

What Is a Vernal Pool?

Emma Kull

As winter's cold clutch slowly relinquishes each spring, what was once a gathering of ice on the forest floor now melts into--what seems to be--an unusually large puddle. At first glance this transformation is easily dismissed as anything but exceptional. However, a closer look will reveal a whole new world brought to life. The newly emergent pool of water is an oasis for species of all kinds, some of which can only survive here in the pool's unique protection. Though it will not last forever, it is a vital ecosystem: a vernal pool.

Vernal pools are temporarily-flooded wetlands in depressions with unique physical attributes that provide a host of critical ecological benefits. Most vernal pools will fill up with water each spring, only to dry up entirely or almost entirely during the summer. This explains their name, since the word 'vernal' means 'spring'. Some vernal pools behave slightly differently than most by filling with water earlier in the year or by drying up in early fall rather than the summer. It is even possible for a vernal pool to be semi-permanent, meaning it may not dry up every year.

Because the physical appearance of a vernal pool varies throughout the year, they are not always easy to identify. So, what does a vernal pool look like anyway? During the wet season, they appear as a shallow pond; in the dry season they become exposed basins. Typically, a vernal pool is no more than 1 hectare, or approximately 2.5 acres. For reference, one hectare is roughly the size of the average baseball field. You may have the best luck finding a vernal pool in one of Michigan's forested areas. However, they are not exclusive to this single setting and can be located elsewhere, like in grasslands or thickets. An important defining feature of a vernal pool is that it lacks continuously flowing inlets and outlets, as well as connection to any permanent bodies of water. Due to this unique attribute, combined with the fact that they dry up on a regular basis, vernal pools are not sufficient habitats for fish species. Without the presence of fish, vernal pools become essential habitat for many different creatures and plants.

Coming across a vernal pool in the springtime is a chance to view a number of unique and rare species. Among them are those known as indicator species, which are the particular species that depend on the vernal pool for all or part of their life. Some vernal pool indicator species in Michigan include fairy shrimp, wood frogs, spotted salamanders, and blue spotted salamanders. Without vernal pools, we cannot expect these indicator species to survive. This loss is preventable through important conservation work that will protect the fragile yet crucial vernal pool ecosystem. Vernal pools are a key ingredient in the larger environmental cause which seeks to promote and advocate for the protection of threatened and endangered species.