

Turtle Survey at Arlington's Great Meadows

By John Berkholtz, Zoo New England, July 2026.

Arlington's Great Meadows contains a very unique wetland complex in the middle of a busy suburb. Extensive wet meadows and vernal wetlands abound. Given the uniqueness of these wetlands in such an urban environment Zoo New England's Field Conservation Department felt it would be interesting to conduct a turtle survey to determine species composition.

Globally, about 54% of freshwater turtle and tortoise species are considered vulnerable, endangered or critically endangered, being one of the most imperiled vertebrate groups. In Massachusetts, 6 turtles are state listed under the Massachusetts Natural Heritage & Endangered Species Program. The Bog turtle and the Red-bellied cooter are endangered. The Blanding's turtle and Northern diamond backed terrapin are threatened. The Wood turtle and Box turtle are special concern species. The Spotted turtle and the Musk turtle are not officially listed but are species of greatest conservation need, a watch list sort of speak. Only two species, the Painted turtle and Snapping turtles, are considered common. The Red eared sliders are often seen and are not a native species but are the result of pet turtles being released by their owners who no longer want to care for them.

Though turtles can live many decades, very few survive maturity. All turtles face very high egg predation from mammals or hatchling predation from any number of larger animals. Hatchling mortality from environmental conditions (dehydration or freezing) can occur also. Adults usually have a very high survival rate but suffer from road mortality when they cross roads to move from one wetland to another or to find nesting areas. Many populations suffer significant habitat fragmentation, especially in suburban and urban areas. It is of interest that small populations of turtles can persist in such busy urban/suburban areas.

In May of 2026, the ZNE's Field Conservation Staff conducted a 2-week survey in May in various wetlands at the Arlington Great Meadows. There had been a few turtle reports from as far back as the 2001 Biodiversity Day event, and a few iNaturalist reports of Painted and Snapping turtles were noted especially around Peepers Pond just outside of the Great Meadow. No formal survey has ever been done for turtles at Great Meadows.

The method we used was to set up 16 small hoop traps arranged at various locations. Each trap has a funnel in which turtles can easily swim in but have a hard time figuring out how to get out though they can if they try hard enough. Traps staked to the substrate and are kept ½ afloat so turtles can come up to breathe. A can of sardines with the tab open and holes made so the oily fish scent can travel and attract the turtles. Traps are tagged with an ID tag and checked daily. After the 2-week period, traps were pulled. The areas deep enough to set survey traps were found near the upper edge and north of the Great Meadow itself. The habitat structure was also more suitable compared to open channels found at the lower Great Meadow.

Spotted turtles can lay eggs within the wetlands in mossy areas that are exposed to full sunlight or on land often in people's yards. These open areas allow for natural incubation from sunlight. A

method called radio telemetry often is needed to find nests. This method uses a radio transmitter that is attached to the turtle shell that emits a frequency picked up by a receiver and antenna. To find nests the females can be tracked daily during June when eggs are laid. There are a few spots at the Great Meadows where they could nest in exposed moss hummocks, and there are plenty of places to nest in the neighborhood yards. Eggs typically hatch between the end of August to the end of September. Spotted turtles often use moist upland forested habitats in the summer despite their aquatic nature.

In all this was a great experience as when one enters the habitat of their study subject one sees and experiences things that would otherwise be rarely encountered on the main trails. At Arlington's Great Meadows, hidden vernal pools were found. Of note; Jack-in-the-pulpit was far more abundant here than any of the numerous wetlands I've been to. The abundance of Amphipods in all the survey wetlands was also noteworthy. Possibly some were the state listed Mystic Valley Amphipod. Wood frog adults and tadpoles, green frogs and their egg masses and even crayfish were found. Deer trails were throughout the area which helped navigate dense vegetation. Even a Muskrat and a Little Blue Heron observed. Many other common plants and animals of course were observed during their spring progression.



Spotted turtle top shell (carapace). This one is Spotted turtle bottom shell (plastron). Note faded particularly brightly spotted. Annuli or growth year lines. This one has shell wear and is likely over 30 years old.



Spotted turtle side view.



Sardine bait can and sometimes get unintended guests such as these crayfish.



Wood frog an obligate vernal pool species



One of the general wetland habitats

John Berkholtz
Senior Field Conservationist

www.zoonewengland.org/gwc | [DONATE](#)

Zoo New England's mission is to inspire people to protect and sustain the natural world for future generations by creating fun and engaging experiences that integrate wildlife and conservation programs, research, and education.