

# Those Other Turtles

by Rob Criswell  
*photos by the author*



*Spotted turtle*

Wood turtle



In November 1997, the bog turtle, a small reptile of the Genus *Clemmys*, made headlines when it was designated a federally threatened species by the U.S. Fish and Wildlife Service (FWS). This event marked the first time a Keystone State reptile or amphibian received such a federal designation, although the bog turtle has been protected by the PA Fish & Boat Commission since 1974. There are, however, two other “tortoises” (to be scientifically proper) of this same genus that dwell in the state in relative anonymity, at least where the general public is concerned. One is small, with brightly contrasting markings, and the other is larger with a more subtle, elegant appearance.

The spotted turtle, *Clemmys guttata* (“guttata,” appropriately enough, means spotted, or speckled), averages a bit over 4 inches in carapace (upper shell) length, and the largest ever recorded stretched the tape at 5 inches. This species could be nicknamed the “polka-dot turtle” because it sports small, bright-yellow spots scattered on a dark, often jet-black background. Newly hatched “spotties” frequently sport a single spot per carapacial scute (the individual plates of the carapace), but the markings become variable with age, and some adults may possess 100 or more. Although on rare occasions an individual with a “spotless” shell may be found, all specimens are also dabbled with speckles on the head and

neck. The plastron (lower shell), on the other hand, is yellow with a few dark or black markings.

The largest member of this small genus is the wood turtle. Wood turtles typically range from 6.5 to 7 inches in carapace length, with males normally exceeding females by a half-inch or so. The species record is a 9-inch-plus whopper.

Although wood turtles do not flaunt the “bright on black” of their smaller cousin, their scientific species name, *insculpta*, which translates to “engraved,” or “sculptured,” is descriptive and appropriate. The strikingly distinctive scutes of the upper shell resemble individually chiseled pyramids. Each of these raised plates is embedded with a series of concentric growth rings, or “annuli,” similar to those found in the cross section of a tree trunk or limb. This phenomenon, coupled with the similarity of the rough, brownish carapace to a piece of carved wood, may account for this tortoise’s common name, although some argue it’s based on its habit of frequenting forested areas. Attempting to age a wood turtle by counting its “rings,” however, is not as nearly precise as when dealing with trees. Although a fairly accurate determination may be made for younger “woodies,” such counts for turtles approaching 20 years or older are unreliable.

Although the subdued color scheme of the upper shell is overshadowed by its “sculptures,” the plastron is a study in contrast, with large, black blotches displayed on a light-yellow background. The upper portions of the head, neck and legs are dark brown or black, and the remaining areas are reddish or rich orange.

The members of *Clemmys* are considered “pond turtles,” although that’s a bit of a stretch. Spotties conform to this classification to a degree, preferring wetlands, including marshes, swamps and wet meadows, as well as the shallow margins of streams, ponds and lakes. They sometimes occur with the rare bog turtle, although the latter is restricted to bogs and wet meadows. Even though the spotted turtle is the most aquatic of the group, it is a weak swimmer that prefers to do the “bottom crawl” instead of the breaststroke.

Wood turtles are only semi-aquatic, spending much of their time on land and practically none in ponds. When Pennsylvania’s wood turtles submerge, they do it in flowing waters ranging in size from small streams to medium-sized rivers, and they show a distinct preference for slower currents. They are most often encountered when on land, crawling about in wet meadows, deciduous and coniferous forests, and old fields. One researcher, studying habitat preferences in central Pennsylvania, found most of his wood turtles in alder thickets, open meadows and cornfields.

### Hibernation

Keystone State wood turtles begin hibernation in October. They may force their way into masses of roots and aquatic vegetation under stream banks, or bury themselves in the bottom ooze of their resident waterways, sometimes at depths as great as 7 feet. These deep

sleeps may be community affairs, with aggregations of nearly 30 individuals reported from specific sites. The well-rested herps emerge in March or early April. During cooler months they spend most of their time in the water, but occasionally make excursions onto dry land. During summer they conduct most daytime activities in the uplands, but retreat to a stream for the night. Cold spells and droughts also drive them back to their aquatic refuges for extended periods.

Spotted turtles hibernate during roughly the same period as wood turtles, but they are much less active during their annual cycle. They also sometimes turn their winter naps into group “sleepovers,” with as many as 25 participants. Spotties are most animated between March and June, the period that includes breeding activity, and spend much of the summer and early fall in a state of aestivation (inactivity caused by hot or dry conditions). The turtles may dig into leaf litter, open fields or marsh edges, or “beat the heat” during these long periods of inactivity underwater in muskrat burrows or soft, muddy stream bottoms.

### **Breeding**

Based on their mating behavior, male spotted and wood turtles may both be considered reptilian Neanderthals! Males sometimes begin courtship with a ritual dance of sorts, but generally resort to attempting to butt and herd females, and biting them about the legs, neck

and carapace. Spotted and wood turtles breed primarily in March-April and September-October in Pennsylvania, respectively.

The females of both species lay their eggs in June in well-drained, open areas. Spotted turtles produced an average of only 3.5 eggs per nest in a Lancaster County study area, but woodies may lay three to 13 eggs in each nest, and average eight. Nests and hatchling turtles are extremely vulnerable to predators such as crows, foxes, opossums, raccoons and skunks, and it is not uncommon for entire clutches to be lost.

*Clemmys* juveniles grow and mature at an agonizingly slow rate. Spotties are not able to reproduce until they’re about 10 years old, which is also the time it takes them to reach a bit over 3 inches in length! Similarly, the larger wood turtle requires 14 years to attain adulthood, and some males aren’t sexually mature until age 22! Individuals in more northern populations generally grow larger than their southern kin.

### **Feeding**

Spotted turtles do most of their feeding in aquatic environs, slowly walking or crawling along the bottom. They are carnivorous, preferring crayfish, aquatic insects and tadpoles, and they frequently vary the menu by dining on carrion.

Wood turtles are omnivorous, and they are capable of feeding on land or in the water. Favored fare includes the



*Wood turtle*



leaves and flowers of plants, particularly wild strawberries, violets, raspberries and willows, along with fruits, fungi, snails, slugs and insects. Woodies have also been reported to lure earthworms to the surface by thumping the ground with their forefeet or the front of their shell, and then snatching them when they appear!

An interesting relationship between fish and wood turtles was reported from a Pennsylvania stream in 1991. While a submerged turtle remained motionless with head and legs fully extended, a school of feeding minnows apparently “cleaned” parasites and dead skin from the patient turtle.

### Species range

Pennsylvania lies in the center of distribution for both species. Spotted turtles range from southern New England south to northern Florida, and into the upper Midwest and southern Ontario. Wood turtles are scattered from the Maritime provinces south to northern Virginia and West Virginia, and then their distribution hopscotches across southern Ontario to Michigan, Wisconsin and easternmost Minnesota.

Significant population reductions have been reported for both spotted and wood turtles from many areas in their range. Although no formal surveys have been conducted recently in Pennsylvania, Andrew Shiels, chief of the Commission’s Research Division, acknowledges that both species appear to be declining in the state. He cites habitat modification, fragmentation and loss as the primary culprit, and attributes a faster drop in spotted turtle numbers to wetlands destruction. The smaller wetlands that these tortoises prefer generally don’t receive the stringent protection afforded to larger marshes and swamps.

Other factors contributing to the decline and disappearance of *Clemmys* populations include predation on eggs and juveniles (mentioned previously), road mortality and over-collection. Both species are quite active during their breeding season, whether seeking mates or traveling (up to several hundred yards) to suitable nesting areas, and many fall victim to roadkill.

The Fish & Boat Commission, as well as the FWS and conservation agencies in all the states and provinces that still harbor spotted and wood turtles, are concerned

about the interest in these reptiles as pets. This popularity has spawned much illegal commercial trade, and satisfying the demand of turtle fanciers has caused the decimation of some populations.

One of the highest density estimates ever reported for spotted turtles, nearly 30 per acre, was calculated for a Lancaster County population that numbered 300 to 400 individuals in 1980. None is found there today, and the researcher who monitored the study area attributes their demise to illegal collecting.

Several years ago, Commission personnel were alarmed when they searched a Bedford County man’s residence and found more than 60 illegally possessed turtles, including 24 spotties and almost 20 woodies. Although the culprit was fined \$5,000 and the case led to the arrests of at least 12 more individuals, the incident drove home the reality of the pressures the domestic pet trade has placed on our wild reptiles.

Several reptile experts consider Pennsylvania’s wood turtle population to be the largest and healthiest that remains, but they also recognize its vulnerability. Some scientists, including members of the Herpetological Technical Committee of the Pennsylvania Biological Survey, have considered the possibility of further restrictions on taking woodies, as well as spotted turtles and several others.

Under current Pennsylvania law it is legal to capture and hold no more than two turtles, but the sale or trade of any wild-caught specimens is prohibited, except for snapping turtles. Some think a total ban on collecting and possession will close a legal loophole used by those claiming their turtles are of Pennsylvania origin when selling or possessing them in a state where collecting is not permitted. However, some other states in these *Clemmys* ranges have less stringent regulations than those now in place here.

Even though the legal taking of these turtles in Pennsylvania is probably modest, there are some who believe that the removal of even a few individuals may negatively affect populations of such slow-growing, late-maturing animals, whose eggs and young are subject to high predation rates. A total ban on collecting, they reason, would better safeguard populations that are also subjected to habitat loss and highway mortality.

Although the bog turtle has already been conferred state endangered and federally threatened status, there’s still time to keep those other *Clemmys* species common. Citizen-conservationists may help ensure the viability of Pennsylvania’s spotted and wood turtle populations by supporting responsible legislation that protects watersheds and wetlands, reporting illegal habitat destruction and collecting, and facilitating nongame research with funding and volunteer hours.

Paul Swanson, who authored the 1952 report “Reptiles of Venango County,” wrote: “To me, the wood turtle is the handsomest of all our turtles. An unscarred specimen, mature but not too old, resembles an excellent piece of wood carving.”

We don’t need any better reason to protect our natural heritage. □