

WOODLAND POOL CONSERVATION

Amphibian Migrations and Road Crossings



Hudson River
Estuary Program

Why did the salamander cross the road?

Have you ever witnessed large numbers of salamanders and frogs crossing the road on rainy spring nights? Ever wonder where they came from and where they're going?

Mole Salamanders and Wood Frogs

The forests of New York are inhabited by a group of salamanders that are seldom seen, as they spend much of their time under leaves and moss on the forest floor, in burrows created by small animals and hunkered down under rocks and rotting logs. Referred to as "mole salamanders" because of their subterranean shelters, this group belongs to the family *Ambystomatidae* and, in the Hudson Valley, includes the spotted salamander (*Ambystoma maculatum*), the Jefferson salamander (*A. jeffersonianum*), the blue-spotted salamander (*A. laterale*) and the marbled salamander (*A. opacum*). These salamanders forage on the forest floor for a variety of invertebrates, including earthworms, snails and insects. Another small amphibian in the forest is the wood frog (*Rana sylvatica*). Mole salamanders and wood frogs are important links in forest food webs and indicators of healthy, functioning ecosystems.

Seasonal Migrations and Road Mortality

While they spend much of the year in their terrestrial habitats, mole salamanders and wood frogs all breed in woodland pools, a type of small, temporary wetland found in forests. During late winter and early spring on warm, rainy nights, these amphibians migrate to breeding pools by the hundreds, if not thousands. The marbled salamander is different from the other species in this group, as it breeds in the fall.



Wood frog

Photo by L. Heady



Woodland pool

Photo by L. Heady



Spotted salamander

Photo by L. Heady

When do spring migrations occur?

Amphibian migrations in the Hudson Valley usually occur on rainy nights in late March to mid-April. The timing depends on several conditions:

- Thawed ground
- Night air temperature above 40°F
- Evening rain

Other factors such as snowpack can cause local variability in the timing of migrations.

But why are these amphibians so frequently seen crossing the road? Migration distances to woodland pools can vary from a few hundred feet to more than a quarter of a mile! Unfortunately, migration pathways often cross roads and long driveways, leading to mortality of slow-moving wildlife, even in low traffic areas. Fragmentation of forest habitats and loss of wetlands also contribute to declines in amphibian populations in the region.

How can you help?

The Hudson River Estuary Program and Cornell University Department of Natural Resources and the Environment are working with communities to conserve forests, woodland pools and the wildlife that depend on these critical habitats. You can help by participating in the **Amphibian Migrations and Road Crossings Project**.

By reporting when and where you see migrations of woodland pool amphibians, you can help us to identify and map road crossings where mole salamanders and wood frogs are especially vulnerable, and to learn more about where their habitats are located. This information can then be used for community planning and for groups of volunteers interested in starting “crossing guard” programs for the breeding season. Eventually, we may also learn whether the timing of spring migrations is shifting due to climate change.



More than 350 project volunteers have assisted amphibians to safety where migration routes cross roads. Photo by L. Heady

To get involved:

Visit the Amphibian Migrations and Road Crossings website at <http://www.dec.ny.gov/lands/51925.html> to:

- sign up to receive migration alerts and project emails
- watch a video about the project
- access volunteer training materials
- review amphibian identification guides
- submit your migration data.

The Amphibian Migrations and Road Crossings Project is part of a larger effort to partner with local communities to conserve the diversity of plants, animals and habitats that sustain the health and resiliency of the entire estuary watershed. To learn more about the Estuary Program and Cornell’s work with conservation planning in the estuary watershed, visit <https://hudson.dnr.cals.cornell.edu/>.

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