

GREEN SALAMANDER

NORTH CAROLINA WILDLIFE RESOURCES COMMISSION

fact sheet, 2005

The southeastern United States has the largest diversity of salamander species in the world. North Carolina is home to approximately 56 species of salamanders, many of which are located only in specific isolated habitats. One rare salamander that lives in our state is the green salamander. This unique Southern Appalachian Mountain amphibian occurs only in two relatively small areas of North Carolina.

The green salamander reaches approximately 5 inches in length and can live for up to 10 years. This salamander species has unusual camouflage—its black flat body is covered in patches that range in color from bright green to yellow which allows it to blend in with its typical environment of lichen-covered rocks and mossy tree branches. The tips of its padded toes are squared, another unique feature of this salamander's appearance.

HABITAT PREFERENCES

The green salamander is usually active at night due to the cooler and wetter conditions produced by mountain fog and evening dew. Although it sometimes lives in decaying tree cavities, this rare salamander will usually inhabit rocky outcrops with deep, narrow crevices. Its flat body allows it to squeeze into tiny rock crevices that provide protection from predators and the high humidity it needs. Recent and ongoing research has shown that this species can be arboreal, often using trees as cover and for foraging.

Like most salamanders in the United States, the green salamander does not have lungs. Instead it must exchange oxygen and carbon dioxide through its skin. It requires cool, moist habitats that provide enough moisture to allow for the gas exchange.



A UNIQUE BREEDING STRATEGY

Green salamanders usually mate in the spring and typically breed every two years. Unlike most amphibians, including frogs, toads and some other salamanders, green salamanders do not have an aquatic larval life stage. Instead, the female will lay her 20 or so eggs in a cluster and suspend them from the ceiling of her rock crevice. This seems to be an adaptation to help insulate the egg cluster and maintain warmer temperatures for incubation. The eggs will hatch in approximately 45 days, and the female will stay with the hatchlings for a few months before crawling deeper into the crevice for the winter.



These green salamanders were captured on film in their typical habitat—lichen-covered rock outcrops in the Southern Appalachians.



Information on the green salamander is limited due to its nocturnal habits and preference for tight spaces.



A Wildlife Commission biologist searches for green salamanders.

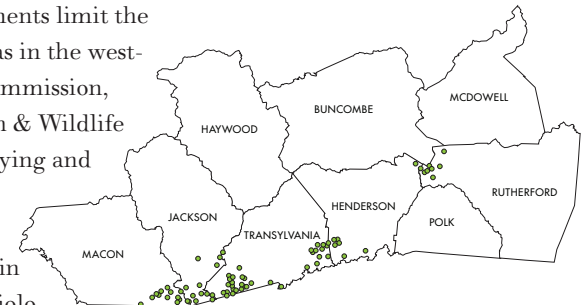
POPULATION DECLINE

Green salamanders are very difficult to locate and monitor since they are usually active at night and live in small inaccessible rock crevices. Therefore, not much is known about the exact range and abundance of the green salamander in North Carolina. Some researchers believe that populations declined between the 1970s and 1990s. However, biologists are uncertain if green salamander populations actually declined and, if so, what possible causes contributed to the decline.

The N. C. Wildlife Resources Commission became concerned about the green salamander population in North Carolina. Because of the salamander's restricted range and possible decline, the Commission listed this salamander as an endangered species in 1990.

SURVEYS AND MONITORING

Its specialized habitat requirements limit the green salamander to a few areas in the western region of our state. The Commission, with a grant from the U. S. Fish & Wildlife Service, recently began a surveying and monitoring program in the mountains to locate and assess green salamander populations in North Carolina. Commission biologists will record the breeding status or age class of each green salamander found and its location. With more intense monitoring, biologists hope to locate more of these secretive salamanders. The data collected through these monitoring efforts will be used to update the status of our state's population and determine the need for continued research and conservation.



Green salamanders occur in two distinct population clusters in North Carolina—one on the Transylvania/Henderson boundary and the other in Macon, Jackson and Transylvania counties.

HOW YOU CAN HELP

1. Maintain forest habitat around rock outcrops used by green salamanders to prevent them from drying out.
2. Educate yourself and others about the green salamander.
3. If you see a green salamander in the wild, do not collect it.
4. Join a conservation organization to stay informed about current research and conservation efforts.
5. Donate to the N. C. Nongame and Endangered Wildlife Fund.

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