

# **Cave Management at Fort Huachuca Successfully Protects Endangered Bats**

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## **Abstract**

Lesser long-nosed bats, *Leptonycteris curasoae*, were known from two cave roosts on Fort Huachuca prior to their federal listing in 1988 as endangered species but little was known regarding population numbers. Collection reports from the 1950s through 1970s listed no more than 20 lesser long-nosed bats at sites on Fort Huachuca. Following endangered listing, the Army assessed the status of lesser long-nosed bats and their potential food plants, Palmer agaves (*Agave palmeri*), on Fort Huachuca. Surveys were conducted in 1990 and a monitoring program was initiated on Fort Huachuca. From the beginning, low disturbance methods were used at potential roosts. Counts of individual bats during evening emergence flights provided population estimates of various bat species at cave roosts. Skeletal material of lesser long-nosed bats was found at Pyeatt Cave, a popular recreational cave showing conspicuous damage, but only one live bat was observed there during the first six years of monitoring. Before 1991, protective actions were initiated by the Army. Actions included temporary closure of potential roost sites, removal of gates and other obstructions at cave entryways, posted closure signs, fenced closure of caves and roads leading to caves, and prescriptions to prevent damage to fields of agaves during military operations. Following these actions, there was an immediate increase in population numbers of cave myotis (*Myotis velifer*), insect-feeding bats that share the roosts of lesser long-nosed bats. In time, lesser long-nosed bats re-colonized the old Pyeatt Cave roost, and their maximum numbers on Fort Huachuca increased from 50 bats before protective actions to over 3,000 bats for the past three years. With protection of roost sites during the past 11 years, population numbers of bats at roosts have increased and stabilized.