Building Barn Owl Boxes

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Introduction

Barn owls are excellent sources of rodent control, and their presence adds beauty and wonder to the environment. Habitat reduction has reduced their numbers, and an active program of owl box construction will help offset this.

The barn owl box, described in this note has been used successfully in the Silicon Valley area of California, near San Jose. Many other designs exist, but most of them use the dimensions quoted below for the entrance and box size for barn owls. Please refer to the section titled Barn Owl Internet Sources at the end of the document for other information, including how to site your box. Sections in this current note discuss materials, tool requirements, and box part dimensions.

The boxes are designed to be assembled with screws (though nails could be used) and waterproof (exterior) glue. The screws provide initial stability while the glue provides long term structural integrity. Depending on the material used, the screw pilot holes should be pre-drilled. These go through the outer piece only, through the sides, for example, but not into the material below.

Safety First

Wear safety goggles and be certain to read, understand, and follow all safety instructions with the tools used.
Acknowledgements

Many volunteers have contributed to the building of these boxes. Thanks go to Philip Rice, Jim Mason, Karl Gross, Ken Sherfy, and Sara Sherfy. The contributions of Dave Altknecht for his graphics work, Lee Pauser for his Web skills, and Natalia Daraselia for her artistry are gratefully acknowledged. The IBM Almaden Research Center deserves thanks for supporting community service including the owl project. This note is dedicated to the memory of Norman Watenpaugh of Gilroy, CA, an engineer with sensitivity for the environment and a devoted builder of owl boxes. The basic design of the box in this article came from Norman. It is one of many that he used over the years.

N. Daraselia, Age 12.
Tool Requirements

For making a few boxes, the following list of tools and materials is usually sufficient.

1. Safety goggles or safety glasses
2. Hand saw, electric circular saw, or power saw (table, radial or miter) for cutting the wood
3. Hand drill, battery powered portable drill/driver or drill press for drilling holes
4. Screwdriver or a battery powered portable drill/driver (as in c) for driving the screws
5. Drill bits to drill the access holes for screws. These should be of a diameter that just clears the threads of the screws. Bit assemblies which include a countersink are useful as the screw heads can then be set below the surface.
6. Screws: #6 or #7 Phillips head deck screws about 1-1/2” or 1-5/8”, approximately 50. Drywall screws are less expensive and can be used, but will rust and stain the box over time. If you care about long term cosmetics, use screws designed for exterior use, such as deck screws.
7. Waterproof (exterior) carpenter’s glue is preferred. Glue provides long term stability for the box. The yellow version carpenter’s glue is non-toxic and water soluble. It dries much more quickly than white glue. Examples are weatherproof Titebond II and Titebond III.
8. Glue brushes and small bottles (plastic) to hold the glue. Inexpensive metal flux brushes available at any hardware store can be used. At the end of the session, all can be saved for reuse by washing with soap and water before the glue sets.
# Barn Owl Box Parts List

Assumes ¾” exterior plywood stock (19 sq. ft.)

<table>
<thead>
<tr>
<th>Qty</th>
<th>Part</th>
<th>Thickness</th>
<th>Width</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Base &amp; cross support pieces (these are preferably solid Wood--not plywood)</td>
<td>¾”</td>
<td>1 ½”</td>
<td>23 7/8”</td>
</tr>
<tr>
<td>1</td>
<td>Bottom</td>
<td>¾”</td>
<td>23 7/8</td>
<td>16</td>
</tr>
<tr>
<td>1</td>
<td>Roof</td>
<td>¾”</td>
<td>25 3/8</td>
<td>22</td>
</tr>
<tr>
<td>1</td>
<td>Front</td>
<td>¾”</td>
<td>23 ¾</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>Side (10 degree bevel at top to match sides)</td>
<td>¾”</td>
<td>23 7/8</td>
<td>(21 ¼, 18 5/32)</td>
</tr>
<tr>
<td>1</td>
<td>Back (optional, 2” x 4” stock)</td>
<td>1 ½”</td>
<td>3 ½</td>
<td>30</td>
</tr>
</tbody>
</table>

Also:

- 2 Lag Bolts ¼” x 2” (hinge for front)
- 2 Washer, ¼” for Lag bolt
- 50 ea (approximately) 1 ½” deck screws (#6 or #7)
- Glue, exterior carpenters (yellow), such as Titebond II or Titebond III
Front is 23 ¾” w x 16” high. Entrance is 6” wide and 8” high with edges about 2” from sides of the front. Upper front cross support piece is 23-7/8” long, and is mounted centered on the front with 1/16” protruding on each end.
DRILL AND CSINK FOR #6 OR #7 DECK SCREWS (9x)

DRILL 1" VENT HOLES (5x) APPROX. 3" SPACING

DRILL 1/4" HOLE FOR LAG SCREW HINGE

SIDE
ROOF

DRILL AND GLUE FOR #6 OR #7 DECK SCREWS (9x)
BOTTOM

- DRILL AND CSINK FOR #6 OR #7 DECK SCREWS (14x)
- DRILL 1" VENT HOLES (4x) FOR DRAINAGE AND AIR
- Attach cross support to strengthen front closure

23 3/8" SPACING
6 1/2" SPACING
2 1/8"
3/8"
3 1/2" SPACING
Assembly Side View

Note: Additional interior bracing and hardware may be needed for mounting.
Mounting the Box

The box should be mounted 12-20 feet high, in a tree, on a building, or on a pole. This is a heavy box, so ensure you have the resources to do the mounting. Whatever method is used, remember that you’ll want access to it to clean it out. The front can be raised for this purpose (remove the lower screws). More information can be found in the Barn Owl Internet Sources (below).

The box shown is mounted about 15’ in the air on a 6” x 6” pole, set in concrete and pieced together with two bolts such that it can be lowered for cleaning.
Barn Owl Internet Sources

http://www.scvas.org/
Web address for Santa Clara Valley Audubon Society (SCVAS) in Cupertino, CA. It is the source for information in this region

http://www.audubon.org/
This is the online site of the National Audubon Society. An enormous range of information is available and links are given to other sites.

http://www.bsc-eoc.org/regional/barnowlbbox.html
Barn owl box plans with a further discussion of location and mounting.

http://ourworld.compuserve.com/homepages/DTrapp/barnowli.htm
Extensive discussion (worldwide basis) on barn owls, including several barn owl box plans.