

Vernal Pools Alive!



A vernal pool in late winter



A vernal pool in early spring



beetles

Many types of water beetles (Coleoptera) inhabit vernal pools. They eat invertebrates, tadpoles, and some are even large enough to eat small frogs and salamanders! Shown here is an adult (left) and larval (right) predaceous diving beetle in the family Dytiscidae.

fairy shrimp

Named for their sudden and seemingly magical appearance in early spring pools, fairy shrimp (Anostraca) are small filter-feeding crustaceans. Their eggs require a period of drying out before hatching the following year, and the shrimp have no defenses against predatory fish.

caddisflies

Caddisflies (Trichoptera) are common and abundant in vernal pools. Species can be distinguished by the nature of their cases, made from materials in the pools, such as leaves, twigs, and grasses. You can often find these cases long after the pool dries, which is helpful for determining if a dry forest depression is actually a vernal pool.

dragonflies

Damselflies and dragonflies (Odonata) are common predators in vernal pools. Aquatic larvae ambush small invertebrates and the aerial adults prey on terrestrial insects. Some dragonflies of vernal pools are rare, including the ringed boghaunter (*Williamsonia litneri*)—an endangered species throughout much of the Northeast.

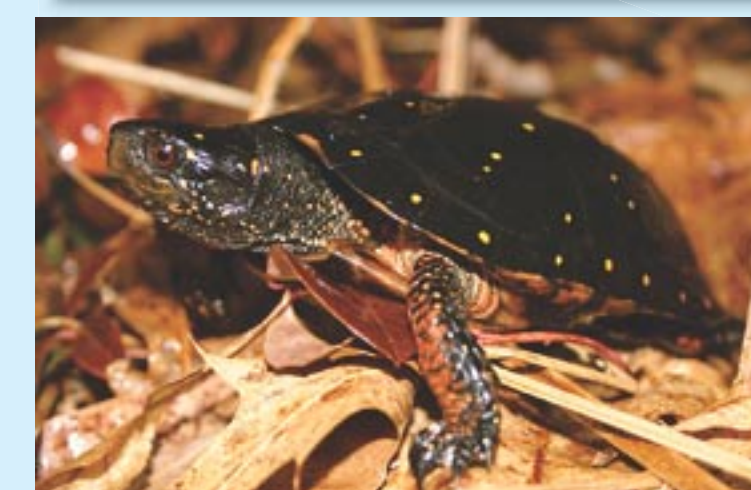
May flowers are not all that April's showers bring in the Northeast. Spring rains and warm temperatures also herald spectacular, though often unseen, wildlife migrations. On the first warm rainy evenings of spring, legions of wood frogs and salamanders emerge from their deep, leafy forest retreats to hop and crawl toward small woodland pools. This marks one of the first signs that spring has finally arrived.

by late summer. In the spring, these ephemeral spring wetlands explode with the sounds and sights of ducks, frogs, salamanders, turtles, dragonflies, water beetles, and other creatures. With the onset of summer, pools become surprisingly dormant, providing few clues about the excitement that occurred just weeks earlier.

What makes these temporary wetlands unique is the absence of fish. Some animals—such as wood frogs, spotted salamanders, spadefoot toads, and fairy shrimp—are defenseless against fish predators and breed most successfully in fishless environments. Though safe from fish, animals that breed

in vernal pools must contend with the drying clock of summer. During drought years, pool-breeding species may suffer catastrophic losses if their habitat dries up too soon.

Less certain than the rain, however, is whether vernal pools themselves will survive to greet another spring migration. Residential development, urban sprawl, roads, and pollution are harming or destroying vernal pools. Luckily, people are becoming more aware of the beauty and diversity of vernal pools, and how to recognize and protect them. We hope this poster raises your awareness and appreciation of vernal pools and the myriad creatures that call them home.



Many amphibians and reptiles rely on vernal pools for breeding and feeding, including spotted salamanders (top left), wood frogs (top right), spotted turtles (bottom left), and ribbon snakes (bottom right). Some pool-breeding species are rare and endangered in the Northeast, including Blanding's and spotted turtles and marbled and four-toed salamanders.



Vernal pools come in many shapes and sizes but they have two things in common: they dry out nearly or completely in most years and they lack permanent fish populations.



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