

What's Not to Like About a Turtle

By Hal Roth (June 2000)

“I was horrified!” Elliott Island artist Jan Elmy said of her trip to mail a package on June 1. “It was awful! I had seen the county mowers come by earlier, and when I drove up to Vienna, there were dead terrapins all over the road. At one point I counted seventeen in less than two miles, and I know there were many more in the grass and flung out in the marsh. I’m sure they killed at least a hundred.”

When she caught up with the tractors, which were mowing the edge of the causeway between Elliott and Vienna, her first inclination was to block them. “But I was afraid I would go to jail,” Elmy said, “and I couldn’t afford that.” That afternoon she muddled through her tasks, feeling a miserable failure for not having acted.

Hoping to modify the mowing schedule in Dorchester marshes to fit around the peak of terrapin nesting season, Elmy appealed to the county roads superintendent, who promised to speak to his operators and delay cutting, but mowing continued on the marsh causeway two days later.

“I talked to [environmental writer] Tom Horton,” Elmy said, “and he put me in touch with Marguerite Whilden.”

Born at the U. S. Naval Academy and raised in Annapolis, Whilden’s background is in habitat engineering. When she first came to the Eastern Shore marshes twenty-five years ago, Whilden was employed by the Maryland Department of Natural Resources as state coordinator for the National Flood Insurance Program. After fifteen years of advising flood-plain residents, she briefly served as Wetland Manager before assuming her present post with DNR’s Conservation and Stewardship Program of the Fisheries Service.

Whether dispensing information or appealing for assistance to industry, watermen, sportsmen, politicians, the general public, or rolling up her sleeves and getting her hands dirty in the field, Whilden’s passion for the terrapin shines as brightly as any Chesapeake beacon. Like the smile on the faces of her aquatic wards, her enthusiasm is contagious. “What’s not to like about a turtle,” she asks.

When invited to attend President Clinton’s visit to Assateague Park, she accepted and

showed up with several terrapins. Whilden had no difficulty passing the clearance check, but her companions flunked. “Well, the turtles might be a security risk,” she was told. Unfazed, she took advantage of the opportunity to persuade Congressman Wayne Gilchrest to join her Terrapin Consortium while dignitaries covered under a sand storm raised by six presidential helicopters.

On the surface it may seem absurd to attempt a comparison between a six-inch-long turtle and the American bison, but, like the buffalo, the diamondback terrapin is a national icon of historic abundance that was nearly lost.

Hailed as a jewel of Chesapeake Bay marshes, the diamondback is among the handsomest of turtles. Highly variable in color, a terrapin’s boldly patterned, wedge-shaped carapace ranges from nearly black through shades of brown to milky gray, sometimes showing splashes of yellow, beige, or tan. Thirteen large scales called scutes are inscribed by concentric, diamond-shaped rings and give the terrapin its name. The underside, the plastron, may be orange or yellow to olive, with or without bold, dark markings. The skin is usually pale gray—sometimes white—and is commonly peppered with black flecks and lines that create a design unique to each individual. Docile and prettier than a seashell, the diamondback presents an unassuming face accented by a pair of dreamy eyes and creased by an infectious grin.

Adult male terrapins generally measure six inches in length and weigh half a pound. Females are larger—up to nine inches—and average two pounds. Their webbed feet make them agile swimmers, and sharp claws assist their movement about the marshes. They are a highly aquatic species, seen out of water only to bask or when nesting.

Of the 270 species of turtles in the world, diamondbacks are the only one that can tolerate both salt and fresh water and whose habitat is restricted to brackish water marshes. They are unique among reptiles in that they possess salt-excluding glands in the corners of their eyes, which develop after their first year of living mostly in fresh water. The species is confined to the United States and ranges from Cape Cod to the Florida Keys and around the Gulf Coast to Texas. Seven subspecies vary in coloration, marking, and behavior.

Food preferences among diamondbacks are broad and include live snails, worms, crabs, insects, shellfish, crustaceans, and small fishes as well as carrion.

With the first cold temperatures in November, terrapins bury themselves in the mud beneath bay waters, commonly in groups, where they remain through the following March. While their metabolism and body functions are slowed during hibernation to the point where they do not need to breathe, oxygen is absorbed through parts of the turtle's tissue. Because terrapins are occasionally observed in late winter, it is believed that some may simply lie suspended in the water or on the floor of the bay and therefore respond more quickly to the first warm days.

Shortly after emergence from hibernation, terrapins begin to mate. Females may reach sexual maturity in eight years—males earlier. Breeding takes place in May, always in the water and usually at night, and fertilized females can produce eggs up to four years after a single mating.

Most eggs are laid from June to July on sandy borders of coastal salt marshes or in dunes. Multiple clutches are possible, sometimes as close as two weeks apart. Maximum laying activity usually occurs at high tide, ensuring that the clutch will be above the high water level. The female digs a cavity four to eight inches deep and deposits from four to eighteen pinkish-white eggs.

Incubation takes nine to fifteen weeks, and hatchlings the size of a quarter enter the world patterned very much like adults. As with most turtles, temperature influences the individual's sex: high temperatures during incubation produce more female hatchlings, while low readings result in a preponderance of males. If hatched late in the season, the young may remain in the nest for the first winter, emerging in April and May.

It appears that only one to three percent of terrapin eggs hatch, owing largely to predation by foxes, skunks, and raccoons, which dig into the nests and consume the eggs and baby terrapins. Survivors emerging from the nest are often eaten by gulls and crows or by herons and predatory fish after entering the water.

The life expectancy of a diamondback is usually estimated at between twenty-five and forty years. Terrapins are known to have survived to the age of fifty, but no one is certain of their maximum potential.

Colonists learned from Native-Americans to roast terrapin in live coals. Abundant and easy to catch—a wagon full could be purchased for as little as a dollar—they became a staple in the diet of many slaves and indentured servants. Contracts limiting the number

of terrapin meals which servants could be fed each week have been found. Although Washington and Lafayette are said to have discussed strategy over a meal of Chesapeake terrapin on the eve of the Battle of Yorktown, the turtles were generally considered to be inferior cuisine.

Then, in the late nineteenth and early twentieth centuries, terrapin stew and soup laced with cream and sherry became a delicacy, and the subsequent retail demand and inflated prices resulted in the capture of huge numbers of the turtles, severely depleting their numbers and nearly extirpating them in some areas. Crisfield, Maryland, was the principal supplier to the nation's major cities.

While the fad for terrapin flesh has waned, this docile reptile continues to face a number of threats, especially from habitat destruction, road mortality, and drowning in crab traps.

The latter hazard appears to be the most acute. In Maryland, a Patuxent River study indicated that non-commercial crab pots placed by property owners were drowning terrapins at a rate that could have wiped out the river's population in three to five years. The problem exists everywhere that crabs are trapped. A New Jersey survey revealed a loss of 11,000 terrapins a year at one location, and estimates at Charleston, South Carolina, suggested a daily catch by commercial crabbers of 2,500, with a mortality of 10% in pots which were checked every twenty-four hours. If not emptied daily, the kill is nearly 100%. Two-by-five-inch wire excluders on trap entrances prevent turtles from entering without significantly affecting the number or size of crabs captured, but the devices are required only in Maryland and New Jersey at present.

Traditional nesting areas have been severely altered by waterfront development. Even tire tracks from vehicles driven on the sand pose a hazard to hatchlings, which can be trapped in the depressions and die before reaching water.

While incidental kills by motor boats also take a toll, road mortality of nesting females in some areas is higher than their rate of replacement. In a six-year study conducted across Delaware Bay on part of the Cape May Peninsula, 4,020 road kills were recorded. In another single year, 772 terrapins met the same fate.

Terrapin season is now closed in Maryland from May 1 through July 31 to allow for mating and nesting, and terrapins harvested from August to May must be at least six

inches long on the plastron. Individuals without a waterman's license are permitted to claim a total of three as pets. By law, eggs may not be disturbed or possessed.

While fisheries problems mount in an increasingly metropolitan state, traditional fisheries constituents such as sportsmen, charter boat captains, and commercial watermen are declining in number. Maryland Fisheries Services has initiated the Terrapin Station as an outreach program, aimed primarily at that larger segment of the public who are not directly involved with wildlife. While the project enlists the engaging terrapin as a point of focus, it is intended to incorporate a full range of fisheries management issues.

The Terrapin Research Consortium was organized by the Terrapin Station to develop sound research, management and educational standards, and to share information in the interest of the diamondback terrapin. This advisory group is comprised of individuals with expertise in a variety of disciplines and includes Marylanders Whilden, Congressman Wayne Gilchrest, author Tom Horton, veterinarian of exotics Bill Boyd, waterman and biologist Robert Evans, land management expert Kevin Smith, and researchers from Georgia, North Carolina, New Jersey, Ohio, Massachusetts, and Washington, DC.

One of Whilden's pet projects is the Headstart Program. Terrapin eggs are removed from endangered nests and incubated under controlled conditions. Hatchlings are then assigned to foster parents to raise for a year under the supervision of a mentor and an established protocol, providing the little ones with a better chance of survival in the wild after release.

Elmy and Whilden, who jokingly refer to themselves as the Thelma and Louise of terrapindom, are well on their way to recouping some of the mowing losses in the Elliott Island marshes. Elmy was successful in incubating 169 of 187 rescued terrapin eggs, and all but the five she is raising herself have been placed in foster homes. "I really miss them," she said. "I hate not knowing what will become of them."

More than fifty years ago, in "Wildlife in American Culture," Aldo Leopold wrote: "In the biological field the sport-value of amateur research is just beginning to be realized." He was speaking about an amateur ornithologist who had made significant contributions through his observations.

"Terrapin work is well suited to this type of 'outside' research," observes Whilden.

“Elmy has already validated an hypothesis we have considered. On Elliott, the terrapins ignore what appears to be a very adequate south beach in favor of the north-facing beach, where they have laid clutches on very steep cliffs that would normally be ignored. They seem to have learned over time which beach has the best nursery nearby. The north beach provides a source of fresh water, which is absent on the south, and hatchlings need fresh water during the first year when they have not yet developed their salt processing ability.”

The diamondback is Maryland’s state reptile and also mascot of the University of Maryland at College Park. It all began in 1932 when football coach Dr. H. Curley Byrd recommended adoption of the diamondback, and Maryland teams, previously known as the Old Liners, became the Terrapins.

As a graduation gift from the class of 1933, Sculptor Aristide Cianfrani was commissioned to cast a terrapin statue from three hundred pounds of bronze. The mascot was unveiled to the world on May 23, when Cianfrani’s model terrapin pulled a cover from its huge replica by tugging on a ribbon. The icon was named Testudo, Latin for the protective headgear worn by Roman soldiers and the source of the scientific classification for turtles—the order testudines.

At first, Testudo sat on a pedestal in front of Ritchie Coliseum, where he became the target of frequent paintings and other defacement by rival schools. Then, in 1947, the bronze terrapin fell victim to kidnapers from Johns Hopkins University. When scores of Maryland students rushed to Baltimore and laid siege to the Hopkins campus, two hundred city police were called to control the riot, but the confrontation quickly evolved into a party.

Shortly afterward, Testudo was again snatched from his perch. After a two-year absence, the Maryland mascot was retrieved from the lawn of a University of Virginia fraternity and hidden, until 1951, in a campus carpentry shed.

After being filled with seven hundred pounds of concrete, Testudo was attached with steel rods to a new perch in front of Byrd Stadium. Then, with the construction of McKeldin Library in the 1960s, Maryland’s most famous terrapin was carried triumphantly to a new pedestal in front of the library and has since cast its unblinking gaze over McKeldin Mall.

Rubbing Testudo's nose is purported to bring good luck, and legend insists that if a virgin ever graduates from Maryland, Testudo will sprout wings and fly over the campus.

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