

VERNAL POOLS

BY HEATHER STEPHENSON

If you're hiking in late March or early April and you hear an odd quacking in the woods, like a group of hiccupping ducks, you're probably close to a vernal pool. The sound is the courtship call of male wood frogs, which gather to reproduce in this ephemeral but vital habitat each spring.

Vernal pools are usually temporary bodies of water, averaging 1 to 5 feet deep in springtime. They can be as small as 100 square feet or as large as several acres. In Massachusetts, they are legally defined as confined basin depressions that hold water for at least two continuous months during spring and/or summer most years. Vernal pools do not support populations of fish, so they provide safe havens for the reproduction of wood frogs, various types of mole salamanders, and fairy shrimp. These are called obligate vernal pool species, because they rely on vernal pools to complete their life cycles, says Jacob Kubel, a conservation scientist with the Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife. Many other species, such as spring peepers, spotted turtles, and fingernail clams, also thrive in vernal pools but are not dependent on them.

It's common to think of vernal pools as appearing only in the spring. But in the Northeast, these seasonally flooded wildlife habitats often start filling in the autumn and may hold water well into the summer. In fact, some occasionally hold water all year, but they still function as "vernal pool habitat" because they are fishless and provide suitable breeding conditions for obligate species.

Kubel says another misconception is that spotted salamanders (the dark ones with yellow dots) and other pool-breeding amphibians all emerge from their overwintering quarters simultaneously to trek back to vernal pools on one "big night" each spring. While hordes of amphibians do migrate to vernal pools in the spring to mate and lay eggs, they often do so over several nights. "The bigger nights tend to occur in years when the first rainy night with the temperature above 40 degrees doesn't happen until early April," Kubel says. "The animals are kind of itching to go by then."

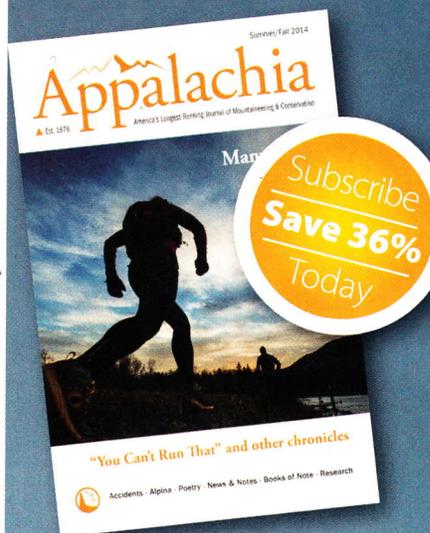
More than 6,750 vernal pools are certified and, therefore, legally protected in Massachusetts. Another 25,000-plus probably exist in the state but haven't been recorded, Kubel says. Other northeastern states also have certification programs, and a regional effort to track vernal pool occurrence is launching this year.

If you're trying to find vernal pools on your next spring hike, Kubel recommends listening for wood frogs, paying attention to the landscape—a depression behind a knoll or between sloping ridges may collect water—and looking for concentrations of shrubs such as winterberry in the forest understory, which may indicate the presence of a wetland. Or try heading out with a flashlight on the first night of warm rain in the spring and following the spotted salamanders. They may not all be migrating at once, but any that are out will likely be headed to their ancestral breeding pools. ●

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