

Eastern Bluebird Nest Box Plans

Sialia sialis

The Eastern Bluebird is a vibrant, beloved songbird that offers builders a front-row seat to one of nature's most rewarding nesting cycles. Known for their gentle warble and striking plumage, these birds are highly responsive to well-placed boxes in open landscapes, making them an ideal project for any backyard naturalist.

Nest Box Specifications

Entrance hole	1.5 inches (38 mm)
Floor dimensions	4 x 4 inches (102 x 102 mm)
Interior depth	8 inches (203 mm)
Mount height	4-6 feet (1.2-1.8 m) above ground
Facing direction	East or southeast, facing an open field or lawn to avoid the hot afternoon sun and provide a clear flight path.

Place the box in an open area with short grass, such as a meadow, orchard, or large lawn. Ensure it is at least 100 yards (91 m) away from other bluebird boxes to prevent territorial disputes, and keep it away from dense undergrowth where house wrens or predators may hide.

Cut List

From a 1x6 x 6 ft

Panel	Dimensions	Qty	Notes
Front	5.50" x 9.25"	1	Drill 1.5" entrance hole 6.5" from bottom, centered. Score horizontal lines inside below hole for fledglings.
Back	5.50" x 16"	1	Extends above and below the box for easy mounting to a post or pole.
Side (Door)	5.50" x 10.75"	1	Angled top (10 degrees). Attach with one screw at top to serve as a swing-open door for cleaning.

Side (Fixed)	5.50" x 10.75"	1	Angled top (10 degrees) to match roof slope.
Roof	5.50" x 11"	1	Provides a 2-inch overhang at the front; consider using a 1x8 scrap for wider side coverage.
Floor	4" x 4"	1	Recessed 1/4" up from bottom of sides. Clip corners for drainage.

The majority of the box is built from standard 1x6 stock (5.5" actual width). By using a side-opening design, you allow for easy monitoring. The floor is cut slightly smaller (4") to fit snugly between the 3/4" thick side walls.

Materials & Construction

Wood: 3/4-inch (19 mm) untreated cedar, pine, or redwood. Never pressure-treated.

Boards: A single 1" x 6" x 6' untreated cedar board yields all primary panels, though a wider scrap for the roof is recommended.

Hardware: 20x 1-5/8" galvanized deck screws, 2x 2" exterior wood screws for mounting, 1x 1-1/2" galvanized nail or pin for door latch, Optional: predator guard (copper or wood) for the entrance

Ventilation: Leave a 1/2-inch gap between the top of the side walls and the roof to allow heat to escape during the summer.

Drainage: Clip 1/2-inch off each corner of the floor panel and drill four 1/4-inch holes to ensure the nest remains dry after heavy rain.

Predator guard: Install a 4-inch diameter stovepipe baffle on the mounting pole below the box. Additionally, use a 1.5-inch thick wood block over the entrance hole to prevent raccoons from reaching inside.

Materials Checklist

- 1x 1" x 6" x 6' cedar board
- 20x 1-5/8" galvanized deck screws
- 1x 1-1/2" galvanized nail (for door latch)
- 1-1/2" hole saw
- Drill and 1/8" pilot bit
- Measuring tape
- Speed square
- Handsaw or miter saw

Hammer
Sandpaper (80 grit)
Mounting pole (1" EMT conduit recommended)
Stovepipe baffle
Exterior wood glue (optional)

Seasonal Timeline

Install: Late January to early February in the southern US; mid-February to early March in the northern US and Canada.

Nesting start: In the Southeast, nesting can begin as early as March. In the Northeast and Midwest, activity typically peaks in late April or May. Southern populations may raise up to three broods, while northern birds usually raise one or two.

Clutch size: 3-7 eggs (usually 4-5)

Incubation: 12-14 days

Fledging: 15-20 days after hatching

Cleaning: Remove the old nest immediately after the young fledge to encourage a second brood. Perform a deep clean with a stiff brush at the end of the season.

Regional Considerations

Eastern Bluebirds breed across the eastern half of North America, from southern Canada down to the Gulf Coast and into parts of Central America. They are most common in regions with open woodlands and agricultural edges.

Nesting begins earlier in lower latitudes and at lower elevations where spring temperatures stabilize sooner. In the north, start dates can be delayed by several weeks if a late-season cold snap occurs.

Raccoons, snakes, and domestic cats are the primary threats. A properly installed stovepipe baffle on a metal pole is the most effective way to prevent these predators from reaching the nest box.

Camera Placement

Eastern Bluebirds are excellent candidates for both internal and external AI-powered monitoring. For internal views, a small USB-powered wide-angle lens mounted to the underside of the roof (the "ceiling") provides a perfect top-down view of the nest cup, eggs, and the feeding process. Ensure the

camera is tucked into the corner furthest from the entrance to avoid blocking the birds' flight path.

If using an external camera like a Blink or a trail cam, mount it on a separate post approximately 4 to 6 feet away from the entrance. This "porch view" captures the dramatic arrivals of the parents with insects and the eventual fledging of the chicks. Position the camera facing North or South to avoid the lens flare of the rising and setting sun.

For AI detection, bluebirds are bold and active during the day, so standard motion-triggering works well. However, ensure your camera has infrared (IR) capabilities for nighttime monitoring, as the female will spend significant time incubating in total darkness. Avoid any cameras with visible white LED lights, which can disturb the nesting cycle or attract predators.

Recommended Hardware: A high-definition interior bird box cam with a ribbon cable routed through the ventilation gap is ideal for the nest interior. For exterior shots, a weatherproof wireless camera with a 1080p resolution and AI-animal detection ensures you don't miss any of the action while keeping the setup clutter-free.

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 grommited 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

House sparrow competition: Use an exact 1.5" entrance hole. If sparrows persist, use a 'sparrow spooker' after the first bluebird egg is laid or relocate the box further from human structures.

Wasps building inside: Apply a thin layer of unscented bar soap to the interior ceiling in early spring to prevent combs from adhering.

Blowfly larvae in nest: If you notice larvae during monitoring, gently lift the nest and remove them, or replace the bottom layer of nesting material if it is heavily infested.

Ants entering the box: Apply a small ring of automotive grease or 'Tanglefoot' to the mounting pole well below the box and baffle.

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