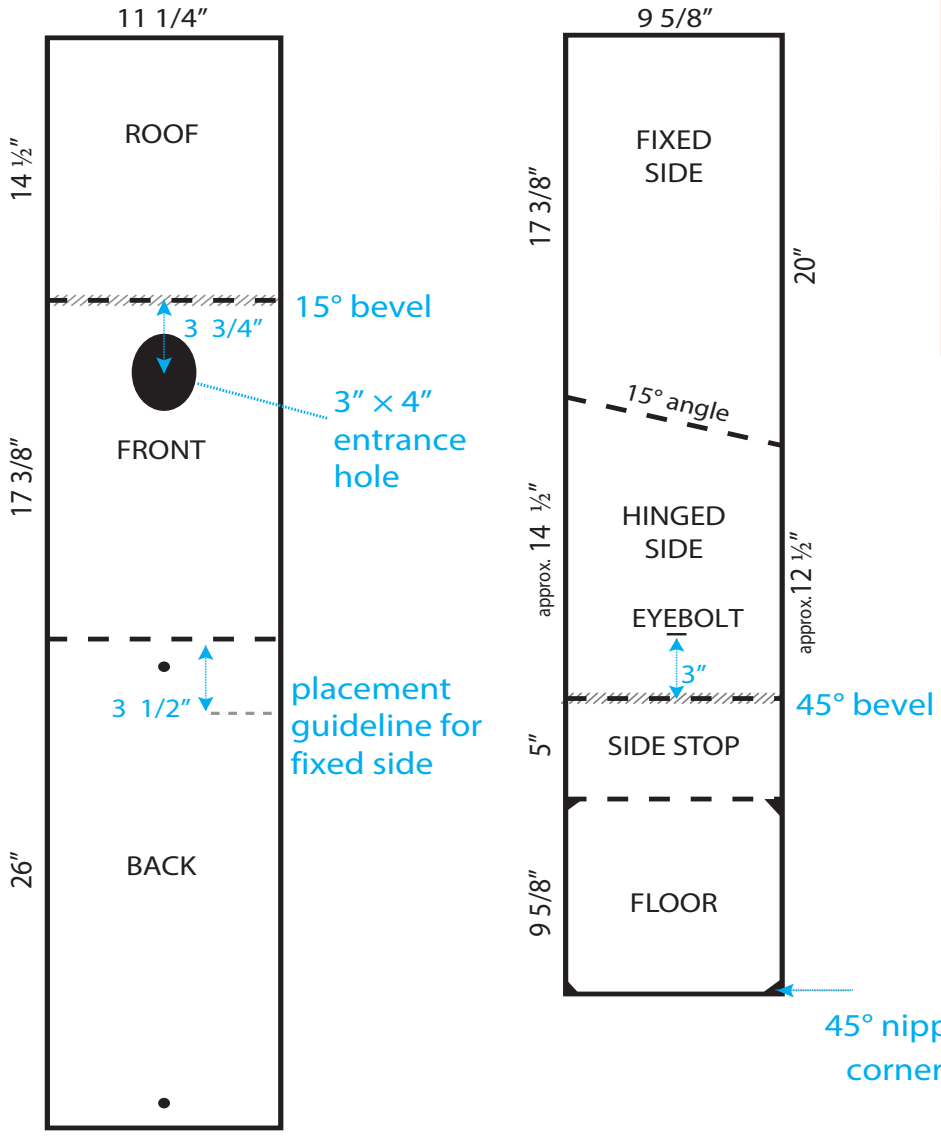
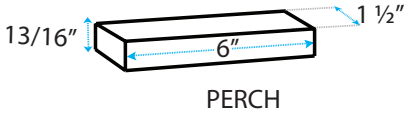
Nest Box

American Kestrel, Eastern and Western Screech-Owls, Boreal Owl, Northern Saw-whet Owl





Tip: The hinged side can be installed to either the right or left (pictured) side of the box's entrance hole, depending on the terrain at a prospective site or personal preference when monitoring.

1. Attach back to fixed side, then secure floor to back and fixed side.
2. Attach front (with oval entrance hole and inside perch) to fixed side and floor.
3. Attach roof to fixed side, front and back.
4. Cut 45° bevel across hinged side, check fit, and secure side stop to back, front and floor.
5. Finally, attach hinged side using #8 galvanized common nails.

Notes on Materials & Construction

- The side-opening design of the nest box (with side stop piece) ensures that the wood shavings, eggs and nestlings are secure, and is also suggested as a safer and easier way to access the box during monitoring visits when compared to a top-opening box.

- White pine, 1" × 12" rough-one-side planed boards (actual thickness 13/16") are recommended. Approximately 10' of lumber is needed per box. Cedar is also a good choice, but avoid using 1" thick rough-cut sawmill pine, which is harder to work with and creates a heavier nest box which can be unsafe to deal with during installation on post, tree, or building. **NOTE**: The plan above was designed using 13/16" thick boards; the width for the narrower pieces (9 5/8") are accurate only if the 13/16" thick lumber is being used. If #2 typical pine lumber (3/4" in actual thickness) is chosen, then the width for the sides, side stop and floor should be 9 3/4".

- If you cannot cut a 3" × 4" oval hole, a 3" round hole will suffice. A jigsaw can be used to cut out the oval, and 80 grit sandpaper works well as a tool for smoothing the raw edges.

- A miter or radial arm saw is useful for making the bevel and angle cuts, and for incidental trimming. Use a table saw to trim some of the 1" × 12" boards to 9 5/8" as needed (**see cut list on page 1**). If 3/4" thick lumber is being used, then trim width should be 9 3/4".

- For fasteners, 2" × #8 trim head type finishing screws screws are recommended. They are strong, easy to use, and most importantly, will not split the lumber near the ends of pieces (which may happen with standard decking screws or nails). Approximately 35 screws per box.

- Mark location for a 5/16" box mounting hole both at the top and bottom of the back piece, center them, and drill them 1 ½" in from the top and bottom edges. Two 5/16" × 3 ½" galvanized lag screws and washers can be used for mounting (use shorter lags when mounting boxes on utility poles or barn sides).

- If several boxes are needed, it is helpful to make a "jig" with support rails to assist in securing the back of the box to the fixed side, which is the first step in construction. Drawing a short guideline 3 ½" down from the top of the back is helpful for positioning these two pieces, which ensures adequate space (2 ½") at the top and bottom of the back for the lag screws used when mounting the box.

- The floor piece is recessed 1/8" in order to keep rainwater from seeping into the joints. Test the fit of this piece against the two sides, for width and depth, since it may need to be trimmed slightly. Nip off small 3/8" sided triangles from each corner before securing the floor. This ensures that however the box is mounted, any rainwater entering the box will find its way out at the lowest corner and drainage hole.

- A small perch piece is useful, secured horizontally inside the box, and centered 2" below the base of the entrance hole. A bead of construction adhesive on the perch helps it stay in place while the front is turned over, braced, and the perch screwed in place from the outside (using 2 screws, approximately 8" down from the roof, and 4" in from each side of box). Position block so that the thinner, 13/16" side is attached to the front piece, leaving a 1 ½" wide perch.

- When securing the front, carefully align it with the fixed side and trim the bottom edge of the front if necessary. You can also trim the lower edge of the side stop and hinged side if needed.

- Select a piece of wood without knots when cutting out the roof which will help with durability. Apply a thick bead of construction adhesive or high quality caulk to the beveled edge of the roof to create a totally weatherproof seal. Start by securing the roof to the fixed side, and then to the front. Make sure to put several screws through the back and into the rear edge of the roof to ensure a tight, waterproof joint.

- Cut the 45° bevel across the hinged side, with the cut edge of the upper part overlapping the lower part (shingle-like). Check for good fit with both pieces, leaving a 3/8" space below the top edge of the front to allow for hinging & ventilation. Secure the side stop piece to the front, back, and floor. It is helpful to drill small-diameter pilot holes before installing two or three screws to attach the side stop to the floor. This usually prevents any splitting of the side stop as drying occurs over time. Alternatively, the side stop can be made from an additional piece of wood, orienting the grain so it is perpendicular to that of the hinged side ,which decreases the chance of that smaller piece developing splits.

- The “hinge nails” for the hinged side are placed exactly in line with each other – use a combination square to mark the locations. Start with a mark for the nail on the front, 2" down from the top. Use a thin wood shim to hold the hinged side exactly in place, and a thin drill bit to make pilot holes for two #8 galvanized common nails before hammering them home in turn.

- To fasten the hinged side securely, use two 1 ¼" galvanized half-turn buttons at the top of the side stop, each placed 2" in from the edges of the box. A 5/16" × 2 ½" zinc-plated (or stainless steel) eyebolt provides a strong handgrip for opening the hinged side, which may be tight in humid weather. Drill a 5/16" hole, centered and 3" up from the bevel cut, and secure the eye bolt with a flat washer and lock nut on the inside of the hinged side.

- A single #8 galvanized common nail can be driven into the lower edge of the back piece, near the base of the fixed side and leaving only ½" of the nail head showing, which provides a useful place to hang a stuff sack filled with wood shavings when visiting the nest box for monitoring purposes.

- A light bead of high quality construction adhesive on all joined edges ensures a strong, weatherproof nest box with tight joints.

- Additionally, either construction adhesive or clear caulk can be used to seal any exposed end grain. This is helpful in limiting weathering in these susceptible areas and will measurably extend the life of the nest box. Thin latex or vinyl gloves can be worn while using a 1" wide putty knife (or fingers) to apply and spread a protective coating on the following:

    - Top and bottom edges of back and front edge of roof
    - Bottom edges of front and fixed side
    - Top and bottom edges of the hinged side and side stop