

The Blue-spotted Salamander

Though much remains to be learned about the blue-spotted salamander, one thing is very certain: it is an endangered species in New Jersey. This small amphibian, approximately 4 to 5 inches in length, can be found only in selected portions of the Upper Passaic, Pompton and Whippany floodplains, where its population has been reduced and scattered as a result of residential and commercial development.

The adult feeds on worms and terrestrial insects, while the larvae feed on plankton, crustaceans and aquatic insects. The blue-spotted salamander belongs to a group referred to as “mole salamanders” because, like moles, this amphibian lives under ground for much of its early life. The adult is terrestrial and requires a relatively mature forest with deep humus and rotting logs for its habitat. It can usually be found under logs, boards, stones and, sometimes, debris such as discarded cardboard or broken concrete.

This salamander has a blue-black ground color and is flecked with light blue or white along the sides of the body and tail — a color which closely matches the enamelware pots that people used many years ago. It is often confused with the Jefferson’s salamander, even though the latter species has proportionally longer toes, grows larger (4 to 7 inches) and usually lacks blue spots.

The age at which blue-spotted salamanders become sexually mature is not known, but is presumed to be at two to three years. The amphibian will migrate to breeding ponds in late March and early April. Most of the breeding migration will take place during rainy nights. Known breeding areas include temporary woodland ponds, marshy ponds with many thick clumps of sedges, extensive red maple swamps and roadside ditches.

In all these areas, clean water is critical

to this species. In addition, water level is very important. If the water level is too low, the breeding site may dry up before the salamander larvae are ready to leave. Too high a water level may introduce egg and larvae-eating fish into the breeding site.

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After courtship, the female will deposit masses of three to 20 eggs on twigs, leaves or aquatic vegetation. The eggs will hatch in two to three weeks and the larvae will metamorphose (i.e., change physical form) in 90 to 100 days. Much like frogs, the larvae first have gills and look like small guppies before developing legs. At this time, the juveniles will spread out from the breeding pond.

Since finding the salamander before or after breeding season is largely a matter of chance, very little is known about this

species outside the reproductive process. Generally hard to observe, the salamanders move about on rainy nights, but take shelter before morning. When uncovered, the salamander will sometimes display its tail. This is possibly a defense posture against predators, such as the green or great blue heron, which may attack and break off the tail but allow the salamander a chance to escape.

Predators are one agent that may imperil a species. Generally, an endangered species is in immediate danger due to one or more factors. Besides predators, these include — but are not limited to — a loss or change in habitat, exploitation, competition or disease. An endangered species requires immediate assistance, or extinction is bound to follow.

Most nongame zoologists would agree that habitat protection is the most important management tool available for protecting the blue-spotted salamander. This includes maintaining breeding sites and protecting water quality, the wooded areas around breeding sites and migration corridors. Although it will not be easy, we must do all we can to ensure the blue-spotted salamander is given every opportunity to survive in the Garden State. Otherwise, we will never learn more about it or its unique place in New Jersey’s complex ecosystem.

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