

Prothonotary Warbler Nest Box Plans

Protonotaria citrea

The Prothonotary Warbler, often called the 'Golden Swamp Warbler,' is the only eastern warbler that nests in cavities, making them a unique and rewarding species to host. By placing a custom box near or over water, you can witness their brilliant yellow plumage and melodic songs in your own backyard wetland habitat.

Nest Box Specifications

Entrance hole	1.25 inches (32 mm)
Floor dimensions	4 x 4 inches (102 x 102 mm)
Interior depth	6 inches (152 mm)
Mount height	4-7 feet (1.2-2.1 m) above water or damp ground
Facing direction	South or southeast, ideally facing out toward open water or a forest clearing to avoid prevailing winds

Mount the box on a pole over standing water or within 100 feet of a forested wetland edge. Space boxes at least 100 feet (30 m) apart to reduce territorial disputes and avoid areas with heavy insecticide use, as these birds rely on aquatic insects.

Cut List

From a 1x6 x 6 ft

Panel	Dimensions	Qty	Notes
Front	5.50" x 8.50"	1	Drill 1.25" entrance hole 6.5" from bottom, centered
Back	5.50" x 16"	1	Extends 4" above and 3.5" below box for mounting; pre-drill screw holes
Side (Fixed)	5.50" x 9.50"	1	Angle top edge from 9.5" back to 8.5" front for roof slope
Side (Hinged)	5.50" x 9.25"	1	Shorten by 1/4" at bottom for opening clearance; hinge at top with two screws

Roof	5.50" x 9"	1	Provides a 2-inch front overhang to protect the entrance from rain
Floor	4" x 4"	1	Recess 1/4" inside the walls; trim corners 1/2" for drainage

All panels are cut from a standard 1x6 (5.5" actual width). The floor must be ripped to 4" wide to fit between the two side panels. The hinged side should be fastened with two screws near the top to act as a pivot point for cleaning.

Materials & Construction

Wood: 3/4-inch (19 mm) untreated cedar or cypress. Never use pressure-treated wood or paint the interior.

Boards: One 1" x 6" x 6' untreated cedar board yields all six panels

Hardware: 20x 1-5/8" galvanized deck screws, 2x 1-1/2" brass or stainless steel hinges (optional, or use pivot screws), 1x small gate latch or screw eye, 2x 3" mounting lag bolts, 1x 1/2" wire mesh floor liner (optional)

Ventilation: Leave a 1/4" gap between the top of the side panels and the roof, or drill two 3/8" holes in the upper sides.

Drainage: Clip the four corners of the floor panel at a 45-degree angle (1/2" across) to allow for moisture drainage.

Predator guard: Since these boxes are often over water, a 36-inch (91 cm) stovepipe baffle or a large conical metal guard is essential to stop climbing raccoons and water snakes. Ensure the pole is smooth metal (conduit or pipe) rather than wood.

Materials Checklist

- 1x 1" x 6" x 6' cedar board
- 20x 1-5/8" galvanized deck screws
- 2x 1-1/2" brass or stainless steel hinges
- 1x screen door hook or latch
- Exterior wood glue (non-toxic)
- 80-grit sandpaper
- 1-1/4" (32mm) hole saw or spade bit
- Drill and 1/8" pilot bit
- Measuring tape and pencil

Handsaw or miter saw
Stovepipe baffle for predator protection
1/2" or 3/4" metal conduit for mounting pole

Seasonal Timeline

Install: Install by late March in the Southern US and by mid-April in the Northern range to catch early arrivals.

Nesting start: In the Southeast, nesting typically begins in early April as cypress swamps warm up. In the Midwest and Northeast, birds arrive later, with nesting usually commencing by mid-to-late May. Timing is closely tied to the emergence of aquatic insect populations.

Clutch size: 4-6 eggs (usually 5)

Incubation: 12-14 days

Fledging: 10-12 days after hatching

Cleaning: Clean the box immediately after the first brood fledges, as they often raise two broods per year in southern climates. Conduct a final thorough cleaning in late autumn.

Regional Considerations

This species breeds across the Southeast, Mid-Atlantic, and Midwest US, specifically in bottomland hardwood forests and wooded swamps. Their range extends as far north as southern Ontario and west to eastern Kansas and Oklahoma.

Nesting begins significantly earlier in the Deep South due to warmer temperatures and earlier insect emergence. High-water events in river basins can occasionally flood low-mounted boxes, leading to second-attempt nests later in June.

The primary threats are raccoons and rat snakes, which are excellent swimmers and climbers. A metal pole with a properly installed stovepipe baffle is the most effective way to prevent these predators from reaching the cavity.

Camera Placement

For Prothonotary Warblers, a small, high-resolution USB 'cube' camera or a specialized bird box camera is the best choice for interior viewing. These birds build nests using deep layers of moss, so the camera should be mounted to the ceiling looking straight down to ensure the lens isn't obscured as the

nest grows taller during the season.

Because these warblers often nest in shaded swampy areas, an IR-capable (night vision) camera is mandatory. Even during the day, the interior of a box in a wooded swamp is often too dark for standard color sensors without supplemental infrared light. Avoid cameras with bright white LEDs, as these can disturb the mother while she is brooding.

Cable routing requires careful planning; notch the back panel at the top corner to allow the USB or power cable to exit without being pinched by the roof. If using a wireless camera, ensure your home Wi-Fi signal reaches the wetland area, or consider a long-range outdoor access point. For those without power at the water's edge, a solar-powered exterior camera mounted on a nearby tree can capture the spectacular sight of the male feeding the female at the entrance.

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

House Wren competition: Avoid placing boxes too deep in the dry brush; House Wrens prefer thickets, while Prothonotaries prefer open water or very damp ground.

Box flooding: Check historical water marks on trees; mount the box at least 4 feet above the highest anticipated spring flood level.

Blowfly larvae: If the nest appears damp and infested, the moss base may need a light cleaning after the first brood to ensure a healthy second brood.

Wasps: Rub a thin layer of unscented bar soap on the interior roof in early spring to prevent paper wasps from attaching their combs.

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