



Common Name: Northern long-eared bat

Scientific Name: *Myotis septentrionalis* Trouessart

Other Commonly Used Names: Northern myotis, Northern long-eared myotis, Northern bat

Previously Used Names: *Myotis keenii septentrionalis*

Family: Vespertilionidae

Rarity Ranks: G2G3/S2S3

Legal Status: Threatened

Federal Legal Status: Threatened

Description: The northern long-eared bat is dull brown in color with hairs dark at the root. This species can easily be distinguished from other *Myotis* species by its characteristically long ears which extend beyond its muzzle when laid down. The tragus is very long and narrow with a pointy tip. Wing membranes are also brown, usually concolor with fur. The total length is 78-96 mm (3.1-3.8 inches), the forearm length is 32-37 (1.3-1.5 inches), the wingspan is 23-26 cm (9-10 inches), and the weight is 6-9 g (0.2-0.3 ounces). The calcar is unkeeled.

Similar Species: Little brown bat (*Myotis lucifugus*) and Indiana bat (*Myotis sodalis*) have shorter ears and more rounded tragus. Gray bat (*Myotis grisescens*) is larger and has larger feet with wings connected at the ankles instead of the base of the toe.

Habitat: Most summer roosts occur in tree cavities and under exfoliating bark, but have also been found in buildings and behind shutters. During winter, northern long-eared bats hibernate in tight crevices in caves and mines. Foraging is done primarily on forested hillsides and ridges.

Diet: Diet consists of flying insects, including moths, flies, mosquitoes, midges, beetles, bees, wasps, ants, caddis flies, and stoneflies.

Life History: Populations of northern long-eared bats in Georgia are small and widely distributed. In the spring, they emerge from hibernacula and disperse to their summer ranges. Females begin to gather in maternity colonies that may contain 3-30 individuals. Each female gives birth to a single young in June or early July. The young are able to fly in about four weeks. Males roost singly or in small groups. They tend to forage in the canopy of floodplain forests and wooded hillsides. In the fall, the bats "swarm," a behavior in which great numbers of bats fly in and out of cave entrances throughout the night, with only a few bats actually roosting in the caves during the day. Swarming continues for several weeks and is

related to mating activity. During this time, the bats also are building up fat reserves upon which they will depend during the winter. Breeding occurs mainly in early October; females store sperm throughout the winter, and fertilization occurs in the spring shortly after emergence. In the northern part of its range, northern long-eared bats may begin hibernation as early as August and remain in torpor for as long as nine months. Little is known about their overwintering habits in the south. Although colonies of up to 350 have been found, this species tends to be more solitary than other *Myotis* and usually roosts singly and wedges deep into cracks and crevices in cave walls. When using caves, they select areas that are relatively cool and moist, where the air is still. Most winter roost locations remain unknown. Bats of this species are known to live at least 18 years.

Survey Recommendations: Winter roost sites can be identified through knowledgeable cave exploration, but roosting bats should not be disturbed. During summer, mist netting surveys in Georgia should follow guidelines laid out on our Bat Survey Guidance webpage (<http://www.georgiawildlife.com/BatSurveyGuidance>).

Range: This species is known to occur throughout southern Canada and the central and eastern United States. It is more common in the northern part of its range and has only been documented in northern and western Georgia.

Threats: The largest threat to northern long-eared bats is the disease white nose syndrome (WNS). Since its first observance in New York in 2006, WNS has been spreading rapidly among bat populations. In the northeast, this species has experienced a 99% mortality due to the disease. WNS was first found in Georgia in 2013 and severe mortality has already been seen in a number of species across North America. However, due to their elusive nature, the overall impact on northern long-eared bats has not yet been determined in the state. It is expected that WNS will continue to spread and northern long-eared bats will decline throughout their range as they have in the northeast. Other threats to northern long-eared bats include summer habitat destruction, degradation of water quality, and mortality caused by wind farm facilities.

Georgia Conservation Status: Northern long-eared bats have only been observed in northwest Georgia and in relatively low numbers. Declines are anticipated due to WNS.

Conservation and Management Recommendations: Protection of occupied caves is extremely important and disturbance to hibernating bats should be avoided. Forest management activities at summer roost

sites should ensure that forested foraging habitat is available, that no known roost trees are destroyed, and that a continuous supply of suitable roost trees and clean water are available.

Selected References:

Caceres, M. C. and Barclay, M. R. 2000. *Myotis septentrionalis*. Mammalian Species No. 634:1-4

Harvey, M. J., et al. 2011. *Bats of the United States and Canada*. Baltimore, Maryland, USA.

Reid, F. A. 2006. *Peterson field guides, mammals of North America*. New York, New York, USA.

U.S. Fish and Wildlife Service. 2014. Northern long-eared bat interim conference and planning guidance. Website: <<http://georgiawildlife.com/sites/default/files/uploads/wildlife/nongame/pdf/BatSurveys/FWS%20NLEB%20Interim%20Guidance%20Jan%202014.pdf>> Accessed April 2015.

Trani, M. K., et al. 2007. *The land manager's guide to mammals of the south*. USDA Forest Service and the Nature Conservancy. Durham, North Carolina, USA.

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