



Atlantic Coast Slimy Salamander

Plethodon chlorobryonis



DESCRIPTION: Slimy salamanders are dark gray to black, with white or cream colored spots on their backs and sides. Slimy salamanders are named for their extremely sticky skin secretions used to defend against predators.

FACT: Slimy salamanders exhibit direct development with no aquatic larval stage. Instead, when young salamanders emerge from their eggs, they look like miniature adults.

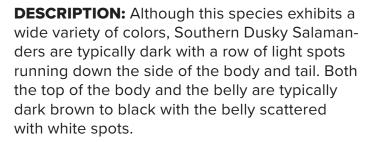
HABITAT/RANGE: They can be found in the Coastal Plain.



Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Jeff Hall.

Southern Dusky Salamander

Desmognathus auriculatus



FACT: Although still prevalent, this species appears to have experienced widespread declines. The cause of these declines is still unknown.



HABITAT/RANGE: Southern Dusky Salamanders live in swamps and pools in both bottomland forests and floodplains throughout the North Carolina Coastal Plain. Individuals are most frequently encountered in leaf litter or under decaying logs.







Broken-striped Newt

Notophthalmus viridescens dorsalis



DESCRIPTION: The adult Broken-striped Newt is roughly 3 ½ inches long. Olive green and yellow in color, the Broken-striped Newt gets its name from a broken red stripe edged in black that extends from the back of the head to the base of the tail on each side.

FACT: Newts have four different stages of growth with different coloration associated with each stage—egg, larva, eft, and adult.

Newt inhabits the southeastern Coastal Plain and the Sandhills and is a subspecies of the Eastern Newt.



Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Jeff Hall.

Dwarf Waterdog

Necturus punctatus

DESCRIPTION: The Dwarf Waterdog has fourtoed feet on its front and back legs, a set of large feathery gills, and a flattened tail. Dwarf Waterdogs have a gray to brown body color without spots (although some dark spotting may occur on the tail). The gills are usually red, and the middle of the belly is a solid white or cream color. Juvenile Dwarf Waterdogs are a solid brown color, except for a bluish white belly and a mottled tailfin. Similarly, larvae are a uniform brown color.

FACTS: The Dwarf Waterdog is similar to the Neuse River Waterdog and Common Mudpuppy but is smaller and thinner than those species.



HABITAT/RANGE: Dwarf Waterdogs are fully aquatic salamanders that can be found in the eastern half of North Carolina. Dwarf Waterdogs prefer slow-moving streams with plenty of leaves and silt, but they can also be found in clear, faster-moving streams. The Dwarf Waterdog is most active during the winter and is primarily nocturnal.



Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Jeff Hall.





Mabee's Salamander

Ambystoma mabeei

DESCRIPTION: The Mabee's Salamander is a plump brown or black salamander with a brown or gray belly. Its sides are heavily speckled with flecks of white. Once hatched, the larvae have a yellow stripe on each side and a more uniform brown coloring than adults. As they mature, they develop two indistinct creamcolored stripes in place of the single stripe.

FACT: Mabee's Salamanders are similar to the Mole and Slimy Salamanders. They can be differentiated from the Mole Salamander by its smaller head and long toes. For the Slimy Salamander, the Mabee's are without the groove between the Slimy's nose and lip, and the Mabee's is a more robust salamander.

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HABITAT/RANGE: In North Carolina, Mabee's Salamanders are found only in the Coastal Plain. They typically spend their adult life in burrows in the ground near bogs, ponds, and swamps.

LISTED: State Threatened



Dwarf Salamander

Eurycea quadridigitata

DESCRIPTION: This species has four toes on the front and hind limbs, unlike most salamanders in the same family, which have five toes on the rear limbs. They have a brownish-yellow back, with darker sides. Dwarf Salamanders have a dark silver underside with dark brown flecks.

FACT: Dwarf Salamanders and Chamberlain's Dwarf Salamanders were formerly considered to be different "color morphs" of a single species.



HABITAT/RANGE: Found in the Coastal Plain and lower Piedmont of North Carolina. Dwarf Salamanders are commonly found along the margins of ponds in pine forests or savannahs. They may also be found around swamps and bottomland hardwood forests.

LISTED: State Species of Special Concern







Chamberlain's Dwarf Salamander

Eurycea chamberlaini

DESCRIPTION: Chamberlain's Dwarf Salamanders have a bright yellow underside, compared to the dark silver of the Dwarf Salamander. Larval Chamberlain's Dwarf Salamanders have a few spots on the back, which are absent on larval Dwarf Salamanders.

FACT: Dwarf Salamanders and Chamberlain's Dwarf Salamanders were formerly considered to be different "color morphs" of a single species.

HABITAT/RANGE: Chamberlain's Dwarf Salamanders are found in the Coastal Plain and lower Piedmont of North Carolina. They occur only the southeastern part of the state. Chamberlain's Dwarf Salamanders may be found in a variety of habitats but are most frequently encountered in seepage areas around ponds and streams.



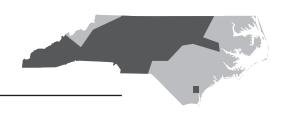
Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Jeff Hall.

Three-lined Salamander

Eurycea guttolineata

DESCRIPTION: The color of this salamander varies from tan to yellow. Three dark stripes run down the back and sides, making this salamander very distinctive. The middle line runs down the center of the back to the base of the tail. The other lines are on the sides of the body. In some individuals, the central stripe may be discontinuous and appear as a series of dark bars with small spaces between them.

FACT: Larvae in some mountainous populations will occasionally overwinter as larvae and transform into adults the following year.



HABITAT/RANGE: Three-lined Salamanders are fairly abundant at lower elevations in much of central and western North Carolina. Although terrestrial as adults, Three-lined salamanders are rarely found far from wetlands, springs, streams, and wet ditches.







Tiger Salamander

Ambystoma tigrinum

DESCRIPTION: Tiger Salamanders are very heavy-bodied with large, wide heads and small eyes. They have brown, black, or blue bodies with yellow to olive brown irregular blotching. Their belly is olive to cream in color with dark marbled patterning.

FACT: The Tiger Salamander is the largest terrestrial salamander in the world and can reach lengths of thirteen inches.

HABITAT/RANGE: Tiger Salamanders are only found in a few counties in a small section of the upper Coastal Plain. Tiger Salamanders dig their own burrows and rarely emerge. During the breeding season, they can be found in ephemeral pools, fishless ponds, and slow-moving streams.

LISTED: State Threatened



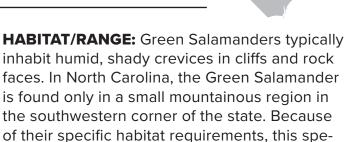
Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Jeff Hall.

Green Salamander

Aneides aeneus

DESCRIPTION: The Green Salamander has an unmistakable lichen-like pattern of green or yellow green on a dark background. This salamander has a flattened body and has squared toe tips.

FACT: A second species of Green Salamander is also recognized in NC, the Hickory Nut Gorge Green Salamander (*Aneides caryaensis*).



cies has a patchy distribution and is generally uncommon throughout its range.

LISTED: State Threatened







Southern Pygmy Salamander

Desmognathus wrighti



DESCRIPTION: The pygmy salamander is our smallest salamander. Although the coloration of the back is variable, all individuals have an obvious chevron pattern. As in most salamanders of the same family, a light line is present from the eye to the back of the jaw.

FACT: Pygmy salamanders are most active at night, especially during rainfall.

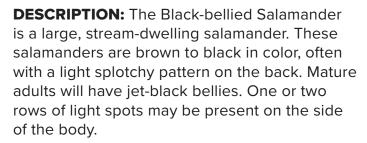
HABITAT/RANGE: The s salamander is found throughout the southern Appalachians and is typically associated with high elevation spruce-fir forests. This species may be found on the forest floor, often far from water. Individuals may even be found perched on leaves, stems, and tree trunks.



Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Todd Pierson.

Black-bellied Salamander

Desmognathus quadramaculatus



FACT: Black-bellied Salamanders have historically been sold as fish bait across much of their range.



HABITAT/RANGE: In North Carolina, the Black-bellied Salamander is often abundant in cool, steep mountain streams. Although Black-bellied Salamanders are generally aquatic, they may also be found along stream edges, in seepages, in burrows in the bank, and on wet rock faces.







Spring Salamander

Gyrinophilus porphyriticus

their eyes to the tips of their snouts.

DESCRIPTION: This large, stout salamander may reach lengths of up to 9 inches. Coloration of the body ranges from pale pink to reddish orange. The back and sides usually contain scattered black spots, along with dark mottling. Spring Salamanders have lines that extend from

FACT: Spring Salamanders produce noxious skin secretions to repel potential predators. They are also known to be highly predaceous on other salamanders.

HABITAT/RANGE: Spring Salamanders may be found in and around headwater streams, caves, springs, and seepages. These salamanders reach their highest densities throughout the mountains of North Carolina but may also be found in headwater streams and springs in the western Piedmont. Despite having a wide range in western North Carolina, Spring Salamanders are known for being difficult to find as adults. Larvae are usually more readily discovered in

creeks and seeps.



Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Todd Pierson.

Southern Gray-cheeked Salamander

Plethodon metcalfi

DESCRIPTION: These salamanders are uniform gray in color lacking white or red markings anywhere on their bodies. The four species of gray-cheeked salamanders include, Blue Ridge Gray-cheeked, South Mountain Gray-cheeked, Southern Gray-cheeked, Northern Gray-cheeked. They are all essentially identical in appearance and are best identified by location, with two of these species, the Blue Ridge Gray-Cheeked and South Mountain Gray-cheeked being endemic to North Carolina.

FACT: When threatened, gray-cheeked salamanders release noxious, sticky skin secretions which are used to deter predators. They exhibit direct development with no larval stage.

HABITAT/RANGE: Gray-cheeked salamanders are generally found only in forests in mountainous terrain. This highly terrestrial species is often found under rocks, logs, or debris on the forest floor. These salamanders are most easily detected at night, especially in wet conditions, as individuals wander the forest floor in search of food. In some parts of their range, gray-cheeked salamanders may also be found in rock crevices.



Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Todd Pierson.





Mud Salamander

Pseudotriton montanus

DESCRIPTION: Mud Salamanders range from bright red in some juveniles to dark orangish brown or purplish brown in adults. The back usually contains well separated black spots or flecks. They have brown eyes and blunt, short snouts.

FACT: Mud Salamanders consume a wide variety of aquatic and terrestrial invertebrates, but are also thought to consume other salamanders.

HABITAT/RANGE: These salamanders are found across much of North Carolina but are most common at lower elevations. True to their name, Mud Salamanders seldom stray far from muddy, mucky habitats such as lowland seeps, wetlands, swampy pools, floodplain forests, and muddy streams. These salamanders are often found in burrows or under cover objects.



Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Todd Pierson.

Neuse River Waterdog

Necturus lewisi

DESCRIPTION: The Neuse River Waterdog has a reddish-brown body with an irregular pattern of brown or black spots. The belly is typically a dull brown or gray color with spots similar to those seen elsewhere on the body. This species, like the other members of the genus *Necturus*, has four toes on its front and back feet as well as a set of large feathery gills.

FACT: As juveniles, Neuse River Waterdogs are spotted like the adults but the base body is somewhat lighter in color. Young individuals may also have a lighter stripe along the back with darker colored sides and black flecking. Larvae for this species are entirely brown except for two white spots, one behind each eye.



HABITAT/RANGE: Neuse River Waterdogs are fully aquatic salamanders found only in the Neuse and Tar River watersheds of Northeastern North Carolina. These waterdogs live in both streams and rivers. Typical habitats include areas with leaf litter as well as stream reaches with harder clay or soil beds. Logjams serve as particularly good habitats for these salamanders. Stream pollution and clearing of logjams both threaten the species. The Neuse River Waterdog remains mostly hidden during the day, coming out to forage at night. It is most active during the coolest months of the year.

LISTED: State Species of Special Concern and Federally Threatened

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Greater Siren

Siren lacertina

DESCRIPTION: The Greater Siren is an aquatic species with a stout, eel-like body. Adults are usually gray or olive, with dark spots on the head, back, and sides. The sides are lighter in color and have many faint greenish-yellow dashes and blotches. These salamanders have external gills with three gill slits. They have front limbs only, each with four toes. The common name "greater" comes from the fact that the other species in the genus, the Lesser Siren measures less than 2 feet in total length, in contrast to the Greater Sirens which can exceed 3 feet in length.

HABITAT/RANGE: Sirens are most commonly found in ditches, swamps, ponds and other slow-moving fresh water. This nocturnal species spends most of the day hidden under debris or rocks, burrowed in mud or thick vegetation. Their skin glands secrete a moisture-sealing cocoon over their entire body except the mouth.

FACTS: Sirens are generally regarded as among the most primitive living salamanders, meaning they still heavily resemble previous evolutionary ancestors.



Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Todd Pierson.

Lesser Siren

Siren intermedia

DESCRIPTION: The Lesser Siren is an eellike aquatic salamander with a long slender
body and a very small dorsal fin. The front legs
are extremely reduced, and the rear legs are
completely absent; each foot has four toes.
The head is rather flattened, and bushy external gills are located on each side of the head.
The Lesser Siren varies in coloration from light
grayish green to olive or black; there are also
small irregular markings (dots) visible on lighter
colored individuals. The designation "lesser"
comes from the fact that most Lesser Sirens are
less than 2 feet long (total length), in contrast
to Greater Sirens, which may exceed 3 feet
in length.



HABITAT/RANGE: Lesser Sirens will inhabit any slow-moving and sluggish body of water that is shallow and has abundant aquatic vegetation including marshes, ponds, ditches, and canals. In most circumstances, they need a permanent or semi-permanent body of water, but they are able to move short distances over land or stay encased in a cocoon of slime if drought occurs.

FACTS: Sirens are generally regarded as among the most primitive living salamanders, meaning they still heavily resemble previous evolutionary ancestors.

Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Todd Pierson.

ncwildlife.org





Two-toed Amphiuma

Amphiuma means

DESCRIPTION: The Two-toed Amphiuma ranges in color from brown or dark gray to almost black. The eyes and limbs of an amphiuma are very small, and just as its name indicates, each leg has two toes. Amphiumas do not have external gills but instead have a single pair of gill slits.

FACTS: One may confuse the Two-toed Amphiuma with Greater or Lesser Sirens. Sirens, however, have external gills and only one pair of limbs while the Two-toed Amphiuma has two pairs of legs and lacks external gills.

Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Todd Pierson.



HABITAT/RANGE: Adults and juveniles can be found in hardwood and cypress swamps, temporary bodies of water, canals, and streams. Typically, Two-toed Amphiumas prefer bodies of water with debris and detritus but they may also be found in clear streams.



Eastern Hellbender

Cryptobranchus a. alleganiensis

DESCRIPTION: The Eastern Hellbender is a very large aquatic salamander with a flat body shape and wrinkled folds of skin on its sides. It has a broad, flat head with small eyes and a broad, flat tail. Hellbenders are typically brown to orange in base coloration, with blotches of tan, brown, or black. They become adults between six and eight years of age.

FACTS: They are sometimes referred to as "snot otters" due to the thick slime covering its body. Hellbenders breathe through their skin and, thus, are very sensitive to water pollution.



HABITAT/RANGE: Hellbenders can be found in western North Carolina. In NC, they only inhabit waters that eventually empty into the Mississippi River.

LISTED: State Species of Special Concern







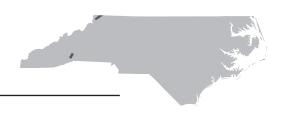
Common Mudpuppy

Necturus m. maculosus

DESCRIPTION: The Common Mudpuppy is an aquatic salamander, usually dark brown or gray, with dark blotches down the entire body and a spotted belly. Dark coloring on the face is usually present from the nostrils to the gills. They have large, feathery gills with deep red coloring and a flattened tail.

FACTS: Although called the Common Mudpuppy, the term "common" refers to its broad distribution throughout much of the Northeast, rather than its actual abundance. In NC this species is fairly rare.

Produced by the North Carolina Wildlife Resources Commission,



HABITAT/RANGE: Common Mudpuppies are found only in a few western North Carolina counties. Various bodies of water are suitable Mudpuppy habitat – lakes and ponds, streams and rivers, ditches and reservoirs—but they generally prefer waters with high oxygen content. Juveniles will inhabit waters with high amounts of organic matter.

LISTED: State Species of Special Concern



Wildlife Education Division, Spring 2022. Photograph by Jeff Hall.

Red Spotted Newt

Notophthalmus v. viridescens

DESCRIPTION: As an adult, the red-spotted newt stretches 4 to 5 inches long. It has smooth skin and a yellow belly. Its back is olive green or yellowish brown, with two rows of orange-brown, black-bordered spots.

FACTS: The red-spotted newt's eft (immature stage) is usually bright orange or red.



HABITAT/RANGE: Newts populate every county in North Carolina. The red-spotted newt thrives primarily in the mountains, Piedmont and northern Coastal Plain. Newts can survive in a wide variety of aquatic habitats. Unlike some salamanders, newts can adapt to permanent ponds with fish. Newts' favorite habitat, however, is temporary, or ephemeral, ponds that fill and dry out in cycle.







Northern Dusky Salamander

Desmognathus fuscus



DESCRIPTION: Coloration in dusky salamander species is extremely variable and may range from yellow to red, gray, brown or black. Juveniles have light spots running down the back and onto the base of the tail. Northern Dusky Salamanders typically lose their larval markings and become more uniformly colored with age.

FACT: Although abundant in many areas, dusky salamanders in some areas have recently undergone local declines in response to human impacts such as siltation, pollution, and habitat degradation.

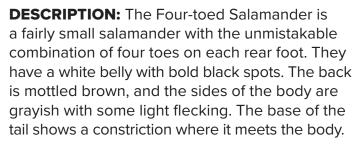
HABITAT/RANGE: Northern Dusky Salamanders are common in the Piedmont of North Carolina and in certain areas within the Blue Ridge Mountains. They are most abundant in streams, seeps, and springs. Individuals may be encountered under rocks and other surface cover and occasionally in burrows along stream banks.



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Four-toed Salamander

Hemidactylium scutatum



FACTS: Four-toed Salamanders can expel noxious secretions to repel potential predators. If this fails, Four-toed Salamanders can voluntarily disconnect their tail. The broken tail wiggles and distracts predators, allowing the salamander to escape. Almost all other salamanders have tails that break off only when they are actually grasped by a predator.

Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Todd Pierson.



HABITAT/RANGE: Four-toed Salamanders are found in much of central North Carolina but can also be found at a few locations in the Mountains and the Coastal Plain. They generally live in forests surrounding swamps, bogs, marshes, and temporary bodies of water which are free of fish. In North Carolina, Four-toed Salamanders spend much of their time underground and are not often encountered until they move to water during the breeding season.

LISTED: State Species of Special Concern







White-spotted Slimy Salamander

Plethodon cylindraceous



DESCRIPTION: Slimy salamanders are dark gray to black, with white or cream-colored spots on their back and sides. The slimy salamander gets its name from the extremely sticky skin secretions used to defend against predators.

MISCELLANEOUS: Slimy salamander hatchlings do not go through an aquatic larval stage. Instead, when young salamanders emerge from their eggs, they look like miniature adults.

HABITAT/RANGE: White-spotted Slimy Salamanders are found throughout the Piedmont and northern Blue Ridge Mountains.



Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Jeff Hall.

Southern Red-backed Salamander

Plethodon serratus

DESCRIPTION: There are two distinct color morphs of the Southern Red-backed Salamander. The striped morph has a dark gray or brown base color with an orange or red stripe stretching from the head to the end of the tail. The unstriped morph is brown on the back and may have a variable amount of red spotting on the back and sides. The sides of both morphs are brown with white spotting.

FACTS: During the summer, these salamanders become difficult to find as they become inactive or move to subsurface retreats.

HABITAT/RANGE: These salamanders are found in extreme southwestern North Carolina. They are most often found in forested areas where the substrate is at least moderately moist. These salamanders may take cover under rocks, logs, and leaf litter on the forest floor.







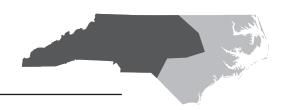
Red Salamander

Pseudotriton ruber

DESCRIPTION: Red Salamanders are bright red in color and have extensive black spotting on the back and sides. Individuals become darker with age, and spots may fuse together to make the salamander appear purplish. Red Salamanders have gold or yellowish eyes and slightly longer snouts than Mud Salamanders. As they get older, larvae begin to develop the red pigmentation and distinctive spotting of adults.

FACTS: It is possible that the red coloration of the Red Salamander is similar enough to that of the extremely toxic eft phase of the Eastern Newt, that, the Red Salamander may gain some benefit of predator avoidance. However, the Red Salamander is also somewhat toxic itself, so the coloration may just reflect this for predators.

Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Jeff Hall.



HABITAT/RANGE: Red Salamanders are found throughout wooded areas of the Piedmont and Blue Ridge Mountains of North Carolina. Although Red Salamanders may stray far from water, they are most commonly found in and around aquatic habitats such as headwater streams, seepages, and other wetlands. Adults will often live in burrows adjacent to water. They may also be found under rocks, logs, or other cover objects on the forest floor.



Marbled Salamander

Ambystoma opacum

DESCRIPTION: The Marbled Salamander is a stocky, medium-sized salamander. They are gray to black in color with silvery white cross bands on males and grayish cross bands on females. The cross bands can vary dramatically between individuals with some individuals bearing stripes while others are uniformly black. All Marbled Salamanders have black undersides. Recently metamorphosed individuals are brown or gray with light speckles.

FACTS: Marbled Salamanders are the state salamander of North Carolina.

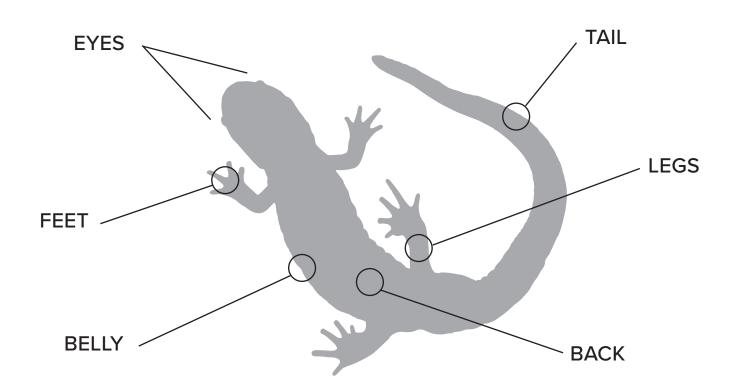


HABITAT/RANGE: They live in woodlands near ephemeral pools where larvae develop. They may be inactive and underground during the hot summer months.





Basic Salamander Anatomy



Southern Two-lined Salamander

Eurycea cirrigera



DESCRIPTION: Southern Two-lined Salamanders are principally yellow to orangish in color with a number of scattered black spots or blotches on their backs. The two dark dorsal stripes run the length of the salamander's body all the way down the tail, with the lower border of each stripe fading into the yellow or orange of the belly.

FACTS: The Southern Two-lined Salamander and the Blue Ridge Two-lined Salamander were formerly considered different forms of a single species but are now recognized as two different species. A third species, the Northern Two-lined Salamander, may also occur in NC, but more work remains to make this determination.

Produced by the North Carolina Wildlife Resources Commission, Wildlife Education Division, Spring 2022. Photograph by Todd Pierson.

manders are fairly abundant throughout most of North Carolina. They are only absent in the Blue Ridge Mountains, where they are replaced with a different species of two-lined salamander. These salamanders are semi-aquatic and may be found in and around streams, seeps, pools, and ditches. Southern Two-lined Salamanders are most commonly found in water during the breeding season, which begins in late spring. At other times of the year, they move into the woods adjacent to their aquatic habitats.



FOOD: A general diet of most salamanders include small aquatic and terrestrial invertebrates.

REPRODUCTION: Most salamanders will lay eggs in bodies of water but are also known to lay eggs under rocks and underground.

