



U.S. Fish & Wildlife Service

Gray Bat

Oklahoma Ecological Service Field Office

GRAY BAT

Myotis grisescens

Description

The gray bat is a medium-sized bat with an overall length of about 3.5 inches and a wingspan of 10 - 11 inches. Weights range between approximately 7 - 16 grams. The gray bat can be distinguished from other species in the genus *Myotis* by the uniform color of its dorsal fur in which hair shafts are the same color from base to tip. The dorsal fur is gray, but often bleaches to reddish-brown by early summer. Additionally, the wing membrane attaches at the ankle of the foot instead of at the base of the toes as in other members of the genus *Myotis*.

Distribution

The gray bat occurs in limestone karst areas (*i.e.*, a landscape marked by caves, sinkholes, springs and other features) of the southeastern and midwestern United States. In Oklahoma, it occurs in the Ozark Highlands ecoregion in the northeastern part of the state.

Life History

Gray bats inhabit caves year-round. They are known to migrate up to 300 miles between summer and winter caves. Gray bats have such specific cave requirements that fewer than five percent of caves are suitable. Winter hibernation sites typically are deep vertical caves that trap large volumes of cold air. Summer caves must be warm or have restricted rooms that can trap the body heat of clustered bats. Gray bats mate in the fall when they begin to arrive at hibernacula. During hibernation, the species typically forms large clusters with some aggregations numbering in the hundreds of thousands of individuals. It is estimated that 90 percent of the species range-wide population hibernates in only nine caves. No hibernating colonies are known from Oklahoma. Adult females begin to emerge from hibernation in late March, followed by juveniles and adult males. Females become pregnant after emerging in the spring, and form maternity colonies in caves of a few hundred to many thousands of individuals. Gray bat summer colonies typically use several roosting caves located along a stream, river, or reservoir.



Gray Bat. © Bat Conservation International

Within Oklahoma, maternity colonies are known from caves in Adair, Cherokee, Delaware, and Ottawa counties. A single offspring is born in late May or early June. Newborns typically become volant within 21-33 days after birth. Gray bats feed on flying insects over bodies of water including rivers, streams, and lakes. Mayflies, caddisflies, and stoneflies make up the major part of their diet, but beetles and moths also are consumed.

Conservation

The gray bat was federally-listed as endangered on April 28, 1976. The gray bat has declined primarily due to human disturbance in caves. Habitat loss and degradation and contamination from pesticides also are considered a cause of decline. Natural flooding and impoundment of waterways has resulted in temporary impacts to some caves and the complete submersion and loss of other important cave sites. Conservation efforts include protecting known gray bat caves and wooded riparian corridors along streams near caves. Recovery efforts also include educating the public about the danger of disturbing bats and their ecological importance.

What Can You Do to Help

Do not enter gated caves/mines or caves/mines with a sign at the entrance which indicates it is used by endangered bats. These gates and signs are in place to protect bat colonies that are sensitive to human disturbance. Disturbance during early summer before the young can fly can result in thousands of flightless young becoming dislodged and falling to their deaths. Every arousal during hibernation is energetically expensive. Fat reserves required to sustain the bats are utilized to some extent during each winter arousal. Too many arousals during hibernation can exhaust a bat's limited fat reserves and result in mortality.

References

- U. S. Fish and Wildlife Service. 1982. *Gray Bat Recovery Plan*. Minneapolis, MN. 26pp.
- U. S. Fish and Wildlife Service. 2009. *Gray Bat 5-Year Review*. Columbia, MO. 33 pp.

For Further Information

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