

# Loudoun Wildlife Conservancy

People and Wildlife Living in Harmony

## Jefferson Salamanders

Vol. 14 Issue 4, Winter 2009

By Joe Midolo & Mike Hayslett

During the summer months, before the days begin to cool and the leaves become tinged with the hues of autumn, their juveniles emerge from the vernal pools. Having hatched in late winter or early spring, the tiny amphibians are approaching 5–6 cm in length and are now ready to venture from their aquatic nurseries and burrow into the earth, where they will weather the coming winter. These unique creatures are known as Jefferson salamanders (*Ambystoma jeffersonianum*), beautiful, but uncommon, members of the mole salamander family.

The Jefferson salamander emerges from its underground burrow typically in the winter in order to breed. The Jefferson salamander will usually lay its eggs in vernal pools or wetlands close to moist forest areas, making its life cycle vulnerable to human construction. The female salamanders will lay 200–250 eggs, typically in 8–10 small masses that contain 20–30 eggs each. These egg masses are generally attached in a row along submerged sticks. The eggs will hatch about 5 weeks later, around April in the northern Virginia region. Due to predation by aquatic invertebrates and even other Jefferson salamanders, few of the tadpoles or “larvae” will make it to adulthood. While the adults are muted dark brown to gray with a pale-gray belly and light bluish flecks along their flanks, the juvenile salamanders are simply gray all over with some faint hints of blue. These juveniles will leave their aquatic homes around June or July in Virginia and migrate to nearby deciduous forests to mature under the ground.

This finicky amphibian is the namesake of Jefferson College in Pennsylvania, one of its primary areas of range in the East. That being said, the Jefferson salamander’s habitat is surprisingly very limited. Found from southern Canada and New England down into Ohio, Virginia and Kentucky, it is unusual to see them elsewhere; impossible west of Illinois. Unfortunately, this beautiful and elusive amphibian is becoming all the more scarce due to habitat destruction and from hybridization in the northern parts of its range. Male Jeffersons are able to breed with blue-spotted salamanders (*Ambystoma laterale*), producing a solely female hybrid referred to as “triploid” Jefferson salamander. The female triploid Jeffersons breed with pure male Jeffersons, creating offspring that are, again, solely female triploids. If this pattern continued, eventually all the pure Jefferson salamanders could become extirpated in regions like Ontario and New York. Fortunately, the blue-spotted salamander and this hybridization phenomenon only occur in a small portion of the Jefferson’s northern range, and definitely not in Virginia!

The habitat specifications for the Jefferson salamander are extremely specialized: vernal pools or wetlands that retain a fair amount of water into the summer months, contain few or no fish and limited vertebrate predators, and are located relatively near moist, deciduous forests with a large amount of leaf cover, fallen logs, and rock crevices. Amazingly, there are places that fit the specific needs of this delicate salamander right here in Loudoun County!

Surprisingly distant from the usual range of this fragile salamander, Loudoun is the furthest east for this species in Virginia and the only Piedmont county where they can still be found in the state. Our very own Rust Sanctuary (Leesburg) and the Blue Ridge Center (Neersville), as well as some rare sinkhole ponds in the Lucketts area, play host to important populations of these imperiled salamanders. It is truly amazing that such a creature could have found these suitable habitats and persisted here, so far from its usual (mountain) stomping grounds!

*For more wildlife and habitat information and resources, visit us at: [www.loudounwildlife.org](http://www.loudounwildlife.org)*