



Cave Bats and Mine Gates

Importance

The cave myotis bat (*Myotis velifer*) inhabits the southwestern United States, and parts of Mexico and South America. These insectivorous bats are a Species of Special Concern in Saguaro National Park because their roosting habitat (abandoned mines in the Tucson Mountain District) create safety hazards for humans, and are often closed. Developing methods that protect humans, as well as cave bat habitat is a management challenge throughout the bat's range. Cave bat populations are monitored by park biologists to understand their population dynamics and specific habitat requirements in Saguaro National Park.

Quick Facts

Some populations of this cave bat are migratory in Arizona, while other groups remain in permanent areas throughout the year and hibernate in caves over winter. Some roosts are called "bachelor roosts," because they are inhabited only by males. Other roosts are maternity roosts, inhabited by female bats with young. Cave bats mostly consume moths and beetles, and they typically live 10-12 years.



Cave myotis May 2003. Photo by R. Sidner

Mine Gate Study: 2000-2007

In 2000, an abandoned mine in TMD was equipped with a metal gate to protect bat habitat, and provide for human safety. The full gate was monitored for three years. During this time, the bat population in the mine decreased significantly. Based on this decrease in bat numbers, biologists implemented a bat gate study. From 2004-2005, the middle bar on the gate was removed. Bat numbers in the mine increased, though humans could also enter the mine. From 2006-2007, the top bar on the gate was removed, which resulted in a small drop in the number of bats using the mine, and made it more difficult for humans to breach the gate. Based on the results of this study, the mine is currently fully gated in the winter, and only the top bar is removed during the bat's breeding season.



Full gate
2000-2003



Middle bar removal
2004-2005



Top bar removed
2006-2007

Discussion

As of 2010, the modified gate on the abandoned mine in TMD is still installed. The gate has served to protect the bat's habitat in the mine. Similar studies may be conducted at other abandoned mine sites frequented by cave bats, so this species may be able to use other available habitat in Saguaro National Park.

More Information

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I&M Sonoran Desert Network: <http://science.nature.nps.gov/im/inventory>