

Endangered bats on Fort Campbell

The Indiana bat (*Myotis sodalis*) and the gray bat (*Myotis grisescens*) are present on Fort Campbell. Both species are listed as endangered by the U.S. Fish and Wildlife Service (USFWS). The Endangered Species Act requires protection of listed species and, in some cases, their habitat.

Fort Campbell actively participates in conservation of endangered bats and their habitat, and is supporting efforts to increase populations so these species may one day be removed from the Endangered Species List.

Why are these bats endangered?

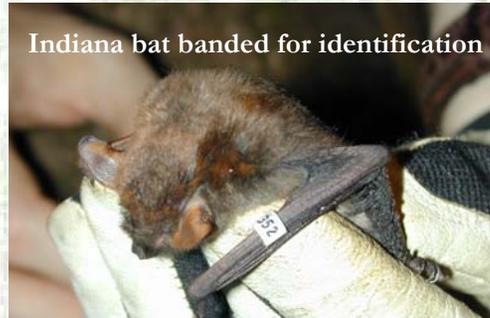
Since the 1960's, the number of Indiana bats in the U.S. has declined 60 percent. Gray bats experienced similar population declines. Due to these significant losses, these species were among the first listed as endangered.

Natural causes such as flooding of caves and ceiling collapse have killed thousands of gray bats and Indiana bats. However, human disturbance of roost caves is one of the most significant factors in the decline of these species. Destruction of forest that provides summer maternity habitat has likely contributed to their decline as well. Better understanding of the species' habits, protection of caves, and other conservation efforts have helped stabilize numbers of gray bats, and may be slowing the decline of Indiana bats.

Indiana bat

The Indiana bat lives in the eastern U.S. including Kentucky and Tennessee.

Indiana bats have fur that is light to dark brown. An individual is about 2.5 to 4 inches long, and weighs about 0.2 ounces.



In summer, Indiana bats roost beneath loose tree bark or in tree cavities. Females gather in tree roosts to form maternity colonies where they give birth and raise their young. Males often roost alone in separate trees. Indiana bats roost during the day and emerge at night to feed. This species eats only insects, which are captured while flying over streams, ponds, and fields, or through forests.

In fall, Indiana bats migrate to caves where they hibernate for nearly six months during winter. This species may migrate more than 200 miles to find caves with suitable climatic conditions. Indiana bats that spend summers on Fort Campbell likely hibernate in caves in Kentucky, Tennessee, or southern Indiana.

Indiana bats were first observed on Fort Campbell in 1998. Special nets were used to

capture four Indiana bats between 1998 and 2003. Results of studies conducted by the Fort Campbell Fish and Wildlife Program indicate male Indiana bats are on base during summer and fall. No females have been captured, and no tree roosts or winter caves used by Indiana bats have been found on Fort Campbell.

Gray bat

The gray bat lives in the southeastern U.S. where caves or mines occur, including throughout Kentucky and Tennessee. Caves in the Fort Campbell area provide summer and winter roost caves for gray bats.

Gray bats have fur that is typically dark gray. An individual is 3 to 4 inches long, and weighs about 0.3 to 0.4 ounces.



Gray bats live in caves year round, often spending the summer and winter in different caves. Only a few caves provide the right climatic conditions for gray bats. This species may migrate more than 300 miles between summer and winter caves. A few gray bats captured on Fort Campbell were found hibernating in a cave in Edmonson County, Kentucky, about 70 miles from the base.

Hundreds of gray bats have been found at Fort Campbell between April and September. Biologists attached miniature radiotransmitters to some gray bats captured on the base. Study results indicate gray bats come to Fort Campbell to feed. They roost in caves outside the base. Gray bats usually forage (feed) over streams, lakes, and ponds, eating insects that hatch and emerge from the water. Many streams on Fort Campbell provide suitable foraging habitat for gray bats.

Colonies of bats, such as the gray bats inhabiting Fort Campbell, consume thousands of insects each night, including mosquitoes, gnats, beetles, moths, and crop pests. Presence of insect-eating bats can help lessen demands for insecticides.

What is Fort Campbell doing to help endangered bats?

Since 1998, Fort Campbell has conducted annual surveys to understand when, where, and how many Indiana bats and gray bats are on base. To meet requirements of Army Regulation 200-3, Fort Campbell developed an Endangered Species Management Plan (ESMP). The ESMP contains conservation objectives designed to protect Indiana and gray bats and is the guide for Fort Campbell's Natural Resources Specialists as they actively manage forest and streams to conserve habitat for endangered bats.

The Fort Campbell Fish and Wildlife Program works in close coordination with the USFWS to implement the ESMP and to ensure that base activities, from training, new construction, and maintenance, to recreation and natural resources management, are in compliance with the

Endangered Species Act. The Fish and Wildlife Program evaluates base activities for the potential to affect endangered bats. When necessary, Fish and Wildlife Program biologists coordinate with project proponents and the USFWS to minimize or avoid the impacts.

What can I do to help protect endangered bats?

Bats are abundant on Fort Campbell. Because bats are active at night, encounters with humans are rare. Bats seen during daytime may be sick or injured and should never be handled. If you see a bat outside or inside a building, do not touch it – contact the Fort Campbell Fish and Wildlife Program for assistance.

Protecting the environment, including the quality of streams and forests, is the best way to support conservation of endangered bats. Some guidelines are:

- Do not drive vehicles through streams; cross only at designated low water crossings
- Do not wash vehicles in streams
- Dispose of petroleum, oil, lubricants, and other wastes in designated receptacles
- Do not enter caves, which may be home to endangered bats
- Call the Forestry department before removing any trees 270-798-2616

For more information please contact the Endangered Species Coordinator at 270-798-9855.

FORT CAMPBELL



Indiana bat (*Myotis sodalis*)



Gray bat (*Myotis grisescens*)

A Sentry for Species in Peril

