Spring into Vernal Pools

Spring will soon be in the air, the water, and in the soil. It will also be in the drive of many animals and plants to continue their kind. With so much happening in spring, tracking all the activity can be difficult, but it is well worth the effort.

Vernal pool in Newmarket, NH

One cool place to explore the wonders of spring is among the many vernal pools that dot our landscape. “Vernal” comes from a Latin word for spring. These temporary pools are wet only seasonally and can disappear from view altogether by mid-summer. Some vernal pools are quite deep, but others are shallow. In the northeast, most vernal pools occur in the forest or along the flood plain of rivers.

Most wetlands are defined by the presence of wet (hydric) soils and special plants that thrive in wetlands. In contrast, vernal pools lack these soils and plants. They are defined largely by the *presence* of certain animals that breed only in these temporary pools and by the *absence* of fish.

Amphibians which breed only in vernal pools include wood frogs, spotted salamanders, blue spotted salamanders, marbled salamanders, and Jefferson salamanders. These animals use the pool for breeding, but otherwise spend most of their time in the surrounding area. The adults pair and mate shortly after ice-out, then the females lay their gelatinous egg masses in the pools, often attaching them to sticks. Another animal that breeds and lives only in vernal pools is the tiny fairy shrimp. In dry years, these animals endure by forming hard cysts among the leaf litter that will line the vernal pool in wet years.

Because vernal pools are temporary and often go unnoticed by large-scale survey methods, they are very susceptible to damage or destruction caused by human activity such as development. If they are filled or built on, they cease to be valuable habitat. Similarly, if the area around a vernal pool is developed, the adults may be lost. Endangered Blanding’s turtles and threatened spotted and wood turtles rely on vernal pools as important feeding stop-overs.

Another problem happens when vernal pools are separated from other vernal pools or important habitat by habitat fragmentation. Fragmentation occurs when

a large area of land becomes a patchwork of houses, businesses, roads, etc., even though some smaller natural areas are still present. Protecting one isolated vernal pool and the surrounding area is helpful for a few years, but the populations of amphibians eventually become impaired by a lack of genetic diversity. Small populations cannot survive well in isolation. Protecting an area with a group of vernal pools that can remain in a natural state will bring more and greater benefits to the creatures of vernal pools and to the entire ecosystem.

Vernal pools are important to the proper functioning of our landscape and they are fascinating places to visit. A short video of a local vernal pool exploration can be found at www.lampreyriver.org under the videos tab. If you find a vernal pool, take the opportunity to look for egg masses and the critters that made them. As always, please tread lightly and handle with care, leaving no trace of your visit.