

# Northern Saw-whet Owl Nest Box Plans

*Aegolius acadicus*

Building a home for the Northern Saw-whet Owl brings one of the forest's most enchanting, pint-sized predators right to your doorstep. These tiny, yellow-eyed owls are incredibly charismatic and are surprisingly willing to adopt a well-placed, deep-cavity nest box in dense, evergreen-heavy habitats.

## Nest Box Specifications

<b>Entrance hole</b>	3 inches (76 mm)
<b>Floor dimensions</b>	7.75 x 7.75 inches (197 x 197 mm)
<b>Interior depth</b>	10 inches (254 mm)
<b>Mount height</b>	10-20 feet (3-6 m) above ground
<b>Facing direction</b>	East or southeast, away from prevailing winds and protected from the hot afternoon sun

Select a location in a dense stand of conifers or mixed woodland where the owl feels secure from larger raptors. Avoid wide-open areas or meadows; instead, mount the box on the edge of a thicket or within a grove of evergreens. Ensure there is a clear flight path to the entrance, but keep the box relatively hidden by nearby branches.

## Cut List

From a 1x10 x 8 ft

Panel	Dimensions	Qty	Notes
<b>Back</b>	9.25" x 22"	1	Provides 4" mounting tabs at top and bottom
<b>Front</b>	9.25" x 14"	1	Drill 3" entrance hole centered 10" from the bottom
<b>Side</b>	7.75" x 14"	2	Cut top edge at a 10-degree angle to match roof slope; fits between front/back
<b>Roof</b>	9.25" x 12"	1	Overhangs the front to shed rain; bevel the back edge to 10 degrees for a flush fit

<b>Floor</b>	7.75" x 7.75"	1	Drill four 1/4" drainage holes and recess 1/4" up from bottom
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*The front, back, and roof are the full 9.25" width of the 1x10 board. The sides and floor are ripped down to 7.75" to fit between the front and back panels. Always use galvanized screws to prevent rusting in the damp woodland environments these owls prefer.*

## Materials & Construction

**Wood:** 3/4-inch (19 mm) untreated cedar or redwood. Avoid pine if possible, but if used, ensure it is well-sealed on the exterior only.

**Boards:** A single 1" x 10" x 8' untreated cedar board provides enough material for all panels with room for kerf cuts.

**Hardware:** 25x 1-5/8" galvanized deck screws, 2x 2" exterior wood screws (for hinge side), 1x bag of kiln-dried pine shavings, 4x 3" lag bolts for tree mounting

**Ventilation:** Leave a 1/4" gap at the top of both side panels under the roof to allow heat to escape during late spring.

**Drainage:** Drill four 1/4" holes in the corners of the floor and slightly recess the floor into the box to prevent moisture from wicking up.

**Predator guard:** Install a 4-foot stovepipe baffle on the mounting pole to stop raccoons and snakes. If tree-mounting, place the box on a trunk that is isolated from the canopy to prevent squirrels from jumping onto it.

## Materials Checklist

- 1x 1" x 10" x 8' cedar board
- 25x 1-5/8" galvanized deck screws
- 1x bag of kiln-dried pine shavings
- 3" hole saw or spade bit
- Drill and 1/8" pilot bits
- Measuring tape and carpenter's pencil
- Table saw or circular saw
- Stovepipe baffle for mounting pole
- 4x 3" lag bolts (if tree mounting)
- 80-grit sandpaper for smoothing edges
- Exterior wood glue (optional for joints)

## Seasonal Timeline

**Install:** Late autumn to early winter; these owls begin scouting territories as early as February.

**Nesting start:** In the Northeast and Midwest, nesting typically begins in late March or April. Southern and coastal Western populations may start as early as late February, while high-elevation Western nests may not begin until May.

**Clutch size:** 4-7 eggs (usually 5-6)

**Incubation:** 26-29 days

**Fledging:** 27-34 days after hatching

**Cleaning:** Clean the box in October or November. Remove all old material and debris, scrub with a mild bleach solution, and crucially, add 2-3 inches of fresh pine shavings as Saw-whets do not carry their own nesting material.

## Regional Considerations

Northern Saw-whet Owls breed across the northern United States and southern Canada, extending south into the mountainous regions of the West and the Appalachians. They are most likely to use nest boxes in areas with heavy coniferous cover or mixed deciduous-evergreen forests.

Nesting is heavily influenced by the 'mast' year of local trees, which dictates mouse and vole populations. In years with low prey, they may skip breeding entirely, while in boom years, they may start earlier and have larger clutches.

Raccoons, squirrels, and larger owls (like the Barred Owl) are the primary threats. A deep box with a 3-inch hole prevents larger owls from reaching the brood, while a pole baffle is the most effective defense against climbing predators.

## Camera Placement

For the Northern Saw-whet Owl, an interior camera is essential due to their nocturnal nature. Because these owls are highly light-sensitive, you must use a camera with infrared (IR) LEDs that are invisible (940nm range). Mount the camera in the upper corner of the ceiling, angled down toward the floor, ensuring the lens is tucked away from the entrance to prevent lens flare from moonlight.

Since Saw-whets are small, a compact USB-powered interior camera works perfectly. Ensure all cables are securely stapled to the interior walls and routed through a small notch at the top of the side panel to

prevent the owls from snagging their talons. Avoid any cameras with visible white lights or status LEDs, as these will disturb the brooding female and may cause nest abandonment.

For external monitoring, a wide-angle trail camera or a Wi-Fi outdoor camera mounted on a nearby tree 6-10 feet away provides excellent footage of the adults arriving with prey. This species is famous for 'freezing' when they feel observed, so remote viewing via Wi-Fi is much less intrusive than physical nest checks.

The interior view is particularly rewarding for this species, as you can observe the female's meticulous care of the eggs and the development of the fluffy owlets. Position the camera to capture the floor area where the female will spend the majority of her time during the month-long incubation period.

### **Powering with a USB solar panel**

Mount a 5V USB solar panel with a built-in battery 1-2 ft above the box on the same post, angled 30-45 degrees from vertical and facing south. Run the USB cable down the post inside split loom conduit (squirrels will chew unshielded wire), enter the box through the same grommeted hole as the camera cable, and seal with exterior silicone. Choose a panel with a 5-10 Ah battery buffer so the camera runs through cloudy days.

## **Common Problems & Solutions**

**Lack of nesting material:** Unlike songbirds, owls don't carry nesting material. You must provide 2-3 inches of clean pine shavings for the female to scrape into a cup; without these, the eggs will roll and fail to hatch.

**Squirrels taking over:** Mount the box on a metal pole with a baffle or use a 3-inch entrance hole which is too small for many larger squirrels but just right for Saw-whets.

**Box filled with mouse nests:** Deer mice often move into these boxes in winter. Clear out their grass and stick nests in February before the owls arrive, and replenish the wood shavings.

**Bees or wasps:** Check the box in early spring; if a colony starts, wait for a cold morning to safely remove the nest. Rubbing unscented bar soap on the interior ceiling can discourage them.

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