

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 need open areas, like fields and meadows, in which to hunt. In urban areas barn owls do well as long as there are hunting grounds nearby, like parks, ball fields, golf course, cemetery. Avoid placing a box close to power poles or other dangerous prominent objects.

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. Where needed, 24" flashing can be attached to the post or tree to prevent raccoons from climbing and accessing the nest-box. Ideally, the box should be situated near one or more large trees for the parents to roost in and from which fledglings can begin to explore their world.

POSITIONING The opening should face away from prevailing winds, and Easterly, if possible. The area in front of the entrance needs to be clear of any 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. Research indicates 8 cubic feet (example 30" X 19" X 24") is a minimum requirement. Smaller boxes result in overcrowding, leading to injury and premature death.

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". Place the hole away from the side with the ventilation gap, with the hole's center approximately 13" from the edge. Score wood to create ⅛" grip grooves on both interior and exterior below the entry.

VENTILATION One of the sides will need a 1" ventilation gap at the top. See cut sheet below. The Top of the box should extend over the gap slightly. There may be a need to extend this out to prevent rain from blowing in.

In warmer regions where the average temperature 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 drill ½" ventilation holes to the sides of the box approximately 3" from the floor.

SUN SHIELDS If the box receives direct sunlight and where the average daytime temperature exceeds 85 degrees for extended periods of time, a sun shield should be installed on the top and one or two sides (that get the most sun) to insulate the nest. A sun shield is simply plywood (weatherproofed) cut the same dimension (or slightly larger) and attached using a 2" X 2", creating a gap between the surface of the box and the shield.

DRAINAGE There should be 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 with a pine or redwood 2” X 2” frame.

SEALING AND PAINTING Seal the wood using a water-based weatherproofing stain or exterior paint. We have used BEHR Transparent Waterproofing Wood Finish with good results. Use light colors or white paint in sunny locations.

INSTALLATION Install the nest box at least 12’ - 15’. We recommend using a 20’ pressure-treated 6”X6” post, set 4’ - 5’ in the ground. Bolt the box to one side of the post.

BEDDING The nest-box does not need bedding, as the owls will create a soft dry substrate using their pellets or feathers from birds they kill. If you are compelled to place bedding, place only a few cups of natural redwood, aspen or pine chips. Pine shavings have also been used. **DO NOT USE CEDAR! DO NOT USE HAY OR GRASS!**

PORCHES AND PLATFORMS Our basic design does not require a porch or exercise platform but one can be installed at the front of the box at floor level or just shy of the entry hole.

ACCESS AND MAINTENANCE The nest box should be cleaned at least once a year between October through November. Even then, there might be owls roosting or nesting. Try to inspect the box for occupants beforehand, using a smartphone camera on a painter’s extension pole.

To access for cleaning, simply remove the top of 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.

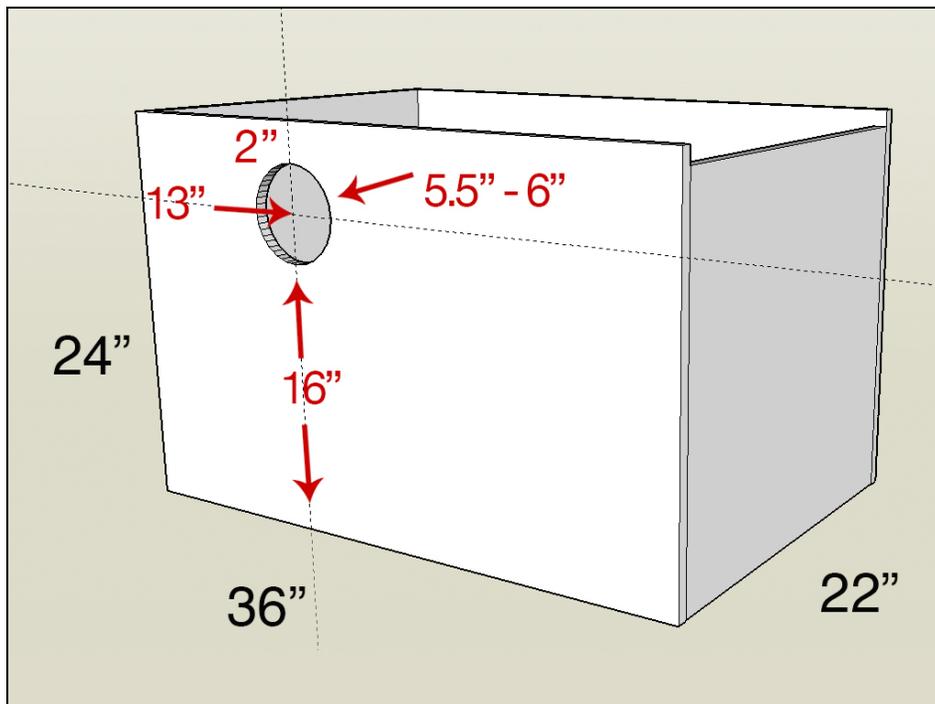
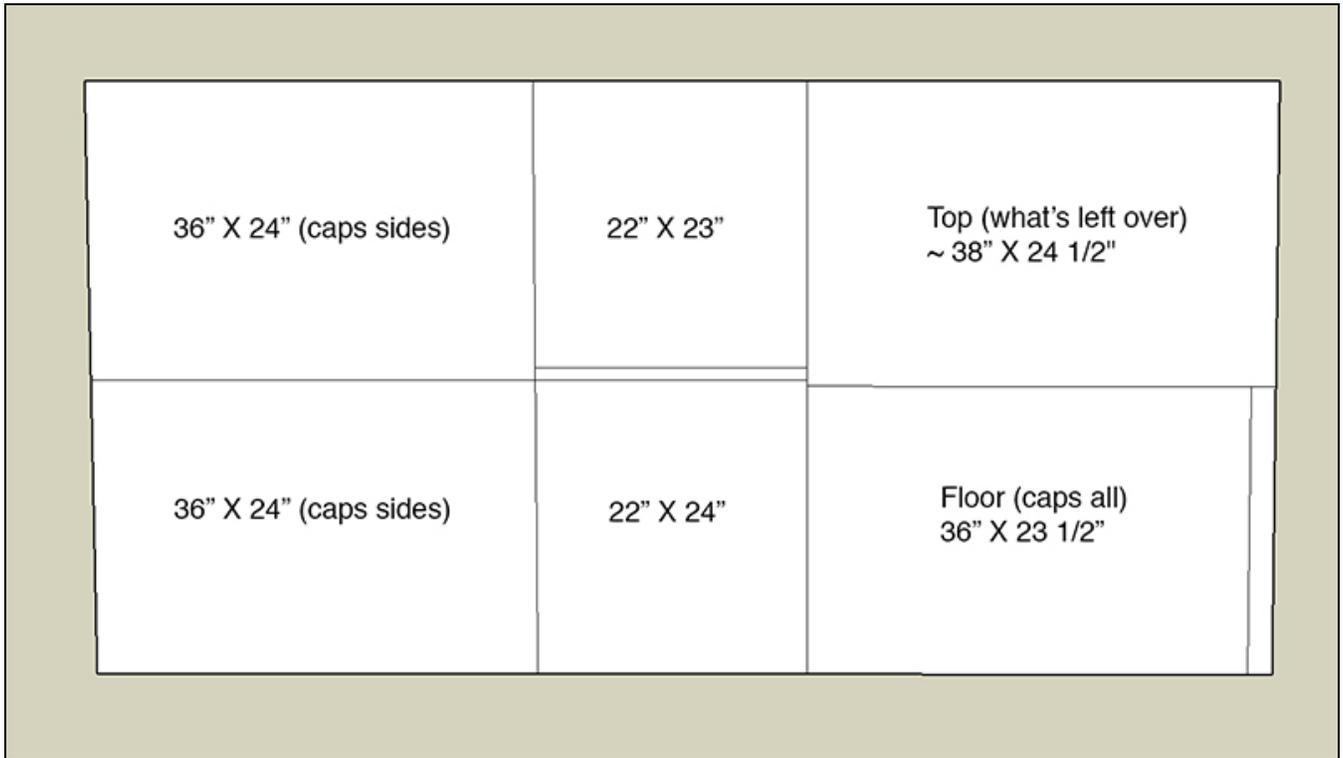
OTHER RESOURCES

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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Owl Nest-Box Minimum Standards

The Barn Owl Trust, a leading authority on barn owls, recommends increasing their nest box dimensions by 50% for the American barn owl, equating to a floor dimension of 30" X 24" (5 ft²) and a minimum of 10 ft³ for a box that is 24" deep. Our design is 11 ft³ with nearly 6 ft² of floor space.

Results from research conducted on owl nest-boxes of various sizes indicate smaller boxes often result in injury and premature death of one or more owlets. For example, overcrowding in nest-boxes based on the popular Simmon's design, measuring 23" X 12" X 16", caused feather damage, hock and foot sores and, likely, the demise of at least one chick.

Research indicates a female barn owl will remain in a large spacious nest-box, tending to her chicks, until the youngest is about 3.5 to 4 weeks old, where females in more confined boxes leave sooner, resulting in the death of the youngest owlets, unable to feed themselves.

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, but we must remember, we're not making these nest-boxes for people, but 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 remains in the box with her brood.

We have documented hens in spacious nest-boxes move off her eggs/chicks to groom, stretch and defecate. Smaller, confined nest-boxes do not allow her this freedom, and may cause her to leave the box.

Larger, spacious boxes also allow room for the male to roost in the box during the day with the female and her brood. We have observed a male remain roosting (day) inside a spacious box until the oldest chick was 4 weeks old.

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. They are unable to exercise in smaller boxes.

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" - 17" 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.

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.