

Vernal Pool Ecology

What are vernal pools?

- A vernal pool is a form of temporary, freshwater wetland that contains water for a portion of the year and supports a fantastic array of wildlife and plants, some specially adapted for these habitats and many being rare species in Virginia. Vernal pools are often found in the floodplain of a stream, in seasonally-flooded woodlands, as sinkhole ponds, or where rainwater and snow collect in forest depressions.
- Vernal pools typically dry up in the summer time and fill up with rain water during the fall and winter. Drying of the pool prevents fish from being predators on the pool's amphibians and other dependant wildlife.
- Vernal pool wetlands are distinguished by the presence of certain indicator species of wildlife known as "obligates". The vernal pool obligates in Virginia are:

Spotted Salamander (most abundant)



Spotted Salamander Egg masses (Opaque looking, Spring)



Jefferson Salamander



Jefferson Salamander egg mass (longer in shape than spotted egg mass, more transparent, and often attached to a stick)

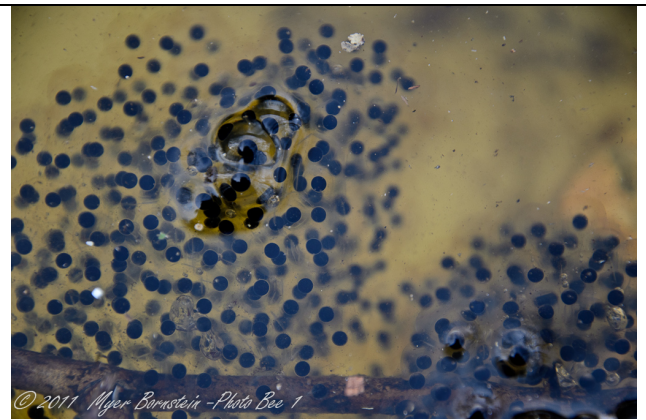




Marbled Salamander (lay egg masses in autumn)



Wood Frog



Wood Frog Egg mass (missing outer matrix that is found in salamander egg masses)

- Vernal pools provide critical breeding and nursery habitat for all of the species above that spend their larval and juvenile stages in the vernal pool, but are terrestrial animals when there is no longer water in the pools during the summer and fall months. These species require vernal pools to breed because fish cannot survive the dry periods, and therefore are not present to predate on the amphibians and macro invertebrates.
- Forest buffers are important for the diversity of terrestrial organisms that use the vernal pools for reproduction. Some of the mole species of salamanders that use vernal pools can travel 1000ft away from the pool to return to their homes, and they are very site specific about returning to the same pool each year.
- There is also one crustacean that is entirely dependant upon vernal pools for their survival and are also quite rare, the Fairy Shrimp. Once they lay their eggs, the adults will die out and the eggs will remain in stasis until the return of water the following year, where they will hatch and start out a new generation of shrimp that breed and lay eggs. Fairy shrimp are between ½” to 1 ½” in length.



For More Info: http://www.vernalpool.org/vernal_1.htm
<http://www.dgif.virginia.gov/habitat/vernal-pools-and-salamanders.asp>
<http://www.lynchburgbiz.com/virginiasvernalpools/educate.htm>