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Best Practices method for mounting wood duck boxes

No Ladders and No Trees

Story and photo by Roger Strand

Fifty years ago I was up there too – balancing on a shaky extension ladder in March checking my tree-mounted wood duck boxes. Over the years since then I've made about every mistake possible while managing wood ducks and nest boxes. Like everyone else, my biggest mistake was hanging the boxes on trees, and as high as I could. Not good. In time, the talented squirrels, mink, and raccoons on my farm figured out that those odd rectangular boxes were either great nest sites (squirrels) or food shelves (mink and raccoons.) There is a much better way for both humans and hens, and it does not involve either ladders or trees.

Background: Wood duck hens evolved to nest in natural tree cavities. A recent study showed that only about 20% of such nests were successful. Failed nests and dead hens were mostly due to raccoon predation. While it might seem natural to mount an artificial nest box on a tree, it is difficult to protect such a box from climbing mammalian predators. On the other hand, it's simple to exclude these predators from accessing a box mounted on a pole. Hens readily accept the pole versions with attached predator guards and have a great chance to be successful. Furthermore, studies have shown that hens actually prefer low-mounted boxes. Higher is not better, only more dangerous and difficult.

The Method: The Wood Duck Society has endorsed a "Best Practices" method of box mounting. It involves bolting a wooden box to a pole, with the hole just six feet from the ground. A metal cone predator guard is placed below it. The box has a side-opening door, which allows walk-up monitoring. One good plan for building such a box was designed by the late conservationist, Don Helmeke. Both the box plan and this discussion of the Best Practices method can be downloaded free on this website, <www.prairiepotholeday.com> or at <www.woodducksociety.com>.

Material Sources: Cedar nest box kits are available from the Minnesota Waterfowl Association (MWA) <www.mnwaterfowl.com>. Cone predator guards and supporting brackets may be purchased here at MWA's Prairie Pothole Chapter website <www.prairiepotholeday.com>.

Cone Rationale: No predator guard is 100% effective, but this one comes very close. In northern Minnesota, bears remain unimpressed, and avian predators (woodpeckers) are, of course, not deterred. Cone guards are widely recognized as the best deterrent against egg-eating rat snakes and their kin. Bellrose and Holm, in their classic text, *Ecology and Management of the Wood Duck*, stated: "When constructed to the proper dimensions and snugly fitted, cone shields provide the best available protection against pole-climbing predators." On my own 100 box unit, on a wooded farm loaded with raccoons, mink, and squirrels, I shifted in desperation to this technique over 30 years ago. The mammalian predation rate promptly plummeted to zero and it has stayed there (really!)

Constructing a cone guard: With a minimum of instruction, teenagers at MWA's Woodie Camp make it look easy – and it is. Dangling PVC pipe guards may deter swimming predators on overwater poles, but have been unreliable for me on land-based, walk-up poles. Squirrels have usually been the first to figure out that they can scramble up a PVC pipe once it has lost its initial sheen. Overwater poles eliminate the squirrels, but not the need to deal with boats, waders, changing water levels, and ice-out pole-bending.

Poles and construction details: Eight-foot long, 4"x4" wood posts, treated for ground contact, work well and are readily available. Using a post hole digger, carve a hole two feet deep. Place post, then tamp dirt firmly around its base. You now have a "tree" right where you want it. Bolt the box to the post so the entrance hole is six feet from the ground. If discarded metal stop sign poles are available from the local highway department, pole placement is even easier and can then be done in wet areas. For metal

poles, bolt two 40 degree angled support brackets to the pole below the box, then wrap a three foot diameter sheet metal cone guard over them. The skirt edge of the cone should be at least three feet from the ground. A Vise-Grip pliers will hold the overlapped edges of the cone in position. Using a portable drill, affix 1/4" diameter carriage bolts through both edges. Then bolt cone to the brackets. Use lock washers. For 4"x4" wood posts, when ordering from this website, choose the "MWI" type cone. No brackets are needed since the MWI cone has four "wings" which are bent back to fit snugly around the post. Drill pilot holes through wings, then use deck screws on fender washers to attach wings to post. No gaps remain for snakes or mice to access box. Watch construction videos on this website. Paint the cone an earth-tone color.

Placement: Ideally, choose a site near a wooded area and close to a clean wetland with a strong aquatic insect population. Both the egg-laying hen and her ducklings require a diet rich in aquatic invertebrates. Face the hole toward flight lanes or an adjacent wetland. If you're lucky enough to live near good habitat, angle the box so you can see part of the hole from your breakfast window. Squirrels can leap eight feet horizontally from tree trunks, and drop eleven feet from overhanging limbs, so plan accordingly.

Heat: Pole-mounted boxes are seldom in complete shade. Boxes made of metal, insulated plastic, and even plywood, when exposed to direct sunlight on hot June days, can become too hot for the hen and her eggs. White paint and vent holes help, but it's better to choose boxes built with natural wood. Wooden boxes have been shown to be the best at resisting heat build-up.

Teaching Bonus: By using the Best Practices mounting method, youngsters can not only help construct the box, but can also safely participate in placing and monitoring their new box. Watch for the smiles when small children climb on top of a foot stool and find out they are nose to nose with (and can touch) a growing clutch of eggs.