

Natural Community

Vernal Pond



Pond in Spring



Pond in Summer

A vernal pond (also called an ephemeral wetland) is a depression that temporarily holds water in the spring and early summer or after heavy rains. These wetlands usually dry up in mid to late summer. They are isolated, without a permanent inlet or outlet. The wet-dry cycle prevents fish from becoming established, which allows for the successful breeding of certain amphibians and invertebrates. Bullfrogs, which are also predators on other amphibians, need a pool to be full for three years to complete their metamorphosis. Vernal ponds have firm bottoms; periodic drying allows leaves and dead plants to compost, forming soil.

Most vernal ponds are the result of the scouring caused from the ebb and flow of flooding rivers, lakes and oceans. Others developed through wind action, earthquakes, falling trees and fire.

Vernal ponds help protect watersheds by capturing and holding water. This allows time for the water to seep into the surface and recharge underground

supplies. As a result, runoff is decreased, erosion is limited and flooding is decreased or eliminated. Ephemeral wetlands also capture sediment, protecting water quality in streams and rivers.

Approximately half the frog species and a third of salamander species in North America depend on vernal ponds (which do not support fish) for their development. Species such as the American Toad, Blanchard's cricket frog and small mouth salamanders (photo) lay their eggs in vernal ponds in the Kansas City area. In addition, vernal ponds are less likely than permanent water ponds to contain fungi that are detrimental to frog, toad and salamander eggs.



Mallards and other migrating waterfowl spend time on vernal ponds during migration, eating insects, crustaceans and seeds for energy to fuel their long flights. Shorebirds (like the spotted sandpiper on the left) patrol the mudflats exposed as water levels drop. Turtles and garter snakes use vernal ponds for feeding stations as they move from one area to another. At night, bats swoop over the pond, attracted by the insects that fly over the water; in daylight, swallows and dragonflies take over the insect hunt.

You can check out a vernal pond on the grounds at Lakeside Nature Center. Constructed in the fall of 2008, it is just starting its life. The area dug out for the pond was always damp; we just made it a little deeper. The source for the water is rainfall and runoff from the Nature Center's roof. There is an area where water can flow out, so the water is almost always moving. We are expecting American toads, smallmouth salamanders and cricket frogs to move in. We have seen mallards on the pond, resting and looking for nest sites. We hope to see humans from Kansas City checking it out as well.