

Nest Box Proposal for the Laramie River Greenbelt Trail

By Benjamin Fleet



Importance of Nest Boxes:

According to a recent study conducted by the Cornell Lab of Ornithology, North America has lost over 3 billion birds in the last 50 years (Rosenburg 2019). Native birds have seen a severe decline in quality habitat and an increase in competition from invasive bird species like the House Sparrow and European Starling. Increasing nesting habitat and resource abundance for native birds is an important undertaking if bird diversity and population numbers are to be conserved into the future. The Laramie River Greenbelt Restoration Project has been quite successful in restoring vegetation and riparian habitat along the Laramie River, which is a positive step in supporting native bird species in the Laramie area. However, more can be done to increase native bird diversity and population numbers. There are many native bird species that occur along the Greenbelt that are considered secondary cavity nesters, meaning they use previously excavated holes to nest in. These secondary cavity nesting birds will also use nest boxes to hatch and rear their young. Nest boxes are a fantastic tool to increase nesting habitat in resource-rich areas and increase the number of birds that stay in an area, as well as birds that return to an area following spring migration. Nest boxes are cheap to purchase or construct, are easily installed on existing structures, and require little maintenance/upkeep. An increase in nest boxes along the Laramie River Greenbelt Trail would be a cheap and easy way to support native bird nesting opportunities and provide a hands-on educational opportunity for the youth of Laramie in the form of nest box observation and reporting. An abundance of native birds in an area, as any birder knows, is a beautiful and engaging experience that brings one closer to the natural world and inspires an appreciation for all parts of an ecosystem.

Target Species for Nest Box Installation:

While there are numerous secondary cavity nesting species that reside along the Greenbelt, this proposal focuses on three native species that are known to use nest boxes: Mountain Bluebirds, Northern Flickers, and Tree Swallows. Mountain Bluebirds are insectivores that prefer open grassland habitat and nesting in boxes attached to the top of poles or fence posts. Northern Flickers are large woodpeckers that prefer sparse woodland habitat with some trees and open flyways. They will nest in boxes attached to live or dead trees. This proposal includes this woodpecker species because they will still excavate their own holes on occasion, which will increase the availability of holes for other cavity nesters. The Tree Swallow's preferred habitat is near water, with tall grasses present, as they too are insectivores that catch their prey on-the-

wing. Tree Swallows will use nest boxes attached to posts or poles. The Laramie River Greenbelt has all these habitat types in some capacity, including the necessary structures to accommodate nest boxes.

The Problem with House Sparrows:

House Sparrows are an invasive and abundant species across North America and are found in high numbers in the Laramie area. House Sparrows also nest in cavities, especially around buildings, but they will use nest boxes as well. House Sparrows are bully birds when it comes to nesting opportunities, as they will attempt to push out native birds that have nested in a box, or they simply get to the box first and fiercely defend it. One way to combat House Sparrows attempting to nest in boxes is to use fishing line placed at the entrance hole of the box and on the top of the box. House Sparrows feed mainly on seeds and have poorer eyesight than native cavity nesting species. The fishing line adds a negative visual stimulus that the sparrows



have trouble deciphering, while native birds ignore the line. All nest boxes that are currently in place along the Greenbelt and any that would be added in the future should have this fishing line installed to help ward off House Sparrows. This technique is not 100% effective, and if House Sparrows do take up residence in a box, their nest can be removed by hand to discourage further use.

Nest Box Requirements: Northern Flicker

As previously stated, Northern Flickers prefer sparse woodland with open flyways and boxes placed on living or dead trees. The nest box should be placed at a height of 6-12ft off the ground, facing South or East. Northern Flickers nesting season falls between May and July. The box should be tilted forward and include ¼” deep kerfs carved into the inside of the front panel spaced ½” apart to help the fledglings climb out of the box. This is what is known as a “fledgling ladder”. The box should be filled to the brim with wood chips when the box is installed. A diagram for the construction of a Northern Flicker nest box is included in the appendix.

Nest Box Requirements: Tree Swallow

Tree Swallows prefer fairly open habitat, near water, with tall grasses to hunt over top of. The nest box should be placed at a height of 5-6ft and facing South or East. Tree Swallows' nesting season is Mid-May to Mid-July. Tree Swallows also benefit from a fledgling ladder. A fledgling ladder can also be made by stapling a piece of hardware cloth to the inside of the front panel. Tree Swallows line their boxes with feathers, so providing some chicken feathers inside the box can be beneficial. Tree Swallows and Mountain Bluebirds both use a similar nest box, and a diagram for both is included in the appendix.

Nest Box Requirements: Mountain Bluebird

Mountain Bluebirds prefer open grassland habitat, with a few perching structures. The nest box should be placed at a height of 4-6ft, and should face East. Mountain Bluebirds' nesting season is from April to August. If the nest box is placed near a roadside, the box should face away from the road to limit the road disturbance to the Bluebirds.

Budget:

The cost of building a nest box can be very low. Using scrap cedar lumber and any screws one has on hand helps to defray costs but purchasing new cedar lumber is still fairly cost effective. Bloedorn Lumber here in Laramie currently has 1" x 6" x 10' Western Red Cedar boards for \$35.59. One 10' board is enough lumber to build at least one nest box, so to build three boxes, lumber costs would be estimated at \$106.77. A significant cost to build a nest box is for tools. Many people have at least some of the tools necessary, and if all the tools can be brought together from a few individuals then the cost can be completely negated. Tools needed for the build are screws, a hand drill with appropriate screw bit, a hole coring bit that is the appropriate size for the target species, and a circular saw.

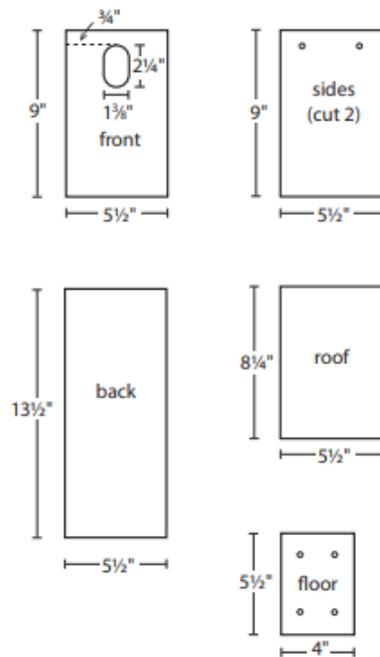
Appendix

Nest Box

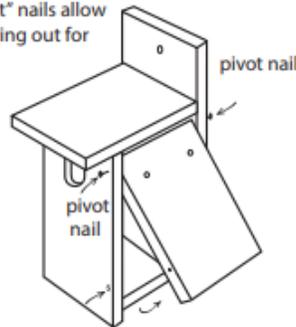
Eastern, Western, and Mountain Bluebirds;
Tree and Violet-green Swallows

Note: Western Bluebirds need a 1½" diameter round entrance hole and Mountain Bluebirds need a 1⅞" diameter round entrance hole. Swallows are smaller than bluebirds and will be able to enter holes 1 ⅜" or larger.

Eastern Bluebird

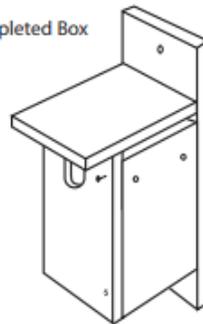


Two "pivot" nails allow side to swing out for cleaning.



Use a nail or screw at bottom to keep side closed.

Completed Box



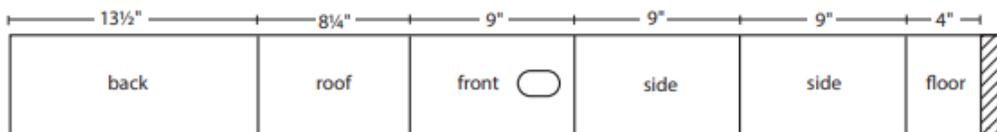
Increase Your Chances of Nest Box Success!

Information on natural history, habitat, nest box placement, and management for Midwestern birds is available in *Woodworking for Wildlife*. Order at minnesotasbookstore.com



Note: these dimensions are for ¾" thick board. Some cedar boards are 5/8" thick. If so, the floor must be 3¾" wide, not 4".

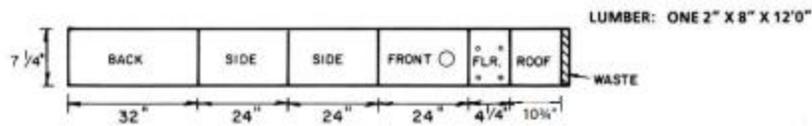
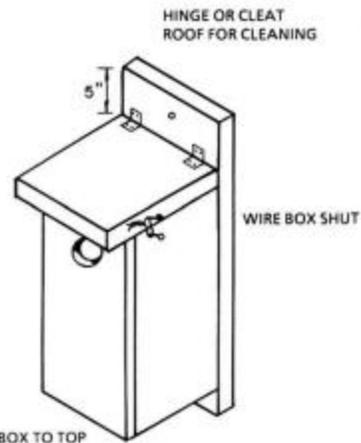
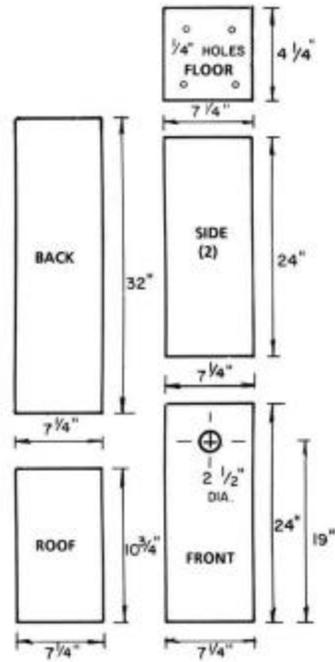
Lumber: 1" x 6" x 6'



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The **Cornell Lab** 
NestWatch
Report your nesting birds to
NestWatch.org

Nest Box Plan for Northern Flicker



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References

- [NestWatch | Right Bird, Right House - NestWatch](#)
- eBird by The Cornell Lab of Ornithology ([Illustrated Checklist - Laramie River Greenbelt Trail, Albany County, WY, US - eBird Hotspot](#))
- Rosenberg, Kenneth V., et al. "Decline of the North American avifauna." *Science* 366.6461 (2019): 120-124.
- [Build a Nesting Box - ICPRB \(potomacriver.org\)](#)