

# Barn Owl Nest Box

**DNR**  
Indiana Department  
of Natural Resources



**STEP-BY-STEP BUILDING GUIDE**

# Materials List

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**Note:** Do NOT use treated wood.

- (2)** 2" x 4" x 8' studs
- (1)** 4' x 8' sheet of  $1\frac{1}{32}$ " thickness plywood
- (5)**  $1\frac{1}{4}$ " fence staples
- (1)** 2-3" hinge with a  $\frac{1}{4}$ " radius
- (1)** box of  $1\frac{1}{2}$ " or similar length screws

# Tool List

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- Power drill
- Drill bit for driving screws
- 1" spade drill bit (for door latches)
- $\frac{7}{16}$ " drill bit
- Circular saw or table saw
- Hammer
- Measuring tape

## Step 1 Cut 2" x 4" lumber

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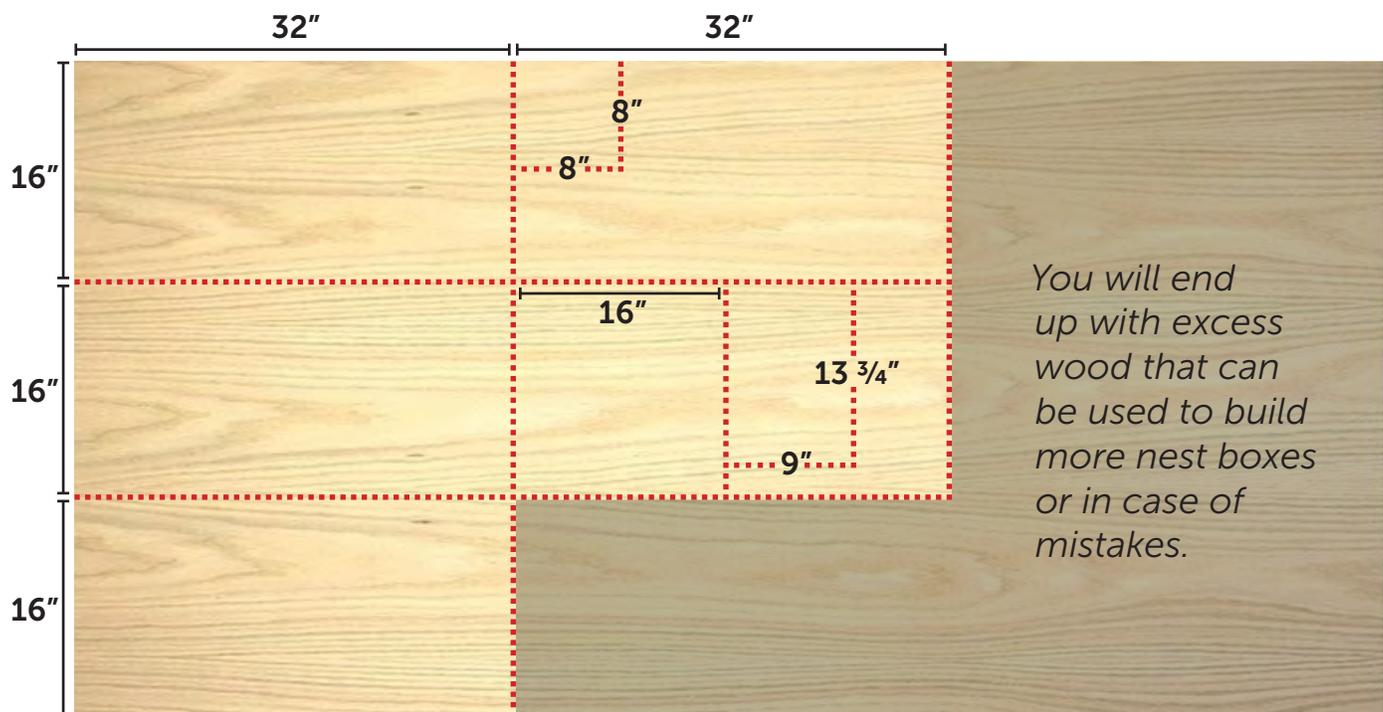
- Cut the two 2"x4"x8' boards in half lengthwise (a rip cut) to make four 8' long pieces.
- From one of the 8' boards, cut seven 12" long pieces.
- From two of the 8' boards, cut four 32" long pieces.

*You will end up with excess wood that can be used to build more nest boxes or in case of mistakes.*

## Step 2 Cut plywood

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- Cut the plywood sheet according to the diagram below.



## When finished cutting, you should have the following:

**7** 1½" x 1¾" x 12" boards for framing



**4** 1½" x 1¾" x 32" boards for framing



**3** 16" x 32" plywood panels for the top, bottom, and side #1



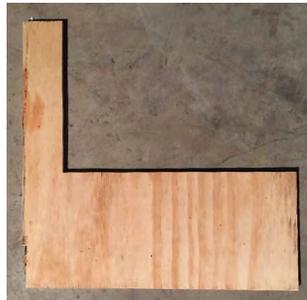
**1** 16" x 32" plywood panel with 8" x 8" cutout for side #2



**1** 16" x 16" plywood panel for the closed end



**1** 16" x 16" plywood panel with 9" x 13¾" cutout for the maintenance end



**1** 9" x 13¾" plywood panel for the maintenance door



## Step 3 Frame the bottom of the box

- Using four screws, attach a 32" stud to one long side of one of the 16" x 32" panels. *Make sure the ripped/rough side of the stud is against the plywood. Evenly space your screws.*
- Do the same on the opposite side.
- Using three screws, attach a 12" stud to one short side of the panel. *Make sure the ripped/rough side of the stud is against the plywood.*
- There should be one end that remains open.
- This will be the bottom of the box.



## Step 4 Attach side #1 to the bottom

- Using four screws, attach one of the 16" x 32" plywood panels to one of the long studs on the bottom of the box. This will be referred to as side #1 in the rest of the guide. *Evenly space your screws.*



## Step 5 Frame side #1 & attach side #2

- Using four screws, attach a 32" stud to side #1 opposite the bottom stud. *Make sure the ripped side faces the top of the nest box. Evenly space your screws.*
- Using six screws (three in each end), attach two 12" studs to side #1 on the remaining short sides. *Make sure the ripped side faces the outside of the box.*
- Using four screws, attach the 16" x 32" piece of plywood with the 8" x 8" cutout into the long stud, opposite side #1. This will be side #2.



## Step 6 Frame side #2

- Using four screws, attach a 32" stud to side #2 opposite the bottom stud. *Make sure the ripped side faces the top of the nest box. Evenly space your screws.*
- Using six screws (three in each end), attach two 12" studs to the remaining short ends of side #2. *Make sure the ripped side faces the outside of the box.*



## Step 7 Attach and frame the top

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- Using eight screws (four on each side), attach the remaining 16" x 32" piece of plywood to the long studs to make the top of the box.
- Using six screws (three in each end), attach two 12" studs to the top panel on the remaining short sides. *Make sure the ripped side faces the outside of the box. Evenly space your screws.*



## Step 8 Attach closed end

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- Using 12 screws (three on each side), attach the 16" x 16" piece of plywood to the end farthest from the cutout on side #2. This will make the closed end of the nest box.



## Step 9 Attach maintenance end

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- Using nine screws, attach the 16" x 16" piece of plywood with the maintenance end configuration to the end closest to the cutout on side #2. Make sure the opening of the maintenance end touches side #1 and the bottom of the box.



## Step 10 Attach the door

- Take the door (the 9" x 13 3/4" piece of plywood) and fit it properly into the space on the maintenance end.
- Screw in the hinge such that it attaches the door to the nest box. The door should open outward and towards side #2.



NOTE: If the end of the screws for the hinge protrude into the box, please take a piece of scrap plywood and place it behind the door. Then attach the hinge into place so the screw goes through the door and into the scrap wood. This will prevent the screws from injuring birds in the nest box.



## Step 11 Drill latch holes in door

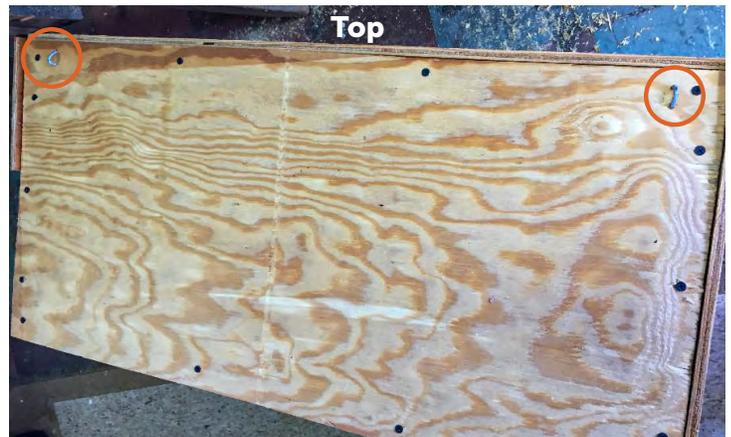
- Using a 1" spade drill bit, drill two holes on the side of the door farthest from the hinge (see photo for hole placement).



## Step 12 Attach fence staples

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- Close the door.
- Take two fence staples and place them inside the latch holes are.
- Hammer them in place, making sure the fence staples are hammered into the exposed stud and not the door. The door should still be able to open.
- Turn the box so that side #2 (the side with the opening) is on the ground.
- Take two fence staples and attach them to the far ends of the top. These are used for attaching wire to hang and anchor the nest box to the side of the barn.



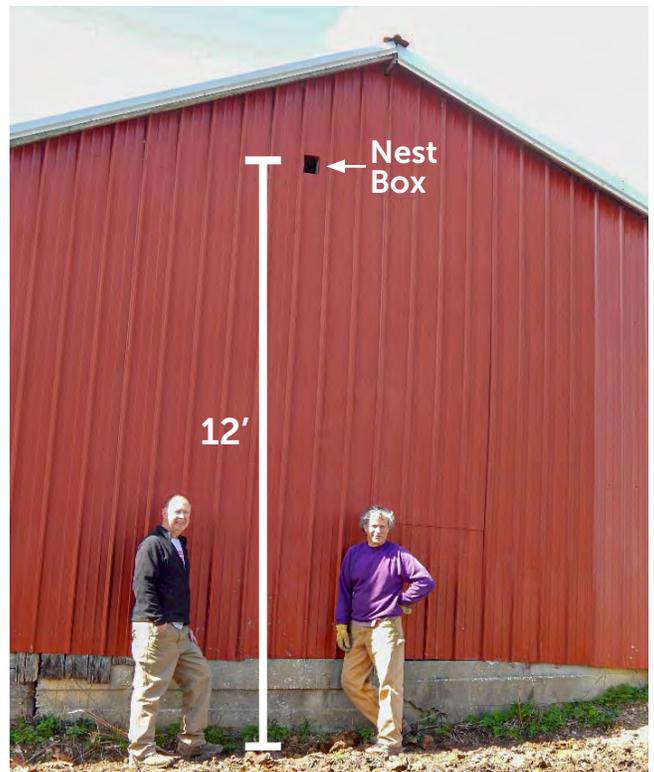
**You're Done!** Here's the finished product...

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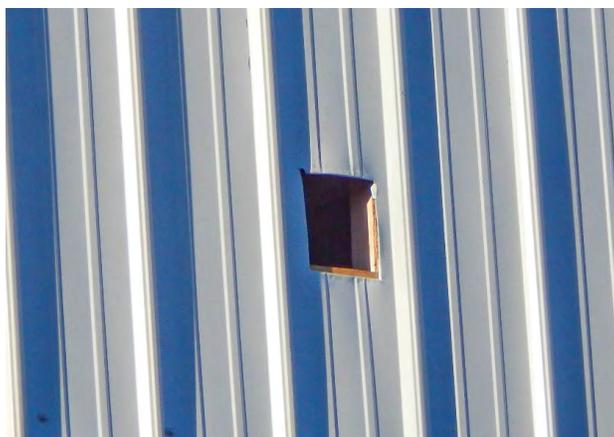
# Installation

- Select the “clean face” or end of a structure having few or no openings.
- Choose a crossbeam on which to mount the box.
- Cut a 6”x6” hole in the barn wall, providing a direct entrance into the box from outside the barn.
- The entrance hole should be at least 12 feet above the ground.
- Optional:* Instead of cutting a hole in the barn wall, use existing holes (like windows) by closing off the entire hole except for the box entrance hole.
- Be sure the maintenance door on the box can be opened.
- Mount the box by nailing it to the beam, or attach the sides of the box to the beam with L brackets or metal strapping tape.
- Provide additional support as necessary by bracing the box with 2” x 4” lumber or by attaching wire from the lower outside corner of the box to the wall.



# Tips for Cutting the Entrance Hole

- ❑ Before cutting, be sure to carefully measure the size of the box (length and height) and how far above the crossbeam to place the entrance hole. Don't forget to leave room on the box's maintenance end for the door to swing open.
- ❑ For metal siding, chose a flat area between ridges to make the 6" x 6" entrance hole. First cut an "x" across the hole, then fold back the sides to create four triangles and reduce sharp edges on the entrance hole (see photo at right).
- ❑ For wooden barns, cut half the hole on two pieces of barn siding, unless the siding is over 7" wide (see photo at right).
- ❑ Cut the lower lip of the entrance hole a half inch below the lip of the nest box. This will help keep owl feet away from sharp corners (in metal barns) and make sure an owl's leg won't get caught in the gap between siding (in wooden barns) (see photo at right).



# FAQs

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## **Q: Do I have to cut a hole in the barn?**

**A:** Boxes that open to the inside of a barn are accessible to raccoons, a common predator and skilled climber that kills adult barn owls and destroys their nests. It's better to not put up a nest box at all than to put up a box that is unsafe for owls.

Existing holes or windows in a barn can be "patched" by a box, but be sure to cover the entire hole to keep raccoons from climbing through the hole to reach the box. There should not be any other holes within 4' of the nest box entrance hole and ideally the entrance hole will be at least 4' from the roof of the barn to keep raccoons from accessing the box.

## **Q: When should a barn owl box be cleaned or maintained?**

**A:** Removal of pellets and maintenance of nest boxes should occur in January or February in Indiana.

## **Q: How high should I install my barn owl nest box?**

**A:** Typically, install your nest box so that it is at least 12 feet above the ground. If your barn is not big enough, you can attach it to a 12-foot pole near the barn and perhaps the barn owls will take to it.

## **Q: Why is the maintenance door on the side of the cavity?**

**A:** The maintenance door needs to be near the cavity because when boxes are cleaned out during the winter, some boxes may have active nests. Barn owls have been found to nest all throughout the year in the U.S.

If chicks are present, this allows the chicks to run to safety into the far, dark end of the box. This also prevents chicks from jumping out of the cavity and prematurely fledging.

## **Q: Why is the maintenance door near the bottom of the box?**

**A:** Barn owls will regurgitate the indigestible bones and fur of their prey as pellets. They'll leave the pellets in the box that then accumulates as a pellet mass, which grows over time.

The maintenance door is near the bottom of the box to allow for the easy removal of the pellet mass. The pellets can easily be scraped from the box in one motion, instead of having to scoop it out. Fast cleanings are important to reducing the disturbance to a nesting or roosting pair of barn owls.

## **Q: Why is the cavity near the top of the nest box?**

**A:** The cavity is near the top of the nest box to allow for the pellets to accumulate. Barn owls do not make nests out of sticks, but instead makes a nest out of the regurgitated pellets by shredding it and forming it into the shape of a cup.

The cavity is also near the top to prevent any chicks from falling out of the nest.