



## Top 10 Salamanders of Prince William Forest Park



Clockwise from left- Spotted salamander, red-backed salamander, mud salamander, two-lined salamander, white-spotted slimy salamander All photos courtesy of Andrew Hoffman

### Overview

Salamanders are considered by some to be one of the ‘creepy crawlies’, but many people simply don’t consider them at all. Small, quiet, and often nocturnal, they aren’t on the radar of even the most observant nature lovers. But if you look under fragrant leaf litter, rotting logs, or by a rippling stream, you may find one peaking out at you hoping you aren’t a predator.

### What’s In a Name?

The word “salamander” translates from greek meaning “fire lizard”. The origin of this name probably goes back to the observation of a salamander emerging from a fire after a fresh log was thrown in. They sleep in such places and are forcibly evicted by the flames. However, it was mistakenly believed that since this

animal crawled from the fire that it was born of fire, or perhaps fire resistant. It’s a rather ironic title for an animal that isn’t a lizard at all, but an amphibian who must stay cool and moist in order to survive. Hence the name “fire lizard” was originated, and still persists today.

### An Indicator Species

Salamanders are amphibians, living part of their lives on land and part in water. Worldwide there are over 400 different species. You will only find them in moist habitats because they need to keep their skin wet to survive. Many of them also lay their eggs in water, having a larval stage that looks more like a tadpole than a baby salamander. The diversity and fragility of these creatures makes them a challenge

to study. Salamanders are an indicator species. A decrease in their numbers often indicate to scientists a decrease in watershed health. This can be caused by ‘point-source’ pollution such as a drainage pipe or leaky oil pan from a car; or ‘non-point source’ pollution such as acid rain. Prince William Forest Park protects a majority of the Quantico Creek watershed and is often looked at as a high water quality area.

### Identity Crisis

The terrestrial salamanders generally have rounded tails, and aquatic salamanders have a more laterally compressed tail that acts as a ruder and for propulsion. As with most wildlife, when looking to identify a species there are certain characteristics one must observe for the sake of accuracy.

The number of toes, eye striping, ventral coloration, and habitat are just a few examples of what to look for to correctly identifying an animal. The number of costal grooves (the lines seen on the animal’s sides) show the position of the ribs and can also be a distinguishing characteristic.

### Variety Abounds!

You will see the term “migration” occur frequently in salamander field guides. This refers to the movements that occur to the breeding ponds. There is a lot of variation in salamanders that isn’t present with other groups of animals. Most lay eggs in water, but some on land. Some hatch as juveniles (skipping larval stage) and some as larvae.

Most juvenile and adult stages are terrestrial, but some are aquatic. Larvae are called tadpoles and look very similar to frog tadpoles, except salamander larvae also possess fluffy external gills that are very obvious. Keep in mind that not all salamanders even within a species will look alike. Variation in the darkness of patterns, or amount of striping is common within all amphibians.

Prince William Forest Park has wonderful salamander habitat. Two major streams run through the park, providing the moisture that is so vital to their survival. The mature deciduous trees produce a deep layer of detritus, or dead decomposing plant matter, that shelters the salamanders from the drying sun and wind. The life span of salamanders can vary greatly, but they have been known to live up to 20 years in captivity. Some of the representative species we have in the park will be discussed here.

**Red-backed**  
*Plethodon cinereus*



These common terrestrial salamanders are 2.5-4" and have relatively short legs. There are three possible color morphs; a base gray color with a red stripe or orange stripe down back, or a third "lead back" phase that is solid gray. We think elevation determines coloration, but more research needs to be done. "Red backs" are found in less damp woods, are fairly common, and will climb shrubs for food. These salamanders lay eggs under rotten logs in early summer which the female will defend. Their larvae are terrestrial.

**Northern Dusky**  
*Desmognathus fuscus*



Duskyies are a rather non-descript light brown with worm-like markings, and faint blotchy stripes on their sides. They can reach 2.5-4.5", and may be the most common salamander in the US. They are strongly terrestrial but are never far from running water.

**Marbled**  
*Ambystoma opacum*



Marbled salamanders have a black background with gorgeous gray bands down the body. In females its more of a silvery gray and in males its nearly white. They can reach 3.5-4.5" and have a stocky appearance. Their eggs are laid in leaf litter in the fall, and are among the first to hatch, often eating other salamander larvae. The aquatic larvae are easy to see since they are the only ones active in winter. Juveniles are terrestrial and are found in drier areas.

**Spotted**  
*Ambystoma maculatum*



A large salamander reaching 4.5-7.5" They are solid gray to blue with large yellow spots, but the clear belly with no markings is also a great identifying characteristic. They breed in late winter and are distributed throughout most of Virginia. Their larvae is aquatic and they can eat larger prey items, including other salamanders.

**Eastern red-spotted newt**  
*Notophthalmus viridescens*



These adaptable newts as adults are aquatic to semi-aquatic depending on their available resources. Adults are greenish with red spots on their sides and are easily caught with a dip net. Their aquatic larval stage lasts 2-5 months, but it is the terrestrial juvenile stage that gets the most attention. They are bright red with darker red spots, toxic to most predators, and live for 2-7 years. They are called "red efts" but despite the drastic difference in appearance, are in fact the same species as the more drab adults.

**White-spotted slimy**  
*Plethodon cylindraceus*



The common name aptly describes these salamanders, with a base color of dark black with scattered white spots. They possess a robust rounded tail, and can reach 4.5-6". They secrete a slime that is very hard to remove from hands and does well at warding off predators. The eggs are laid on land in moist dark areas in the summertime, and young hatch as juveniles, skipping the larval stage entirely. They have an advantage in that they can survive in both aquatic and terrestrial habitats, depending on what is available.

**Two-lined**  
*Eurycea sp.*



Both the northern and southern varieties of this salamander can occur in the park. Indistinguishable by sight, for our purposes we won't worry about differentiating them. The two-lined is 2.5-4.5" in length, and is yellow-orange with dark stripes down the back and sides, belly is yellow as well. Eggs are laid under rocks in the water, hatching into an aquatic larvae lasting 1-3 years.

**Eastern mud**  
*Pseudotriton montanus sp.*



Adults reach 3-6" and are stocky with a muddy red background color with darker red on their back. Juveniles are brighter red, but very similar, both having black spots. Eggs are laid every other year, hatching into aquatic larvae around February.

**Northern red**  
*Pseudotriton ruber ruber*



4-6" long. Another red-orange salamander with small black dots, but no flecks around the snout. They have a yellow iris and a clear unmarked belly. Their coloration seems to mimic the toxic red eft, however they are not toxic. They can be found near cold streams, but further away from water than some other salamanders. The aquatic young hatch in winter, and become terrestrial adults in 2 1/2 years.

**Four-toed**  
*Hemidactylium scutatum*



2-3.5" long. Gray above with distinctive white belly with dark spots. Egg are laid in late winter in moist spagnum moss as this is a requirement within their habitat. They have an aquatic larval stage that drop into water when they hatch. The adults are terrestrial and are usually found under leaf litter. As their name implies, there are only four toes on the hind feet instead of the more typical five toes.