

Wildlife Management: Wood Ducks

The wood duck (*Aix sponsa*) has often been called the most beautiful of all waterfowl because of its resplendent plumage. Overhunted throughout its range in the United States and Canada during the years prior to the passage of the Migratory Bird Treaty Act, the "woodie" was almost extinct by the turn of the century. Stricter laws and prudent conservation management practices, however, successfully helped the wood duck make a remarkable comeback. Currently, there are between 3 and 4 million Wood Ducks in the U.S. and Ontario, and the species ranks second or third in popularity among hunters in the Atlantic and Mississippi flyways.

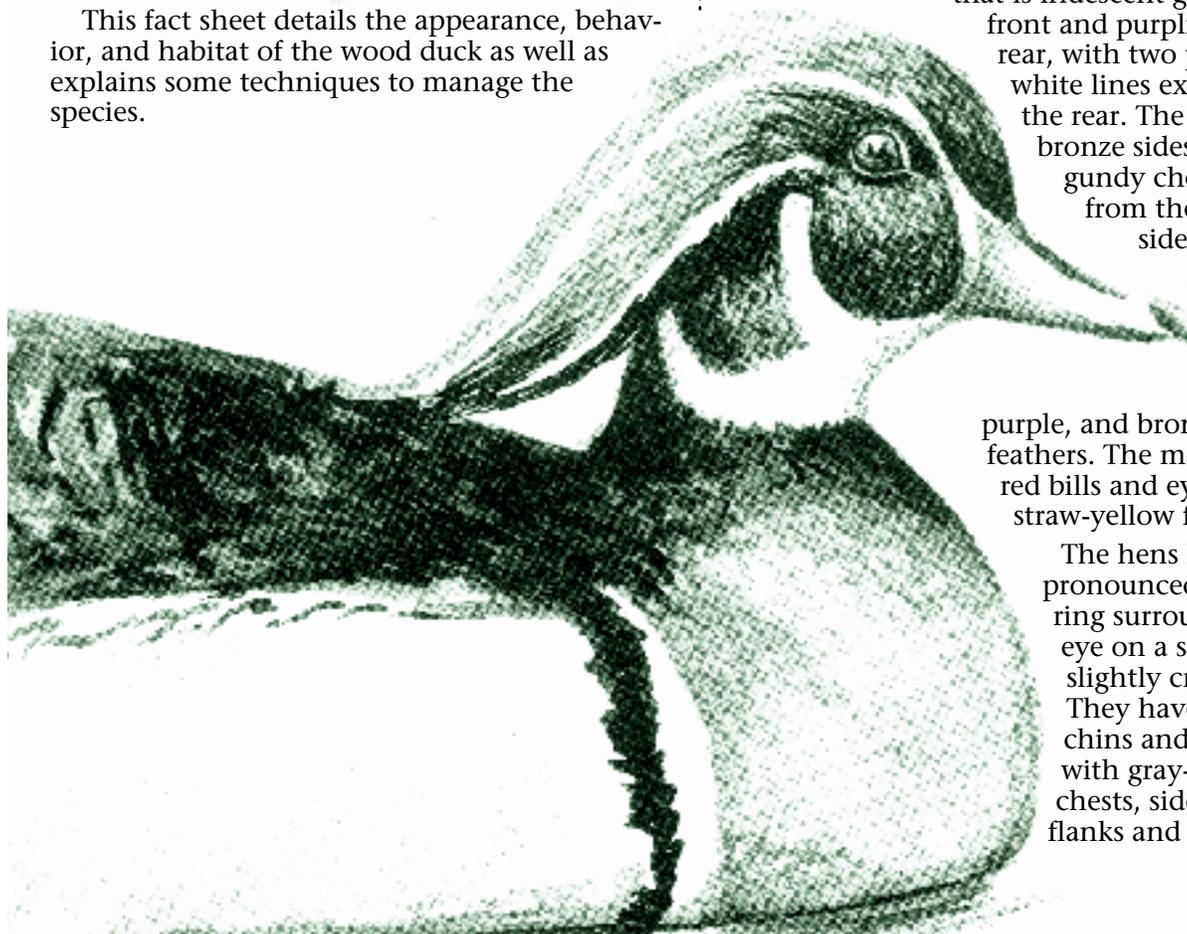
This fact sheet details the appearance, behavior, and habitat of the wood duck as well as explains some techniques to manage the species.

Physical Characteristics

Wood Ducks are commonly referred to as summer ducks, acorn ducks, swamp ducks, and squealers, and woodies. The average wood duck is 17 to 18 inches long, with a wingspan of approximately 28 inches. Drakes (males) weigh approximately 1.5 pounds, and hens (females) weigh 1.2 pounds. The wood duck has a crested head, broad wings, a large rectangular tail, a white underbelly, and distinctive white stripes on the back edges of its dark wings, which can be identified in flight.

The drake's elegant plumage includes a crest that is iridescent green in front and purplish in the rear, with two parallel white lines extending to the rear. The drake has bronze sides, a burgundy chest separated from the bronze sides by "fingers" of black and white, and green, purple, and bronze back feathers. The males have red bills and eyes and straw-yellow feet and legs.

The hens have a pronounced white ring surrounding the eye on a sooty gray, slightly crested head. They have white chins and throats, with gray-brown chests, sides, and flanks and bronze-



green flight feathers. Woodies in juvenile plumage look like adult females, but their chests are streaked brown rather than white.

The calls of the hens and drakes differ. The females' call is very distinctive and loud. It sounds like a squealing "hoo-w-eet, whoo-eek, oook." The call of the males is a soft "twee, twee," which sounds similar to the calls of goldfinches and sparrows.

Abundance and Distribution

There are three breeding populations of Wood Ducks in North America: Atlantic, Interior, and Pacific. The range of the Atlantic population includes southern Quebec, southeastern Ontario, the Maritime Provinces, and the states of the Atlantic flyway. The interior population ranges over the states of the Mississippi flyway and the eastern half of the eastern United States in the Central flyway. The Pacific population's range includes southern British Columbia; parts of western Idaho, Montana, and Washington; Oregon; and California. Woodies are common throughout the Eastern Shore, and you can find them around creeks, rivers, floodplains, swamps, and beaver ponds.

Life History of Wood Ducks

Most hens breed as yearlings. Pair bonds are formed as early as October and continue through fall and winter. By February, most hens have mates, and the drakes stay with hens until eggs are hatched.

Nesting

Nesting usually begins in late February or early March on the Eastern Shore in natural hardwood tree cavities or artificial nest boxes. Clutch size varies greatly because of predation and the tendency of different hens to lay eggs in the same nest. Average clutch size is approximately 12 (10 to 15 is normal), but "dump nests" of 21 or more are not uncommon. The dull white, elliptical eggs are normally laid in the early morning. The hens usually lay one egg per day. Incubation begins on the day after the last egg is laid and lasts from 28 to 37 days until the eggs begin to hatch. The hen leaves the nest twice each day during the incubation period, once in the morning and once in the evening.

Rearing of the Young

The hen broods the young about 24 hours before calling them from the nest. Between 2 and 4 hours after sunrise, the hen calls to the ducklings, and they climb to the nest entrance, pause momentarily, and jump to the ground (sometimes from as high as 60 feet). After the last duckling has left the nest, the hen immediately sets out for water.

Development of the Young

Young Wood Ducks with downy plumage are considered Class I phase. At 2 to 3 weeks of age, they lose their downy plumage and the juvenile tail feathers start to appear. When they develop body feathers, ducklings enter the Class II phase, where they remain until they are 6 weeks old or until all down is replaced by body feathers. From the time they are fully feathered until they are 8 to 10 weeks old, they are in the Class III stage of development. Males then begin to show white horn-like marks on the sides of their heads, but white eye rings do not appear on females for another month. Immediately after completing their juvenile plumage, they molt into adult plumage.

Before summer begins, adult males separate from females and begin the molt into eclipse plumage. While most feathers are replaced gradually, the flight feathers are lost simultaneously. During this time, the drakes often congregate in densely vegetated swamps for seclusion and protection from predators. The nuptial molt follows the eclipse plumage, and most individual drakes regain their colorful plumage by October. Females do not undergo a molt to eclipse plumage but merely replace their worn feathers after the young are raised.

As the name implies, the Wood Duck is associated with woodlands, primarily deciduous trees. Flooded tupelo gum and cypress swamps, with an understory of buttonbush, are characteristic habitats in the Deep South. On the Eastern Shore, woodies are most often found near flooded hardwood areas or along creeks and streams that meander through hardwood forests. Woodies are also found in brackish-water estuaries and use artificial ponds quite frequently. It is the steady clearing and drainage of swamps and river bottomlands that is currently having the most adverse impact on the survival of the wood duck.

Migration

Before the fall migration, some young as well as adult Wood Ducks migrate in various directions exploring new ranges. In many cases north

of the Mason-Dixon line, many actually migrate northward. But as cooler weather approaches and day length shortens, woodies begin their southward migration. In the spring, many Wood Ducks (especially the hens) return to their natal areas. A drake will usually follow a hen to her native area to mate.

Food

Soon after hatching, ducklings feed almost entirely on animal life and eat plant foods as they grow older. Wood Ducks eat more fruits and nuts than any other American duck. Young Wood Ducks eat terrestrial and aquatic insects, midges, sago pondweed, smartweed, mayfly and dragonfly nymphs, tiny fish, algae, water shield, and duckweed. These foods are also eaten by older birds, but the acorn seems to be the food most favored by all woodies.

Where agricultural crops are grown, corn and wheat are also important foods. To obtain these foods, the wood duck may dabble or tip up for food in water or may gather it from the surface of the land.

Mortality Factors

The raccoon poses the greatest threat to nesting Wood Ducks. Other predators include fox squirrels, snakes, and starlings.

Managing Wood Ducks

Habitat

Protection of hardwood bottomlands and adjacent wetland areas is one of the first management actions you can use to help maintain the wood duck. Protect old hardwood trees that have abundant nesting cavities, and leave a fringe of trees adjacent to waterways when conducting timbering operations.

Habitat manipulation, construction and maintenance of nest boxes, discouragement of hunting violations, and education are other ways you can provide a habitat for Wood Ducks. Shallow water impoundments or ponds developed near deciduous woodlands can attract Wood Ducks and provide important nesting, resting, and feeding areas. Permanent water areas can be enhanced by planting natural vegetation around the edges, such as buttonbush and smartweed. Such crops as millet, corn, and milo can be planted in the spring in impoundments after the water has been removed. Reflooding an

impoundment in the fall will provide excellent feeding areas. In the case of impoundments, you can use proper water level manipulation (moist soil management) to stimulate the growth of a wide variety of natural foods.

Nest Boxes

If you strategically place nest boxes around and in ponds, creeks, or other water bodies, you can greatly increase reproduction and provide essential nesting areas. No one kind of nest box or placement will meet all requirements, but the following generalizations can be used. Wooden nest structures are preferred, and rough-cut, rot-resistant lumber, such as cypress, should be used. Even then, you should place a strip of hardware cloth on the inside of the box below the hole so young ducks can climb to the entrance after hatching. Follow accepted specifications when building boxes (Figure 1).

Make nest structures as predator-proof as possible, and install predator guards regardless of whether the nests are over water or not. Always place at least 3 to 4 inches of wood chips or shavings in the bottom of each nest box. Remove and replace these materials every January prior to nesting. Place the boxes in areas frequented by Wood Ducks and above the flood zone. Height above water is not too important. Boxes placed about 5 feet high are convenient for providing maintenance. It is best to erect boxes over water or at least within one-fourth of a mile of water. Mounting boxes on 2-inch-diameter galvanized pipe or treated 4-by-4-inch posts is preferred to fixing them to a tree. Do not put boxes where there will be a lot of disturbance from people or domestic pets.

It's best to get into the wood duck nesting project slowly. Too many boxes put up too quickly is not effective. We recommend buying or building one or two boxes and trying them. Get them up early, preferably in January or early February. Above all else, maintain the boxes and keep the predator shields in place. A poorly maintained box is a death trap, so check your boxes regularly.

Adapted from:

- Bellrose, F.C. 1976. *Ducks, Geese, and Swans of North America*. Stackpole Books; Harrisburg, PA.
- Bellrose, F.C. and R.D. Crompton. 1972. "Nest Houses for Wood Ducks." Illinois Department of Conservation and Illinois Natural History Survey.
- Breckenridge, W.J. 1956. "Nesting Study of Wood Ducks." *Journal of Wildlife Management* 20(1): 16-21.

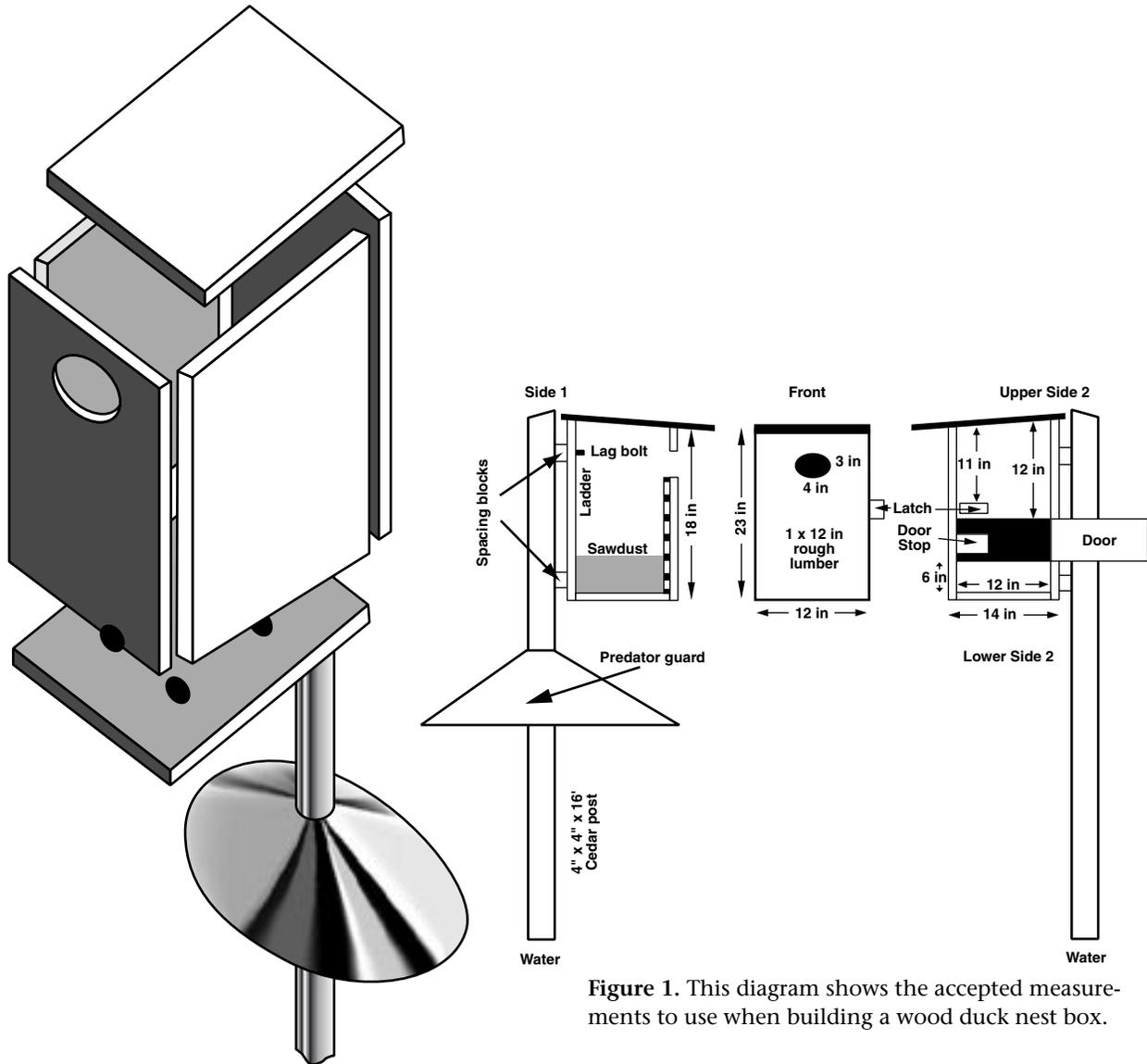


Figure 1. This diagram shows the accepted measurements to use when building a wood duck nest box.

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Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, University of Maryland, College Park, and local governments. Thomas A. Fretz, Director of Maryland Cooperative Extension, University of Maryland.

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