

VERNAL POOL LIFE

An Ecology Project

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Vernal pools are temporary wetlands found throughout the forests of New England. Since they become dry regularly, often yearly, they do not have fish. Thus, vernal pools are important breeding areas for many of our salamanders and frogs. Some of these amphibians are completely dependent upon vernal pools and their populations would disappear without vernal pools.

Vernal pools are also used by a large variety of insects and other invertebrates as a breeding and feeding resource. Birds and mammals come to vernal pools both to drink and to hunt for food. Migrating amphibians and reptiles use them as stopping points as they move from one wetland to another.

In all, vernal pools are an important component of our ecosystem. We would like to share with you some information about vernal pool animals.

Kimberley M.



Spotted Turtle

Spotted turtles, *Clemmys guttata*, have yellow spots on their head, neck, legs, and upper shell. Their shells can be black or steel grey. Their life span is twenty years or more. Females lay two to ten eggs in the spring and the eggs hatch in summer.

They are found in vernal pools, muddy-bottomed streams, and woodland ponds. They prefer quiet, shallow water such as that found in swamps and small creeks because they can't swim very well. They are active from March to October alone or in a group.

Errol I.



Spotted Salamander

The spotted salamander relies on vernal pools for breeding and could be in danger if humans continue with more development of forested lands with vernal pools. It is important that humans protect wetlands and forests for the continuation of this species, and other species, which rely on vernal pools. These salamanders help the environment by eating insects such as mosquitoes, which humans consider to be pests. Though somewhat secretive, and therefore often unnoticed by humans, the spotted salamander plays an important role in the ecosystems in which they live.

Alessandra G.



Mayfly

As an adult, the mayfly lives up to three days. She dies shortly after laying her eggs in small ponds, vernal pools, or streams. When her eggs hatch, the immature mayflies feed on small plants, decaying animals and organic waste. After shedding their skin ten to twenty times, mayfly larvae transform into flying, dull-colored, winged insects.

The adult mayfly is a delicate looking insect with nearly transparent wings. It has two or three long tail filaments with short antennae and bulging eyes, which are sensitive to light.

Andrea B.



Spring Peeper

The spring peeper gets its name from its call. It is a single note that sounds similar to a "peep". Male spring peepers will gather together during the mating season and voice their call to attract a female.

The eggs laid in the pool take about 50 days to metamorphose from tadpole to frog. When the vernal pool dries up, it lives adjacent to the pool until it can return again in the spring. Generally, the spring peeper is a color variation of brown, gray, or green. There are dorsal marks that naturally form an "X" on a spring peeper's back. The adult spring peeper is a little over an inch long.

Adriana T.



Fairy Shrimp

A fairy shrimp is a small crustacean that lives in vernal pools. A fairy shrimp eats all kinds of bacteria, algae, and protozoans. A fairy shrimp does not have any special way of hunting or feeding.

A female lays over 100 - 300 eggs. When the eggs are laid, they fall to the bottom of the pool. They stay dormant through the dry season until the vernal pool fills again. The eggs will now take only two weeks to grow up as adults.

Iriani V.



Gray Treefrog

The color of an adult gray tree frog is gray to creamy white, but the immature frogs are bright green. The adults go to the vernal pool to mate and lay their eggs. They lay 1800-2000 eggs. When they lay their eggs, they attach them to some type of stick, so the eggs won't float away. Their eggs are light colored, gray on top and white on the bottom. They hatch around four to five days later.

Gray tree frogs eat small insects, spiders, mites, snails, and plant lice. Gray tree frogs hide in hollow trees and rotted logs.

Timothy V.



Blue-spotted Salamander

These animals are rare and depend upon the vernal pool to breed. Blue-spotted salamanders usually hide where they are not in direct sunlight. In summer and fall they spend the days in the damp woods. Then they come out at night to eat. Blue-spotted salamanders eat small invertebrates such as slugs, snails, centipedes, earthworms and rove beetles. You will only find one by turning over rocks, stumps or logs in the area of breeding sites.

Heather M.



Wood Frog

Wood frogs inhabit grasslands, forests, wooded and urban areas, and even meadows. Adult wood frogs leave these locations in early spring to return to vernal pools for breeding. The wood frog's call can be heard during March and early April at night and on warm days. It sounds similar to "quork" or "quack."

After the spring breeding period, adult frogs spend their summer exploring for food. Wood frogs can seem scarce during daylight because they are hidden beneath leaves of the woods. However, they can be seen at night if you use a flashlight.

Isabel T.



Dragonfly

Dragonflies are considered a vernal pool species because that is where their temporary home often is. They are an important species in a vernal pool because they eat mosquitoes. Dragonflies usually lay their eggs in the water or in the vegetation at the edges of the pool. The amount of time it takes for the eggs to hatch is five to seven days. The baby dragonflies are called nymphs. The food the nymphs search for is insect larvae or tiny crustaceans that are found in the water. The nymphs must develop into adults before the vernal pool dries up.

Tissan X.



Jefferson Salamander

The Jefferson Salamander grows to be seven to eight inches long. It has a dark brown or gray body with bluish spots along the side of its head, body, limbs, tail and belly. They are usually found underground or under wet leaves. The Jefferson Salamander eats snails, earthworms, insects, small tadpoles and small fish.

During the March and April breeding season they go to the vernal pools. They lay up to 150-300 eggs per year. Once the egg hatches, it takes two-four months to transform into an adult.

Norvege M.



Marbled Salamander

In the fall, after mating, the female salamanders find a place in the dry vernal pool to lay their eggs. After the autumn rains begin to fill the vernal pool, the eggs hatch. The larvae find food in the water and under decaying leaves. As they grow, the tadpoles eat larger organisms such as insects and the tadpoles of the other types of salamanders.

Adult marbled salamanders are mostly underground during the rest of the year. In the daytime they can be found under bark, wet leaves, in decaying logs or even in trash. They eat earthworms, snails, slugs, crustaceans, and spiders.