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# Conserving South Carolina's At-Risk Species:

## *Species facing threats to their survival*

### Florida pine snake

*(Pituophis melanoleucus mugitus)*



*Florida pine snake/Savannah River Ecology Lab*

### Description

The pine snake (*Pituophis melanoleucus*) is a large snake with a maximum length of approximately 228 cm (7.5 feet). The pine snake typically has a light brown to ivory background color with large brown or black blotches down the length of the body but the pattern of this species can be variable. In the Florida subspecies (*Pituophis melanoleucus mugitus*), the anterior blotches are typically not present and the pattern is indistinct. Also, the bellies of Florida pine snakes are uniformly ashy gray with no spots.

### Range

Pine snakes are widespread in South Carolina but the Florida subspecies occurs mainly from southern South Carolina southwestward through central and southern Georgia to southeastern and southern Alabama, and south to southern Florida. It is generally restricted to the southwestern-most counties of our state, primarily Aiken, Allendale, Barnwell, Beaufort, Hampton, Jasper, and Lexington Counties with a region of intergradation between the Florida pine and the Northern pine subspecies (*Pituophis melanoleucus melanoleucus*), primarily in Aiken, Barnwell, and Lexington Counties.

### Habitat

The species appears to be restricted to several specific habitat types that are either subsets of the longleaf pine ecosystem or share some of the characteristics of this system, primarily the relatively open canopy and xeric conditions. Infertile, sandy soils are important habitat for pine snakes because they dig both hibernacula and summer dens. During drought, pine snakes seek open habitats around wetlands. Occasionally individuals are seen in abandoned fields and dry mountain ridges. Mostly fossorial, pine snakes spend some portion of their life using underground shelters, such as stump holes, rodent burrows, root channels or gopher tortoise burrows.

### Status

After more than a century of habitat loss due to conversion of xeric upland habitats, the species is considered vulnerable. Pine snakes are not abundant in any particular area of the state, even where they are found with some regularity. The South Carolina Department of Natural Resources lists the species as a highest priority in their State Wildlife Action Plan. The U.S. Fish and Wildlife Service was petitioned to list the species in July 2012 and published a substantial 90-day finding in September 2015 indicating listing may be warranted.

### Threats

Potential threats include habitat loss due to conversion for agriculture, silviculture, mining, and commercial/residential development. Longleaf pine habitat has been greatly reduced both in extent and in quality. Large snakes are particularly vulnerable to habitat fragmentation as they are long-lived animals with large home ranges. Maintaining viable populations

becomes more difficult when mortality from automobiles further reduces the number of individuals in a population. Intensive or chronic soil disturbance may also pose a threat to fossorial snake species. Fire suppression, stump removal and short timber rotations may limit population numbers by reducing availability of nesting sites and large stump holes for refugia. Excessive collecting may be a threat in some areas as well as persecution and direct killing of snakes.

### Management/Protection Needs

Protect upland habitat utilized by this species. Tracts of several hundred acres or larger with minimal fragmentation by highways and other roads are preferred. Maintain open characteristic of habitat through use of prescribed fire and encourage restoration of large tracts of longleaf pine and wiregrass ecosystem, managed on long rotations and with large stumps remaining after harvest for underground refugia and hibernation sites. Snakes should be protected from commercial collecting. Continued outreach and education is encouraged.

### References

NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>.

South Carolina Department of Natural Resources—State Wildlife Action Plan: 2010-2015.

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