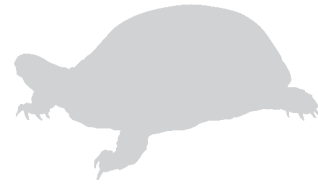


BASHFUL BLANDING'S





NEW HAMPSHIRE PROVIDES REGIONALLY IMPORTANT HABITAT FOR THE STATE- ENDANGERED BLANDING'S TURTLE

BY MIKE MARCHAND

As a child, I loved to explore the pictures and descriptions of reptiles and amphibians in my *Golden Nature Guide*, at that time, the go-to source for a nature-loving kid. The Blanding's turtle always grabbed my attention, and I knew that I would recognize the long yellow neck and high domed shell if I was ever lucky enough to see one. I frequently saw painted and snapping turtles in nearby marshes, and even a few spotted turtles, but never a Blanding's.

In fact, I didn't see my first Blanding's turtle until many years later while in graduate school at the University of New Hampshire. The young turtle was charging – at a turtle's pace, of course – across a road near a large wetland. In my excitement, I drove several miles to the nearest pay phone to report the observation to a fellow UNH student who was starting a research project on the species.

I found several additional Blanding's turtles over the next several years, but these turtles had all suffered the same unfortunate fate, a premature end to their lives while attempting to cross highly traveled roadways. When I joined the Nongame and Endangered Wildlife Program at the N.H. Fish and Game Department as a wildlife biologist and began coordinating a reptile and amphibian reporting program, I continued to see this trend. For years, as many Blanding's turtles were reported on roadways as were reported basking on logs in wetlands. I became deeply concerned for the health of Blanding's turtle populations in New Hampshire, and biologists shared this concern in other states.

Turtles on the Move

Blanding's turtles are extremely long-lived. There are records of at least one turtle living into its 70's and still going strong. Turtles can often be aged by counting growth lines on their shell, similar to counting rings on a tree, up to about 20-25 years. After that point, it is hard to distinguish a 30-year turtle from a 70 year old. During the course of a long Blanding's turtle life, there are likely to be changes to their habitat, both "natural" and human-influenced. Compared to other turtles in New Hampshire, Blanding's turtles are long-distance travelers, and there are few natural obstacles to impede their determination. We've documented Blanding's turtles moving nearly a mile in search of suitable nesting habitat, even climbing up steep hillsides along the way.

This ability and apparent desire to move has probably made this species more capable of finding newly created habitat over time – such as a recently flooded beaver impoundment. Similarly, a Blanding's turtle must move on from habitat that is no longer available. For instance, vernal pools are a critical habitat for juvenile Blanding's turtles, but in some years pools may be dry, forcing turtles



Clockwise from top left: NH Fish and Game seasonal biologist Loren Valliere sets a turtle trap baited with sardines; An adult female Blanding's turtle digs a nest in well-drained soil; New Hampshire Fish and Game biologist Brett Ferry carefully takes a blood sample from a Blanding's turtle, a procedure used to evaluate the genetic importance of populations; The highly domed shell and yellow chin of an adult Blanding's turtle (below center) is easily distinguished from the smaller flatter-shelled painted turtle.



HELPING BLANDING'S BENEFITS MANY SPECIES

Because Blanding's turtles require large landscapes with an interconnected mixture of wetland and upland habitats, they are an important "umbrella" species for habitat and species protection in the Northeast. That means the actions taken for Blanding's turtles benefit a large number of other priority wildlife species across the region.

Blanding's turtles share habitat with numerous wildlife species listed in State Wildlife Action Plans as Species in Greatest Conservation Need, including spotted turtles, ribbon snakes, osprey, American bittern, great blue heron, American woodcock, New England cottontail, banded sunfish and ringed boghaunter dragonfly. These landscapes are also exceptional areas for waterfowl – especially wood duck and hooded merganser – as well as beaver, otter and mink.



Blanding's turtles use a variety of wetland habitats, even within a given year, including marshes, shrub wetlands, vernal pools, beaver impoundments, fens and flooded river floodplains.

to search for food elsewhere. In a large undeveloped landscape filled with a variety and abundance of wetlands, Blanding's turtles can move as the locations of ideal habitat shifts. However, when roads divide these habitat patches, the odds of an individual turtle successfully moving from one spot to another are greatly reduced.

Every Turtle Matters

Not only are Blanding's turtles capable of living a really long time, their populations depend on it! Newly hatched turtles won't reach sexual maturity until nearly two decades into their life, assuming they make it that long. Predators, especially raccoons and skunks, dig up and devour a large number of turtle eggs. Those young turtles that successfully hatch from eggs have not developed a hardened shell and are eaten by a large number of predators, both on land and in water. Even chipmunks and bullfrogs will snatch up a passing hatchling.

Fortunately, turtles that reach adulthood may nest every year for decades in hope of producing some young that survive. But when the lives of adults are cut short, populations soon suffer. Blanding's turtles can currently be found throughout southeastern New Hampshire, but local populations contain far fewer individual turtles when compared to populations of the more common painted or snapping turtle. For these reasons, scientific models have predicted that the yearly loss of just a couple of adult Blanding's turtles will eventually lead to that population disappearing altogether. This rate of loss is likely occurring, or has been exceeded, in much of the developed landscape of southeastern New Hampshire.

New Project Brings Hope

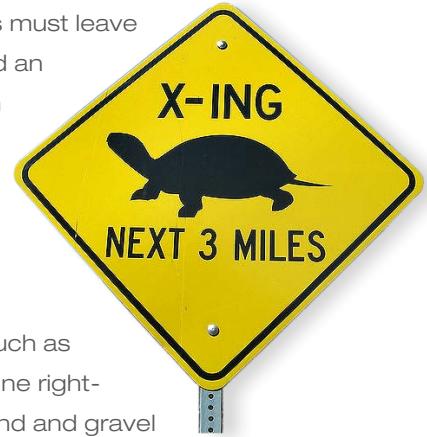
After years of planning and cooperation with biologists throughout the region, in 2011 the New Hampshire Fish and Game Department was awarded a national Competitive State Wildlife Grant from the U.S. Fish and Wildlife Service, with additional financial support from N.H. Conservation License Plate (Moose Plate) funds and private donations to the Nongame and Endangered Wildlife Program. The project includes partners from wildlife agencies in the states of Maine, Massachusetts, New York and Pennsylvania, two universities, and several private consulting firms. Collectively, we are all working towards the common goal of maintaining healthy Blanding's turtle populations in the region.

One component of the project was for each state to implement a rigorous two-year survey. Prior to this effort, there were several well-studied populations in Massachusetts, but much less was known about the populations in other states. In fact, we were surprised at how important New Hampshire is to the regional Blanding's turtle population. The Blanding's turtle is found in five states in the Northeast, but 40% of the area in which it is present occurs in New Hampshire!

The survey results and habitat assessments also indicated that some of the best remaining areas for Blanding's turtles occur in New Hampshire. Prior to this assessment, we knew of just two sites in the state that had more than ten Blanding's turtles, with most of the other observations being animals killed on roadways. Now, there are more than ten areas known to have at least ten animals, and at

WHY DID THE TURTLE CROSS THE ROAD?

All adult female turtles must leave their wetlands to find an area to lay their eggs on land. A nest is dug in well-drained soils in an area lacking over-story tree cover. Turtles frequently nest in areas disturbed by humans, such as lawns, gardens, power line right-of-ways, abandoned sand and gravel pits and agricultural fields, so nesting habitat is often readily available in southeastern N.H.



Turtles may need to cross one or more roads to reach these suitable nesting areas, making them vulnerable to vehicles. For that reason, Fish and Game is working with state lands managers, USDA Natural Resources Conservation Services (NRCS), land trusts, and private landowners to provide sufficient nesting opportunities within priority Blanding's turtle landscapes.

one site we captured nearly 100 Blanding's turtles – certainly one of the best sites in the Northeast! We will continue to monitor turtles at some of these sites over time to assess their status and health.

Project partners are also cooperating to develop conservation plans for priority sites throughout the five-state area and to develop an overall regional Conservation Plan for Blanding's turtles. These plans will help us manage nesting habitat to reduce road mortality and engage key partners to prioritize land acquisition, restoration and management activities. Like other endangered wildlife conservation efforts, success will require a team effort involving various state and federal agencies, universities, land trusts and private landowners.

With these efforts underway, I am optimistic that my grandchildren will have the same opportunity to enjoy seeing Blanding's turtles in the wilds of New Hampshire as I have had – they just won't be able to report it with a pay phone!




Michael Marchand is a wildlife biologist for the Nongame and Endangered Wildlife Program at the N.H. Fish and Game Department, where he helps implement the N.H. Wildlife Action Plan, including coordination of reptile and amphibian conservation efforts.

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