



# Northern Pine Snake

## North Carolina Wildlife Profiles



Photo by Jeff Hall

## Northern Pine Snake

(*Pituophis melanoleucus melanoleucus*)

The Northern pine snake is a large, non-venomous snake with a variety of common names, including bullsnake, black and white snake, pilot snake, horned snake, and white gopher snake. While there are three subspecies of pine snakes in North America, only one — the Northern pine snake — is found in North Carolina.

### Description

Northern pine snakes are large, heavy-bodied snakes with a white, tan or yellowish background color and dark brown or black markings that begin as heavy mottling on the head and gradually become distinct blotches toward the tail. The belly is white or yellowish and may contain some light mottling of brown, orange or pink. They average about 4 to 5 feet in length; however, some specimens measure more than 6 feet in length.

### History and Status

Northern pine snakes are a burrowing species, spending much of their life underground and, therefore, are seldom seen. Despite this secretiveness, Northern pine snakes are thought to be declining throughout much of their range. In North Carolina, the pine snake is state listed as a Threatened species and is identified in the N.C. Wildlife Action Plan as a Species of Greatest Conservation Need. As a state-listed species, pine snakes are protected in North Carolina and cannot be collected or taken from the wild without a special permit issued by the Wildlife Commission's Executive Director.

For more information on this species, visit [ncwildlife.org/pine-snake](http://ncwildlife.org/pine-snake).

### Habitats & Habits

In North Carolina, pine snakes are found mostly in the Sandhills and southern Coastal Plain. A few specimens have been found in the southern mountains, specifically in Cherokee and Swain counties. In Swain County, one was spotted swimming in Fontana Lake.

Pine snakes prefer open areas within pine-oak forests with well-drained and sandy soils. In the Coastal Plain, they are found within the longleaf pine ecosystem. While they typically dig their own burrows, they also will use mammal burrows and tree root cavities or stumps.

Because pine snakes spend the majority of their time underground, they are seldom seen, even in areas where they are known to occur. If they are observed, it is usually during the day in the spring and early summer, as they go from burrow to burrow looking for rodents and other small mammals to eat. They also will eat birds and bird eggs. If disturbed or provoked, pine snakes will hiss loudly, vibrate their

*Pine snakes are seldom seen because of their burrowing tendencies.*

### The Wildlife Commission Needs Your Help!

Have you seen a pine snake? Wildlife Commission biologists want to know! Please submit this [survey](#) with the following information:

- A photo is required.
- Date and time the snake was observed
- The location (GPS coordinates or address)

### Range and Distribution

The Northern pine snake's range includes New Jersey, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, and Alabama. In North Carolina, it is found mainly in the Sandhills and Coastal Plain, and potentially in a few locations in Cherokee and Swain counties.

### Range Map



● Northern Pine Snake Range

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tails and may bite. Predators include raptors and mammals, such as shrews, raccoons, foxes, skunks, coyotes, dogs, and cats.

Pine snakes are oviparous, meaning they lay eggs. Eggs from this species are larger than any other North Carolina species, and are among the largest of any North American species, at up to over 3 inches long and 1.5 inches wide. Mating occurs in the spring with females laying 5 to 12 eggs in early summer, usually in sandy, open areas. The female will excavate her own nest burrow — a task that can take hours or days to accomplish. Often, females will share the nesting burrow with other females and may use the same burrow for multiple years. Eggs hatch in about 50 to 100 days and hatchlings are about 17 inches long. There is no parental care once the young hatch.

### NCWRC/Human Interactions

Pine snakes have a home range that can be as large as 100 acres. Because of this expansive home range, pine snake populations have plummeted in recent years, due to roads and habitat loss from development. In North Carolina, the pine snake is listed as a Threatened species and identified in the N.C. Wildlife Action Plan as a Species of Greatest Conservation Need.

In the southern mountains, where pine snakes are extremely rare, Commission biologists, working with the Eastern Band of Cherokee Indians, have been conducting surveys for pine snakes and their habitat.

In areas where pine snakes have been seen recently or in areas with potentially suitable habitat, they have constructed drift fences, which are long, continuous barriers to interrupt movement by the snakes, and set them with trail cameras in hopes of documenting a snake.

In the Sandhills and the Coastal Plain, Commission biologists, along with biologists from the North Carolina State Museum of Natural Sciences (NCSM), have been monitoring pine snake popula-

tions. This monitoring has included walking areas searching for snakes, driving roads hoping to encounter them, and marking animals for potential recapture. Staff from the NCSM have also tracked numerous individual snakes using radio-telemetry over the past decade in partnership with the Commission to help understand management needs and determine conservation actions that might benefit the species.

#### Sources:

Amphibians and Reptiles of North Carolina website (<https://herpsofnc.org/>)

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*Snakes of the United States and Canada* by C. H. Ernst and E. M. Ernst, 2003

*Amphibians and Reptiles of the Carolinas and Virginia* by J. C. Beane, A. L. Braswell, J. C. Mitchell, W. M. Palmer, and J. R. Harrelson, III, 2010

*Peterson Field Guide to Reptiles and Amphibians of Eastern and Central North America*, 4<sup>th</sup> Ed. by R. Powell, R. Conant, and J. T. Collins, 2016

*Longevity of reptiles and amphibians in North American collections*, 2<sup>nd</sup> Ed. S.S.A.R. Herpetol. Circ. (21): 40 pp.

### Wild Facts

#### Classification

Class: Reptilia

Order: Squamata

#### Average Size

Length: 52 inches although can grow as large as 7 ½ feet

#### Food

Small- to medium-sized mammals; birds and bird eggs.

#### Breeding/Young

Females lay a single clutch of 5 to 12 leathery, large eggs in spring to early summer. Eggs are laid in a burrow that the female has excavated herself. Eggs hatch in about 50 to 100 days with no parental care. Hatchlings are about 17 inches in length and look similar to the adult.

#### Life Expectancy

Relatively long-lived, pine snakes are known to live 10-15 years in the wild. In captivity, the record is over 20 years.



Drift fence used to trap pine snakes in the southern mountains



Pine snake hatchlings (Photo: Jeff Hall)

#### Credits

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