

Barn Owl Nest Box



Assembly and Installation

The barn owl is a nocturnal species which occurs in open habitats where it preys on rodents and other small mammals. Although they are one of the most widely distributed birds in the world (found on all continents except for Antarctica), they are listed as a species of greatest conservation need in Kentucky's State Wildlife Action Plan, due to local decline. Nest site availability is a major limiting factor for barn owl populations and providing nest boxes to barn owls has been found to successfully increase populations.

Large, contiguous tracts of land which contain open habitats (grassland, fallow fields, hayfields, open marshes, savannah, and to some extent, cropland/pasture) are ideal for barn owls. Abandoned or seldom-used barns are probably the best location to install a nest box. However, if you have no barn or outbuilding in which to install a barn owl box, you may consider mounting one on a pole or tree. Two different building plans are detailed in this pamphlet which should work for most situations.

Site Selection:

Site selection is highly important when installing your barn owl box, thus please see the recommendations listed for the specific type of box you choose to set up. Still, there are some general site selection guidelines no matter where you mount your box:

- The barn owl box should face an area where you would expect a barn owl to hunt so that it is noticeable. When mounting a box, be sure it has a very open, conspicuous entrance. Barn owls do not prefer forested habitat, so do not face the box towards the woods.
- It is better to face the box entrance north or east to avoid the afternoon heat.
- Foraging habitat is essential. The chance of a barn owl using the box increases if open habitat is plentiful in the area.
- Be sure to consider future access to the box. Future repairs may be necessary, or Kentucky Department of Fish and Wildlife Resources (KDFWR) personnel may need to access the box for banding young.



What to expect if your nest box becomes active:

Kentucky barn owls usually select their nest site from mid-March to early April. They lay 5-7 eggs and incubate for 32 days. Minimize or eliminate disturbance around the nest site during the incubation and nestling period (approx. March 15th to June 15th). Young fledge when they are 8 to 10 weeks of age.

Barn owls will usually return to the same nest site year after year. Boxes can be cleaned out between September and February (when the owls aren't nesting), but this is not required.

As each box is installed, please e-mail GPS coordinates (or location description), installation date, and landowner contact information to Kate Heyden (kathryn.heyden@ky.gov). If you notice barn owl activity, please contact Kate as soon as possible to schedule a visit to band nestlings.

Barn Owl Box for Buildings

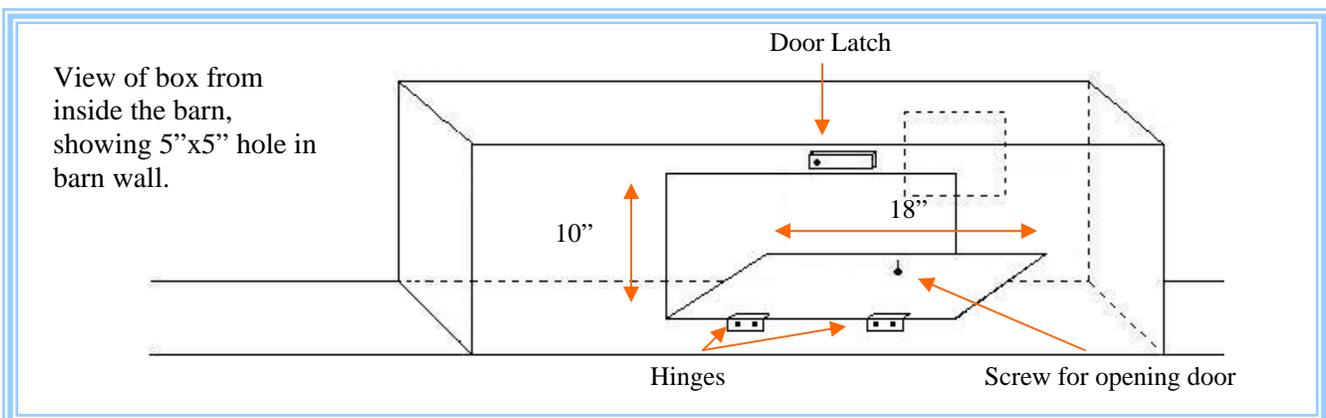
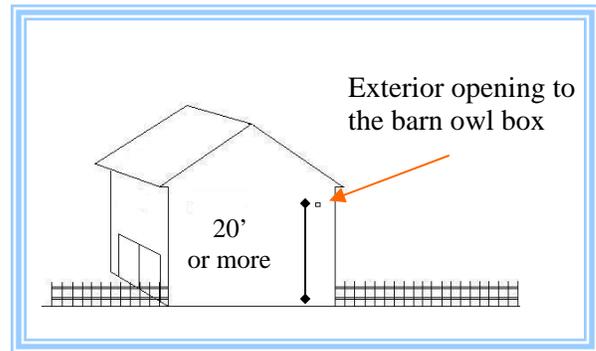
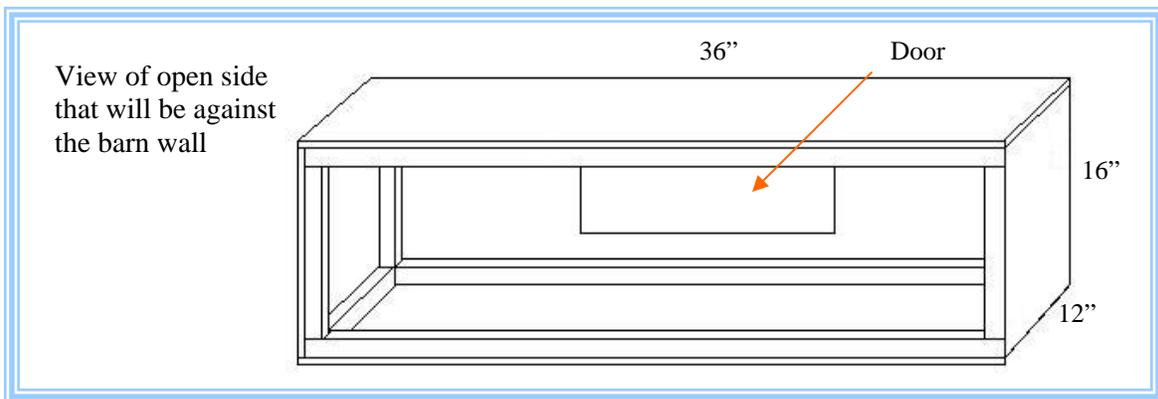
If you have a barn which remains relatively undisturbed during the spring and early summer, you may try putting a barn owl box up there. The illustrations below depict a standard indoor barn owl box (measurements may vary).

Installation

1. Select the “clean face,” or end of the structure with few or no openings.
2. Choose a crossbeam or truss against the wall on which to mount the box, 20 to 25 feet above the ground.
3. Cut a 5” x 5” square opening in the barn wall to serve as the entrance to the box from outside.
4. Screw the box to the beam and wall. Provide additional support, with wire or shelf brackets (recommended).
5. Make sure there are no screws or nails sticking out in the interior of the box.

Additional tips

- Use untreated lumber- 1/2” or 3/4” plywood. For indoor boxes, there is no need to varnish or paint.
- If your barn is not well ventilated and gets hot in the summer, place the box somewhere (not against the ceiling) where air can flow above and below the box.
- There is no need to line the nest box. Owls will use their own pellets to pad eggs.



Barn Owl Boxes for Trees and Poles

If you do not have a barn that is conducive to nest box installation, you might try putting a nest box up on a pole or tree. Nest boxes should only be installed on trees as a last resort, since use of tree boxes by non-target species (raccoons and squirrels) is a problem in most areas of Kentucky.

Pole Boxes

Boxes can be fastened to a pole which is 20 ft or taller and placed in an area with good foraging habitat. Owls nesting in pole boxes may benefit from a predator guard at the bottom of the pole. Wrapping the pole tightly with 2 ft. of steel flashing at eye-level prevents most predators from climbing the pole. Boxes mounted on poles will likely require a different fastening system than that detailed below. Do not place barn owl boxes on power poles.

Tree Boxes

Barn owl boxes should only be installed on trees which meet the following standards:

- The trunk of the tree should be free of branches to at least 15 ft (branches can be trimmed.)
- The trunk of the tree must be of large diameter (at least 12" at the height of installation) so that the box hanger will attach properly.
- The tree should be nearly or completely surrounded by open habitat. Do not put the box in the forest.
- The tree should not have vines on the trunk. Vines can grow around the box, making it unattractive to barn owls.

Additional tips

- To avoid weather damage and deter chewing mammals, you may put a coat of exterior varnish on the exterior surface of the box. Do not paint the box.
- Hang the box at least 15 ft high. Higher is better.
- All hardware, screws and nails should be galvanized or exterior grade.
- There is no need to line the nest box. Owls will use their own pellets to pad eggs.
- Be sure there are no screws or nails sticking out in the interior of the box.
- This box design may make it harder on the birds to do their own housekeeping. You may clean the box out, every few years, using the door provided.
- Think about human disturbance when choosing a site. Do not put boxes by roads, as disoriented fledglings can be easily hit by cars.

List of Supplies/Tools

1 sheet (4'x8')— outdoor grade ¾" AC Plywood (front, back, sides, top, bottom, perch)
(Cedar boards may be substituted for plywood and are recommended for tree boxes to avoid chewing by squirrels).

1 - 2" x 2" board (Perch supports, hanger and top support)

1 - 1" x 2" board (Inside supports)

1 5/8" exterior screws – 1 lb

2 - 2" hinges

2 - Spring-loaded eye hooks

Exterior Varnish

Table saw or Circular saw

Jigsaw – for opening

Drill

Hammer

Chisel – to recess hinges into back wall

Cut Dimensions

Top Board Dimensions: 28" x 19"

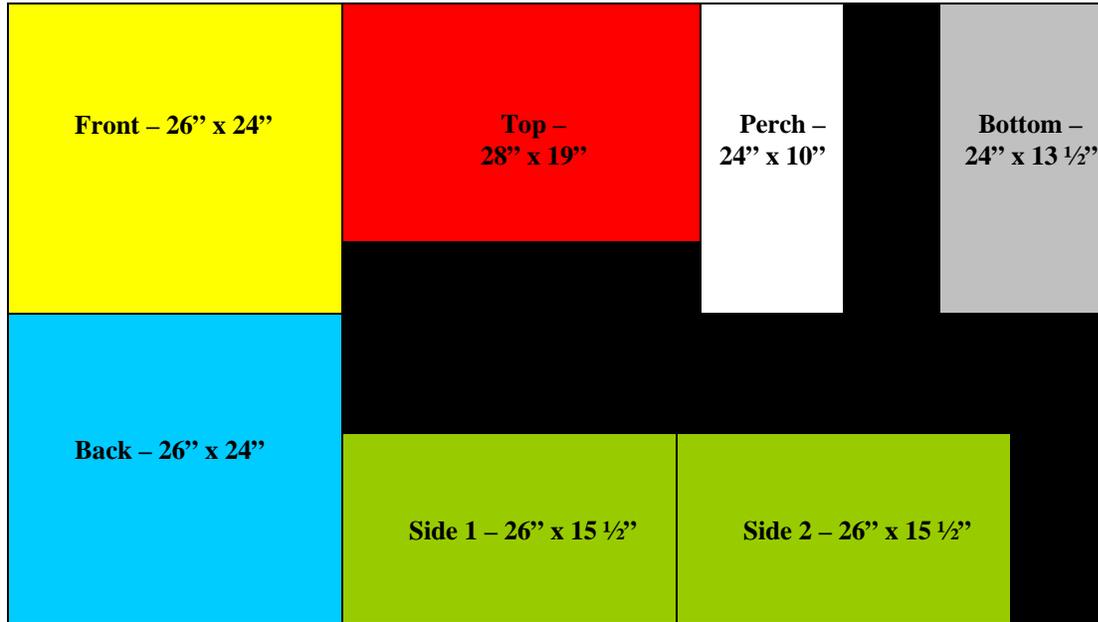
Bottom Board Dimensions: 24" x 13 ½"

Sides: 26" x 15 ½"

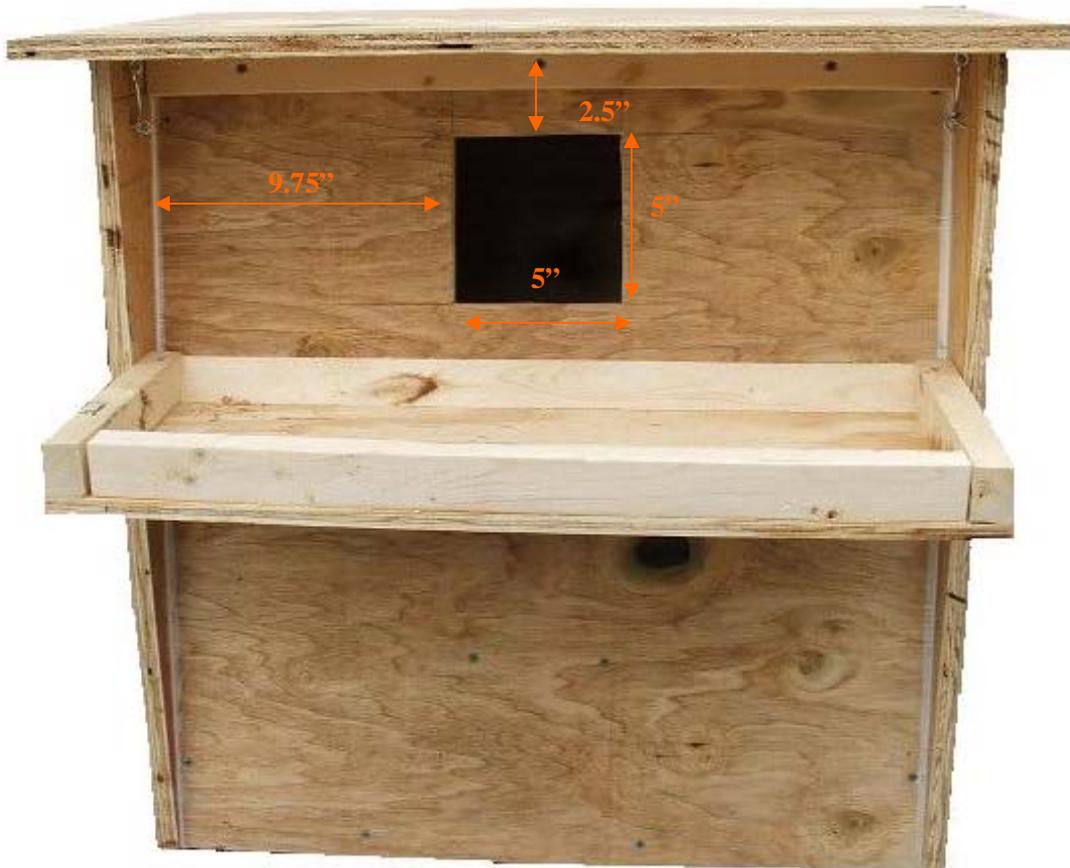
Front and Back Dimensions: 26" x 24"

Barn Owl Boxes for Trees and Poles cntd.

Begin by sawing a sheet of $\frac{3}{4}$ " AC plywood to the dimensions shown below. Each color depicts a different piece of the box. Black areas are scrap wood.



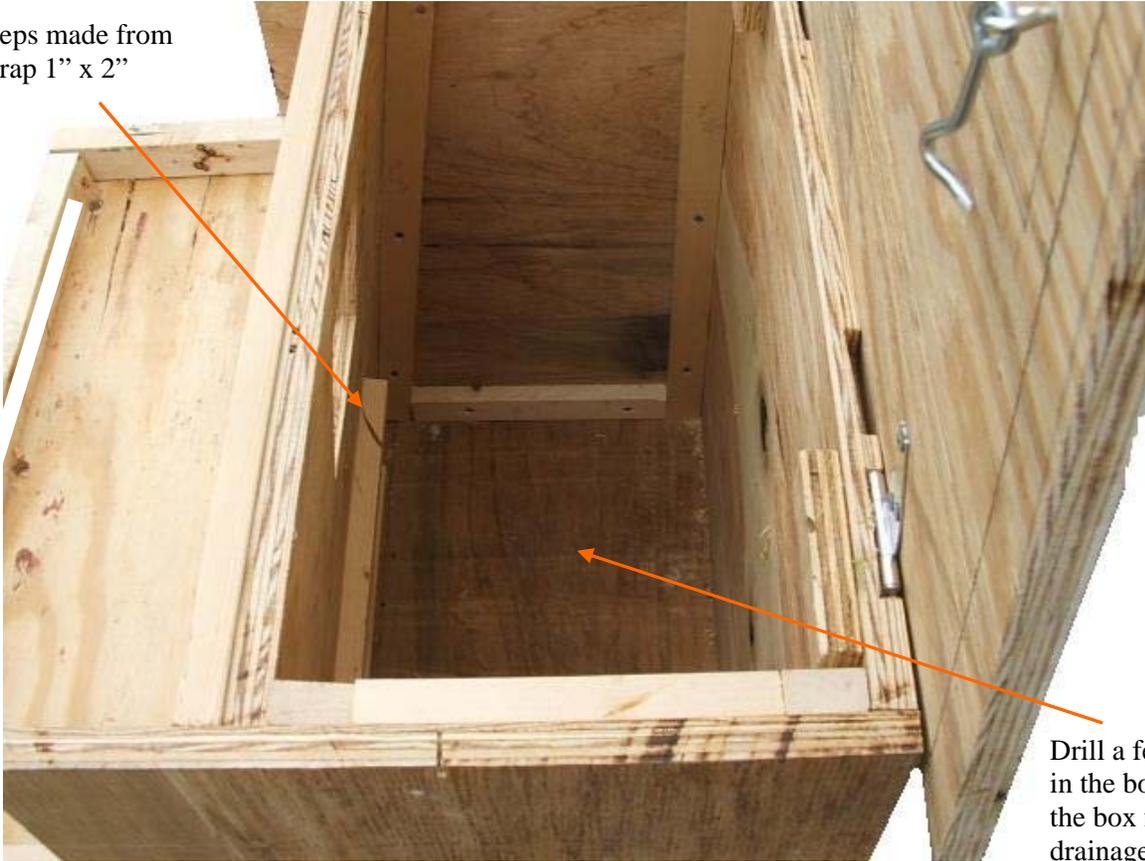
Cut a 5" x 5" in opening on the front. Screw two steps made from 1" x 2" boards to the inside of the front wall to aid owls in exiting the box.



Barn Owl Boxes for Trees and Poles cntd.

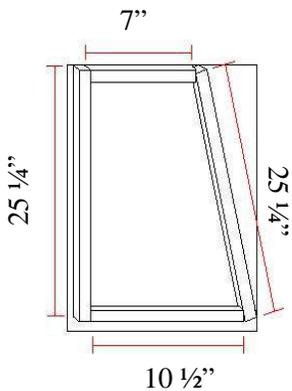
To assemble box: Use supports cut from 1" x 2" boards along each inside corner to assemble walls and bottom. Recess hinges into the back wall and ensure proper closure of the top. Place two hooks on the inside of the door to keep the lid closed during inclement weather.

Steps made from scrap 1" x 2"



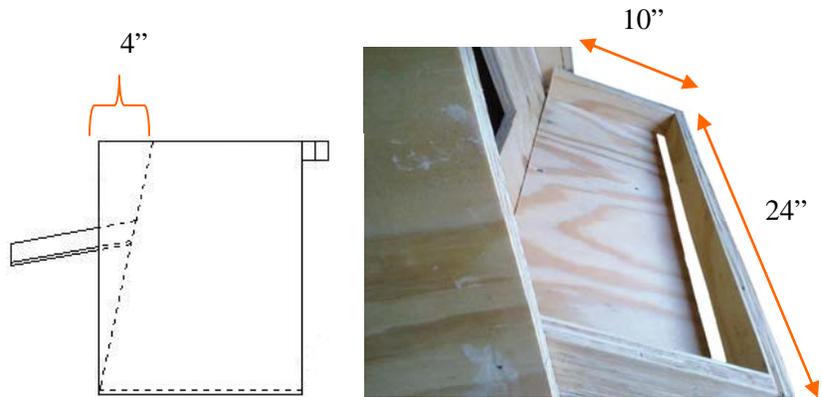
Drill a few holes in the bottom of the box for drainage.

View of unfinished side, showing support orientation.



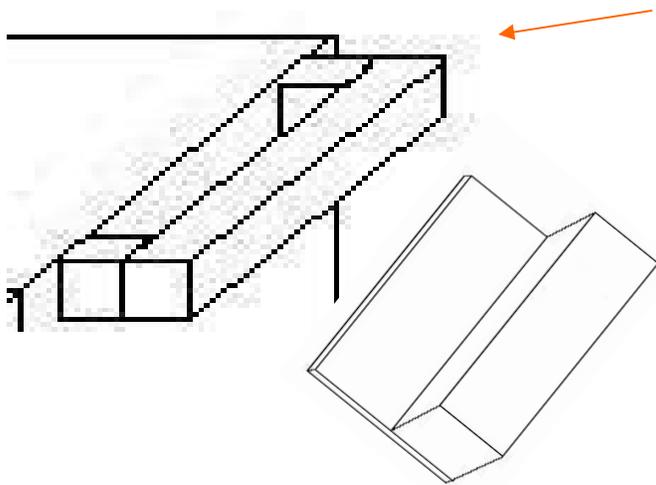
The front of the box angles back to keep rain from entering the box.

Views of finished side of box, showing orientation of perch and front.



The perch angles down slightly to allow for water drainage. The back piece of the perch is angled to keep flush with the front. To aid water drainage, a gap should be left or holes can be drilled toward the front end of the perch.

Potential System for Hanging the Box on a Tree or Pole



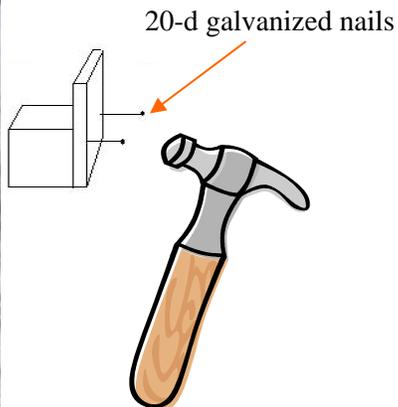
Use 2"x2" pieces to make the hanger piece which attaches to the box.

The hanger is the only part of the box that can be made out of treated lumber. This may help your installed box last longer.

Box Hanger on Tree

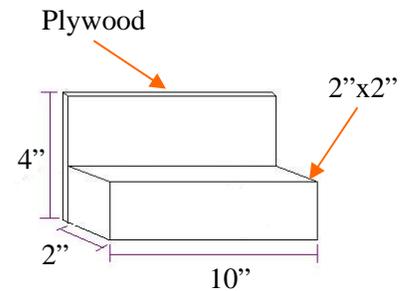


Nail hanger to tree as shown. Box should hang by its own weight from this hanger, but additional screws may be used to better stabilize it.



Box should hang level. Some extra bracing may be necessary.

Box Hanger



This piece attaches to the tree.

Example of Suitable Tree for Box Placement.

