

2019 BARN OWL NEST BOX PLANS AND INSTRUCTIONS

SITE SELECTION

Before installing a barn owl nest box, be sure the property is appropriate. Barn owls prefer open areas to hunt in, like fields and meadows. In urban areas they do well so long as there are hunting grounds nearby with plenty of prey.

The nest box needs to be mounted at least 12' off the ground. It can be mounted inside an open building, like a barn, on the exterior of a building, secured on a post or in a large open tree. If mounted on a pole or in a tree, precautions must be taken to prevent raccoons from accessing the nest box. If mounted on a post, the box should be situated near one or more large trees, if at all possible. This gives the fledglings a place to perch and beg for food from their parents after they leave the nest box.

The opening of the box should face away from prevailing winds, and East if possible. The area in front of the entrance needs to be clear of obstacles.

OUR DESIGN

We have extensive documentation on barn owls utilizing various nest box designs and have adapted ours accordingly to be the safest for the owls. The most important elements are:

Overall size: The interior dimensions must allow the owls enough room to stretch and exercise their wings, ideally at least 30" in width. Overcrowding and overheating is a real concern in smaller boxes.

Placement of the entry hole: The entry it should be 2" from top edge (see image) and no less than 16" from the floor, otherwise the owlets will jump or fall out prematurely. The size of the hole is also important - it should be about 5 ½" to 6" round, no larger. Place the hole away from the side with the ventilation gap, with the hole's center approximately 13" from the edge.

VENTILATION

One of the sides will need a 1" ventilation gap at the top. See cut sheet below. In warmer regions where the average temperature in summer exceeds 80 degrees for extended periods, and where the box will receive direct sun for most of the day, we suggest additional ventilation. Enlarge the ventilation gap to 1.5" and cut ½" ventilation holes to the sides of the box approximately 3" from the floor.

SUN SHIELDS

If the box is going to be installed where it will be in direct sunlight and where the average daytime temperature in summer exceeds 90 degrees, install a sun shield on the top and one or two sides to help insulate the nest from extreme heat. A sun shield is simply a piece of plywood (weatherproofed) cut the same dimension as the side it's protecting. Attach the shield using a 1"X 2" or 2" X 2", so there is a gap between the surface of the box and the shield.

DRAINAGE

Drill at least a dozen 1/2” holes in the floor, evenly spaced.

ASSEMBLY

The nest box should be constructed of one sheet of 3/4” exterior grade plywood (like CDX) or marine grade plywood. Please use “FSC Approved” plywood where available. We recommend using 2” deck screws to assemble the sides and floor and a pine or redwood 2” X 2” frame. Score both the interior and exterior sides, just below the entry, with a few 1/8th” grooves.

SEALING AND PAINTING

We recommend sealing the box with a water-based weatherproofing stain. We have used BEHR Transparent Waterproofing Wood Finish with good results. This will help the box last 5 to 10 years. You can also opt to paint the exterior. Do not paint the box a dark color if it’s going to be mounted in a sunny location.

INSTALLATION

Install the nest box at least 12’ above the ground, facing away from prevailing winds. When installing on a post, we recommend a 20’ pressure treated 6”X6” post set 5’ in the ground.

BEDDING

The boxes do not necessarily need any bedding - the owls pellets will create a soft dry substrate. If you are compelled to place bedding, place only a few cups of redwood chips, aspen or pine shavings on the floor of the box. **DO NOT USE CEDAR! DO NOT USE HAY OR GRASS!**

ACCESS AND MAINTENANCE

Simply remove the top of the box to access the nest for cleaning. However, you can add hinges and latches, or a separate side access door if desired.

The nest box should be cleaned at least once a year, usually in the winter - November through January. Even then, there might be owls roosting or nesting. Try to inspect the box for occupants beforehand using a smartphone camera on a pole, for example. Never disturb an active nest.

When cleaning out the box. Be sure to use appropriate levels of protection, like the proper type of respirator mask, safety glasses and gloves to reduce risk of exposure to zoonotic diseases.

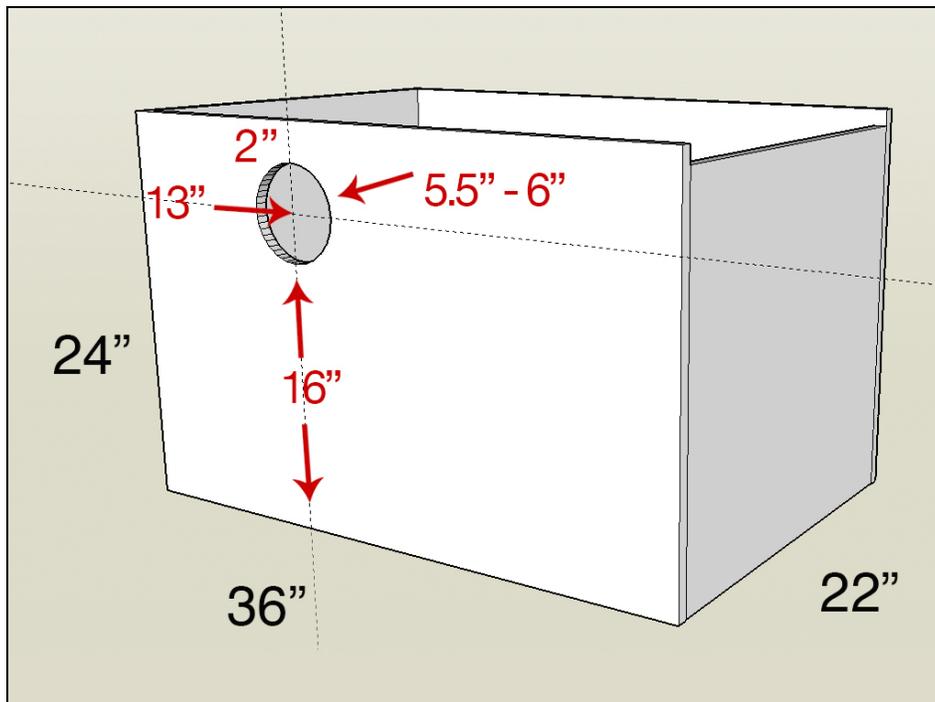
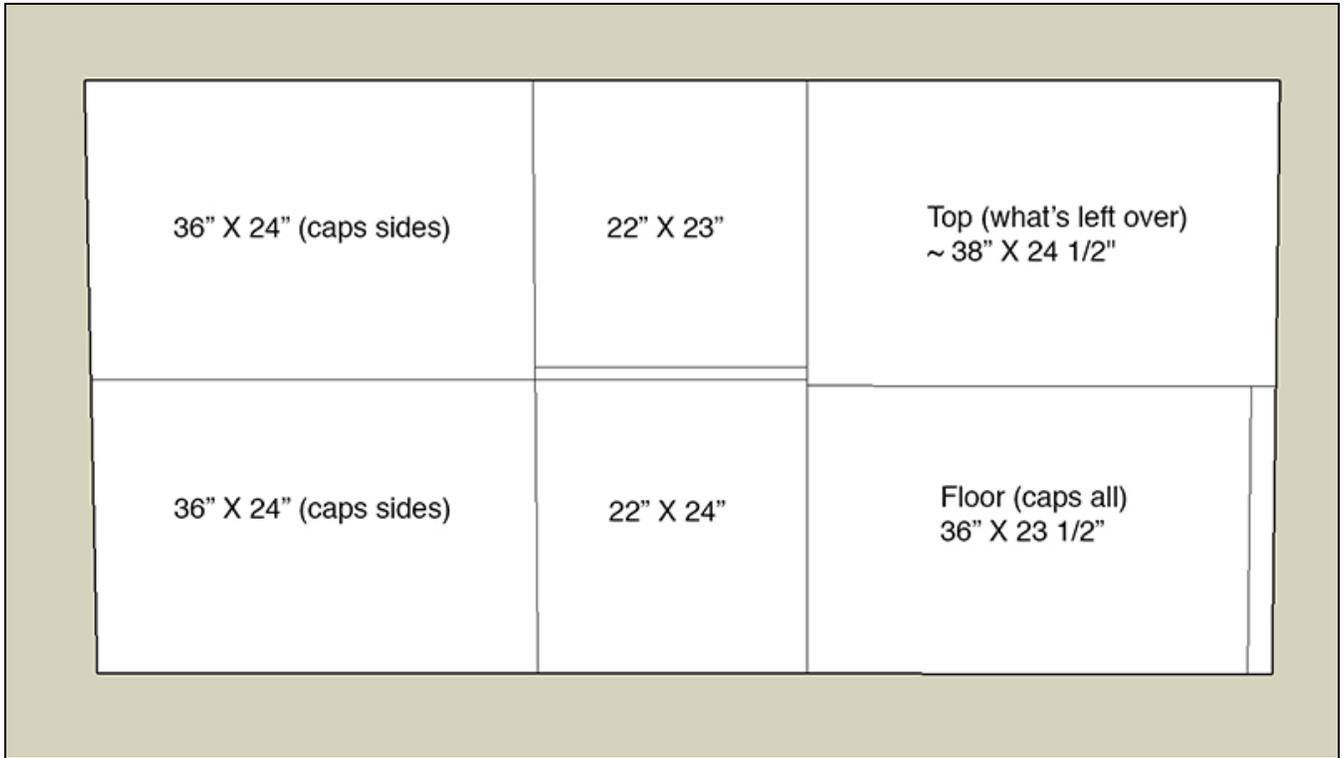
OTHER RESOURCES

The Barn Owl Trust <http://www.barnowltrust.org.uk/>

The Global Owl Project <http://www.globalowlproject.com/>

Video about choosing the right nest box https://youtu.be/zr8qLyAFI_k

NOTE: THE AMERICAN BARN OWL NEEDS A HOME THAT IS 50% LARGER THAN THE UK’S.



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Why size matters.

Our research, and that of another California-based owl box program, has resulted in what we believe are minimum standards for barn owl box nest boxes.

We have extensive documentation that poorly designed nest boxes can result in injury or death of one or more owlets or loss of an entire brood. Despite the extreme impacts, poorly designed BAOW nest boxes continue to be promoted, even by wildlife rehabilitators.

Overall size.

The dimensions of commercially available nest boxes vary considerably. We have been told the reason for smaller-sized boxes is to keep the cost down and make it easier for people to install them. Are we making barn owl nest boxes for people or owls?

The American barn owl stands at about 14" tall with a wingspan as great as 43". If a hen produces a clutch of 6 eggs, which we have found to be about average for our locations, then the hen would be brooding her eggs and newly hatched chicks for about 60 days. She may take short flights at night, but, for the most part, she is on her clutch.

Providing her room allows the hen the freedom to move off her eggs/chicks to groom, stretch and defecate.

We have also observed the male remain in the box during the day while the female is tending to the brood, and, we have observed both male and female roost inside the box with the developing chicks until the eldest reached about 4 weeks of age.

Another reason to provide a larger box is to provide ample room for the developing chicks to stretch and hop about and flap their wings. Overcrowding in smaller boxes is a serious issue.

Therefore, we agree with the United Kingdom Barn Owl Trust's minimum floor size for an American barn of about 29" X 23.6" (50% greater than for the European species).

From the Barn Owl Trust website: *An ideal nesting box would be much bigger: a full 1 metre (39.37") from the bottom of the entrance hole to the bottom of the box and with a floor area of at least 1 metre (39.37") x 1 metre (39.37"). However, owl boxes that big would be very difficult to erect and more expensive.*

Distance of entry hole from the floor.

At a certain stage, owlets begin food-begging at the entry hole, eager for their parents' return with a meal. If the entry hole is too low, chicks accidentally fall or get pushed out. Chicks that

are 7 weeks or younger are relatively dense, weight-wise, and have yet to develop flight feathers to slow their descent should they fall. We have found countless chicks injured and killed from falls from poorly designed boxes.

Placement of the portal is critical for the welfare of the young owls. The Barn Owl Trust, recommends nest boxes be deep with the entry hole at about 18”.

Our own research has shown that an entry hole placed at 16” from the floor is sufficient to keep young from accessing the portal until they have lost their density and have developed flight feathers. We have documented clutches of 8 eggs produce 6 healthy and flighted fledglings. However, even at this distance from the floor, we have documented an eager chick - the last one hatched, motivated by the absence of his siblings and reduced feedings, scramble to the entry hole. Again, we agree with the Barn Owl Trust, that the nests should be deep with the entry hole at about 18” if possible.

Distance of entry hole from roof.

When fledglings take their first flights, they are not always skilled enough to make it back inside the hole without assistance. Instead of a ledge or platform, we have found that by placing the hole 2” from the roof, young owls are able to use their talons to grip the edge of the opening and make their way back into the nest box.