LANDOWNERS FOR WILDLIFE

Landowners for Wildlife
Private Lands Program

Wood Duck Nest Boxes

By Jason Olszak, Wildlife Biologist

One of the most successful wildlife conservation stories of the last century is the recovery of the wood duck from extremely low population levels of the early 1900s. An obligate cavity nester (requiring some type of cavity for nesting), the wood duck's scarcity resulted from a combination of unregulated harvest and forested wetland losses. Their recovery, present day abundance and distribution were aided in part by a period of restricted harvest and the large-scale use of artificial nest cavities in wetland areas where natural cavities were scarce or absent. Now very abundant throughout Louisiana, "woodies" are the fourth or fifth most common bird in the bag of Louisiana duck hunters.

The first artificial nest cavities were developed and used in Illinois in the late 1930s. Their effectiveness led to widespread use and promotion by game agencies and private conservation organizations. The boxes are easy to build, inexpensive and most importantly, highly effective. Most boxes will be used the first year if they're located in suitable habitat and accessible to wood ducks before the breeding season begins.

Breeding hens regularly return each spring to the same region from which they hatched (sometimes the same wetland or even the same cavity). Therefore, box usage will increase once returning hens produce successful broods of ducklings. Nest boxes are also regularly used by a variety of other wildlife (see below).

Many private landowners, especially those interested in wildlife management, build their own nest boxes and erect them on their property. With a basic knowledge of wood duck biology and life history, a landowner can easily manage a successful nest box program that supplements the local wood duck population.

TECHNICAL ASSISTANCE

Louisiana Department of Wildlife and Fisheries (LDWF) Private Lands Program biologists are available to assess property and evaluate the potential benefits of placing wood duck boxes. Agreements may also be made to have department staff erect and maintain an appropriate number of nest boxes on the property free of charge.

LDWF file photo

POTENTIAL USERS OF NEST BOXES

Wood Duck	Eastern Bluebird
Hooded Merganser	Starlings
Black Bellied Whistling Duck	Squirrels
Screech Owl	Raccoons
Flicker	Opossum
Prothonotary Warbler	Insects: Bees,
Carolina Wren	Wasps,
Great Crested Flycatcher	Mud daubers

Examples of good nesting and brood-rearing habitat

LDWF file photos

NESTING HABITAT

Wood ducks nest in every parish of Louisiana, but breeding wood duck densities are greatest in the Mississippi and Red River alluvial plains. These two geographic areas contain the largest acreage of forested wetlands within the state. Productive wood duck breeding habitat includes secluded swamps, oxbows, lakes and bayous, but wood ducks will utilize nest cavities located in and around most water bodies. Marsh ponds, catfish and crawfish ponds, rice fields and even borrow pits and urban recreational ponds will attract nesting wood ducks.

Most nesting begins in March or April, although some experienced hens will begin nesting in early February. Hens may start nests in several different cavities before settling on a preferred site. They generally lay one egg per day until the last of a 10-12 egg (average) clutch is laid. The nest is lined and insulated with feathers the hen plucks from her own breast. After the last egg is laid, incubation begins and continues for 29-31 days. All ducklings in a nest hatch within hours of each other. After their downy feathers dry and they gain strength and muscular control, they leap from the nest to the water or ground below to the calls of the hen.

BROOD HABITAT

Although wood ducks will attempt to nest almost anywhere a cavity can be found, more hatched ducklings does not always translate into more ducks in the population. The availability of brood habitat is the most important consideration when deciding where to place nest boxes. After hatching, a duckling cannot fly for 50 days. During this time they must feed, rest and most importantly, avoid predators. If hatched in a wetland with poor brood habitat, a hen will often lead her brood overland in search of a suitable wetland. This overland trek is a very dangerous endeavor for flightless ducklings.

It is therefore essential that nest boxes be placed in the immediate vicinity of or directly within high quality wetlands. Backyard fishing ponds, city park ponds and other water bodies with open water and clean shorelines do not contribute significantly to overall wood duck productivity. The best brood rearing habitat contains an abundance of emergent aquatic vegetation such as cattails, pond lilies, lotus, sedges and rushes, and woody overhead cover such as buttonbush and black willow.

PREDATORS

NEST PREDATORS

The top predators of wood duck nests in Louisiana are rat snakes and raccoons. Depredation by these species can be minimized by proper nest box placement and correct use of a predator guard. **Boxes should never be affixed directly to a tree trunk**, and they should be located over water in an area devoid of overhanging tree limbs or vines. Proper placement of predator guards will ensure that climbing predators cannot reach the nest box from below.

DUCKLING PREDATORS

Newly hatched ducklings have many predators and a mortality rate of greater than 70 percent. In the nest box, fire ants, raccoons and rat snakes can destroy both eggs and freshly hatched ducklings. Once ducklings can fly, their survival rate increases greatly. Quality brood habitat provides needed protection from predators.

LDWF file photo

LDWF file photo

DUMP NESTING

Nest parasitism is the use of a single nest by more than one hen. Although wood duck hens are capable of incubating and hatching another bird's eggs, dump nesting often results in abandonment of the nest and a subsequent loss in productivity. The biggest contributors to dump nesting are other wood ducks, hooded mergansers and to a lesser extent, black bellied whistling ducks.

The average clutch size for a wood duck nest is 12 eggs, but clutch sizes can easily exceed 14 eggs per box. Any box with 15 or more eggs is generally thought to be a dump nest. Dump nests may be used by several hens and often contain in excess of 30 eggs.

Dump nesting is largely attributed to a lack of sufficient nest cavities or an artificially high density of nest boxes. Individual nest boxes should always be visually isolated from each other and/or arranged in secluded locations. Nest box duplexes (multiple nest boxes on a single pole) often result in dump nesting and, consequently, abandoned nests.

NEST PREDATORS

Raccoon
Rat Snake
Squirrel
Fire Ant
Flicker
Starling
Woodpecker

DUCKLING PREDATORS

Raccoon
Coyote
Alligator
Turtle
Heron
Raptor
Mink
Bobcat
Snake
Fish
Owl

Nest boxes should never be affixed directly to a tree.

Wood duck physiology allows hens to attempt a new nest if preceding attempts have failed. Second and third nest attempts, however, result in smaller clutches.

Wood ducks in the south may successfully hatch two nests in the same breeding season.

Photo by Adrian Pingstone

CONSTRUCTING YOUR OWN NEST BOX

One of many effective plans for building your own nest box is presented here. Inside dimensions of a box typically range from 9 inches to 12 inches square with a wide variety of access door designs. Rough-cut cypress or cedar is the most commonly used wood due to its weather resistance. For this plan, the entire box can be created from an 8-foot by 11-inch by 1-inch board.

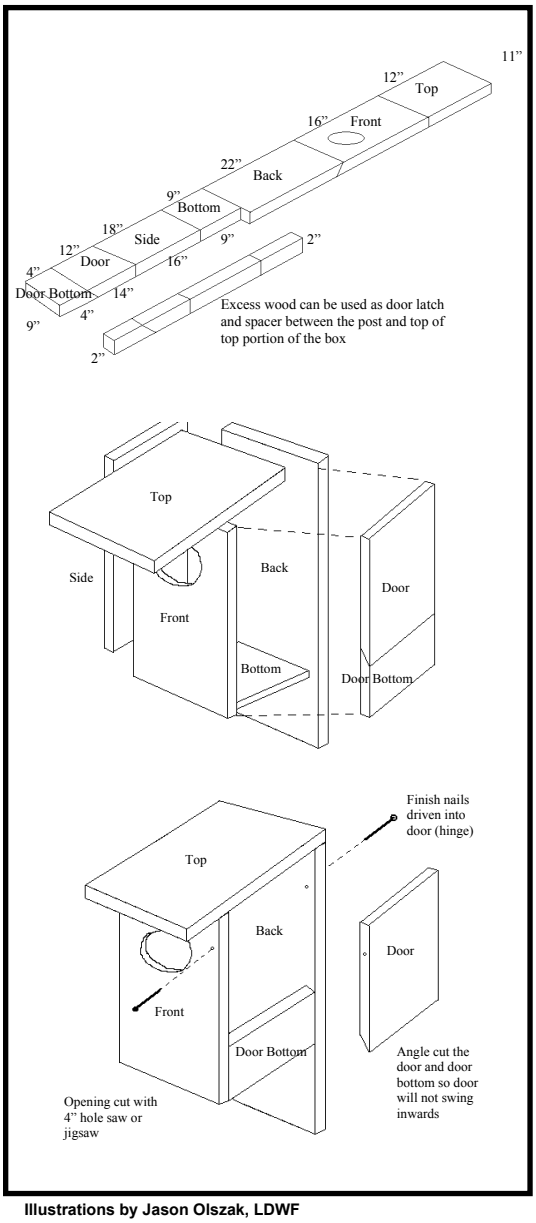
Cut out and nail pieces as shown. A 4-inch by 3-inch oval or 4-inch circular hole should be cut into the front of the box near the top, making sure the overhanging roof will not impede entrance. Rough-cut wood is necessary for ducklings to use their sharp claws to climb to the opening and jump out. If using smooth wood, a section of hardware cloth or window screen stapled to the front interior of the box just below the entrance hole will provide ducklings a climbing substrate. Two finishing nails driven through the front and back of the box, and into the left and right sides of the door will serve as a hinge for cleaning access.

At least 3 inches of wood shavings (not saw dust) should be placed in the box bottom for hens to use in constructing a nest bowl. This will then be lined with breast feathers to insulate the eggs as they incubate.

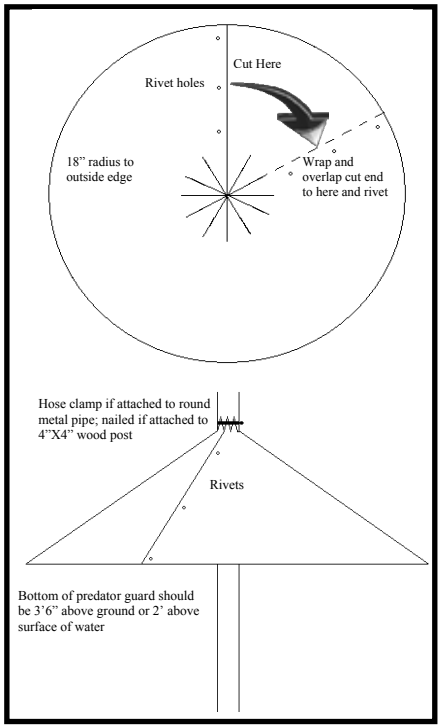
Boxes should never be affixed directly to a tree. Both the predator guard and the box should be placed on treated 4-inch by 4-inch wood posts or 2-inch metal pipe, preferably mounted above water to reduce fire ant predation. Attach boxes to wooden posts with any variety of hardware. U-bolts can be used to attach boxes to pipes. Overhanging branches and climbing vegetation should be cleared from the vicinity of the nest box.

Predator guards can be constructed from 26-gauge galvanized sheet metal, riveted or bolted together to form a cone with a 2-foot radius. Guards can be attached to the pole directly under the nest box with metal hose clamps or nails. Attach the guard first before mounting the box. Predator guards will not prevent fire ant predation.

Finally, annual maintenance of nest boxes is a must. Old nest material, eggshells, insect nests and un-hatched eggs must be discarded. New wood shavings should be added each December or January prior to the nesting season. If a successful nest has already hatched, a second addition of new shavings in April or May could help produce a second nest.



Illustrations by Jason Olszak, LDWF



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