florida Field Naturalist 36:3, p.64. While checking eastern bluebird boxes, no ventilation holes, in central Florida I found 4 young. They were in a 'bluebird' box but one was larger than the others (Fig. 3). A cowbird? I waited and as they grew feathers, learned that all were bluebirds. Inquiring about the cause of the large one, the best answer received was, "it was the first egg laid and the temperature was hot enough to start

incubation.” Usually the female waits until the last egg is laid to start incubating them, so this one got an early start!

5. HOLE: SIZE AND LOCATION. “If you want a specific bird, you need a specific size of hole.” The size of the hole will exclude larger birds, if squirrels don’t enlarge it. But the size of the hole will not exclude smaller birds or other animals. We put metal flashing around our holes. Someone in the past decided screech owls need a 3 inch hole. Our screech owls have nested in boxes with 2 1/4 “ holes (Fig. 4). The recommended standard size hole for wood ducks is 4 x 3 inches. I made that size at first, but using a drill is a lot easier than a jig saw. My holes are now 3.5 inches in diameter which is OK by the wood ducks (Fig. 5). The size of the hole for the great-crested flycatcher box mentioned earlier has a diameter of 6”. One day as I was measuring the width of the box to put the hole in the middle I asked myself, “Why the middle?” so I drilled the hole to one side. The result, birds laid their eggs on the side furthest from the hole.
6. LADDERS. “ rough surface both inside and out makes it easier for the adults to get into the box and, when it’s time, for the nestlings to climb out.” For a wood duck, yes. No feathers on the babies. But most birds have feathers before their exit. Think like a mama or papa bird. If your baby can’t get to the exit hole, do you really want it outside in the cold cruel world? Better to stay an extra day or two and build those muscles. Adult birds fly directly to the hole, no need for rough surface.

Richard makes three box sizes, one with 6” sideboards, one with 8” and one with 10” side board. Tufted titmice, bluebirds and flying squirrels prefer the smaller one, great-crested flycatchers and red-bellied woodpeckers sometimes. The medium size is used by screech owls, flycatchers, woodpeckers titmice and squirrels. The larger size is my “wood duck” box although not exclusive for wood ducks.

Using a hinge for the roof with a screw to hold it is extremely important. To take a picture or clean the box, I simply remove the screw. Boxes with the top nailed will not allow pictures or removal of squirrel nests and old nests (not sure if this is good, bad or indifferent).

We have opened boxes with side entrances. Richard doesn’t make them. Once a screech owl egg rolled out. Splat! Another time a startled chickadee flew out and kicked an egg out while doing so. We would like to see the reaction when someone comes eyeball to eyeball with a snake inhabiting the box. The bottoms of our boxes are secured with three screws, one in front and one on either side. If woodpeckers or owls nest in the box, the floor is covered with poop. We remove the screws, clean the bottom and replace.

Tufted titmice, great-crested flycatchers, red-bellied woodpeckers and screech owls have nested our yard, 1/3 of a acre in a suburban neighborhood. Bluebirds and wood ducks have also used our boxes.

We have enjoyed our experiences with nest boxes and hope you will place some in your area. Someone once asked Richard, “If I buy your box, will you guarantee I’ll get a screech owl.” “No,” he replied, “but if you don’t get the box, I’ll guarantee you won’t get a screech owl. And don’t be surprised if some other critter takes up residence.” Birds can’t read.

