

# The Secret Pool

By Dan Burnett, Penitentiary Glen Nature Center Manager

Imagine a world where you are so dependent on your environment that rain arriving one day too late or a chance encounter with a water scorpion means the difference between life and death. And so goes life in a vernal pool. These small, but very dynamic wetlands blossom with life every spring. The organisms that inhabit them compete with each other in a daily struggle for food and space, all in a race against dryness.

Vernal pools, also known as ephemeral pools, autumn pools, spring ponds or woodland ponds, temporarily fill with water in autumn or winter due to rising ground water, melting snow or rainfall and usually dry up by late summer. Amphibians and invertebrates (such as insects) living in vernal pools rely on breeding habitat that is free of fish predators. Occasional drying prevents fish from establishing permanent populations in these pools. Although these depressions may not look like important habitat, they are vital to the life cycle of many salamander, frog and insect species that get a relatively predator-free start in life. A vernal pool is a productive hatchery for terrestrial amphibians. During its short period of intense growth, the nutrients and energy of fallen leaves on the pool bottom cycle into the frogs and salamanders of the adjacent woodlands. Most people, even the avid

Vernal pools derive their name from Latin “vernus,” meaning “belonging to spring.”

woodsman, rarely encounter any of these secretive creatures. On rainy spring nights, hundreds of them make the migration trek to the pool to breed and within a few short days return to disappear into the woodlands, living out their 20 years of life within a few hundred feet of the pool.

Some animals have evolved to be completely dependent on these temporary pools for part of their life cycle. These are known as “indicator” vernal pool species. If the indicator species are in the wetland, then it is in fact a vernal pool.

- **Fairy shrimp** are tiny crustaceans that spend their entire lives (a few weeks) in a vernal pool. Eggs hatch in late winter/early spring and adults may be observed in pools in the spring. Females eventually drop an egg case that remains on the pool bottom after the pool dries. The eggs pass through a cycle of drying and freezing and hatch a year later when water returns.
- **Wood frogs** are an amphibian species of the woodlands. They venture to vernal pools in early spring, lay their eggs, and return to the moist woodland for the remainder of the year. Tadpoles develop in the



Dan Burnett collects spotted salamander eggs from a nearby site to “seed” the new pool the following spring. Naturalists were pleased to observe that local salamanders had also found their own way to the new pool.



