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General Notes

STATUS OF THE ENDANGERED BATS, *Myotis sodalis*, *M. grisescens*, and *Plecotus townsendii ingens*, IN ARKANSAS

Two Arkansas bat species, the Indiana myotis *Myotis sodalis* and the gray myotis (*M. grisescens*), are listed by the U. S. Fish and Wildlife Service and the Arkansas Game and Fish Commission as endangered. An additional taxon, the Ozark big-eared bat (*Plecotus townsendii ingens*), will be added to the endangered list pending final legislation. The distribution, status, and certain aspects of the ecology of these bats in Arkansas are currently under study. The following accounts briefly summarize knowledge concerning current status of endangered bats in the state and contain data obtained through March 1979.

Myotis sodalis - The Indiana myotis ranges in the United States from Oklahoma, Iowa, and Wisconsin east to Vermont and south to northwestern Florida (Barbour and Davis 1969). It is known primarily from caves in which it hibernates; summers are spent singly or in small groups in hollow trees or beneath loose bark (Humphrey et al. 1977). The total population is estimated to number approximately 460,000 (Humphrey 1978). In Arkansas, the species is known primarily from the Ozark Mountain region.

Large *M. sodalis* hibernating colonies, such as those reported by Myers (1964) and LaVal et al. (1977) from the Missouri Ozarks, are not known to exist in Arkansas. However, smaller Indiana myotis colonies hibernate in several caves scattered throughout northwestern and north central Arkansas. The largest known of these is located in Newton County and numbers less than 2,000 individuals. The colony has decreased in size during recent years, quite likely because of human disturbance. In early March 1979, only a single Indiana myotis was found in the cave, although more than 1,000 were present in late October 1978. The cave, located on privately owned land, is well known, easily accessible, and frequently visited. It is, however, within the boundaries of Buffalo National River, and the National Park Service hopes to acquire the property and gate the entrance to protect the colony. The U.S. Forest Service also plans to gate certain caves in the Ozark National Forest to protect smaller *M. sodalis* hibernating colonies. In summer, only small groups of male Indiana myotis have been found in a few Arkansas caves.

Myotis grisescens - The range of the gray myotis is concentrated in the cave regions of Kentucky, Tennessee, Alabama, Missouri, and Arkansas (Barbour and Davis 1969, Harvey 1975). Gray myotis are cave residents throughout the year, although different caves are usually used in summer and winter; few roost outside of caves. The total population is estimated to number approximately 2,275,000 (Harvey 1975). The greatest threat to their survival is that a very large proportion of the entire known population hibernates in only a few caves. Like *M. sodalis*, gray myotis are found in Arkansas primarily in the Ozark region.

Prior to 1970, only four large *M. grisescens* hibernating colonies were known to occur in the Ozark region, all in Missouri (Myers 1964, Elder and Gunier 1978). In 1970, an additional Ozark *M. grisescens* hibernaculum was discovered in a Baxter County, Arkansas, cave (Harvey 1975, 1976, 1978). The colony has been estimated to number from 175,000 to 250,000 individuals, the latter being the most recent estimate (17 February 1979). The cave, located on Ozark National Forest land, was gated in 1975 to protect the colony. Banding recoveries demonstrate that gray myotis hibernating in the cave disperse in summer over a large area of Arkansas, Missouri, Oklahoma, and Kansas. Several smaller hibernating colonies, numbering from 5,000 to less than 100 *M. grisescens*, are scattered throughout northwestern and north central Arkansas.

Summer *M. grisescens* maternity colonies occur in several caves throughout the Arkansas Ozarks. Because of the presence of one of these colonies, reportedly numbering approximately 100,000 bats (as well as half the known population of a rare troglitic fish), the Arkansas Highway Department has agreed to modify the proposed route of a highway originally planned for the immediate vicinity of the cave in Benton County. Gray myotis maternity colonies are very susceptible to human disturbance, and gating may be necessary to protect important colony sites.

Plecotus townsendii ingens - The Ozark big-eared bat is known from only a few caves in northwestern and north central Arkansas, southwestern Missouri, and eastern Oklahoma (Harvey et al. 1978). Ozark big-eared bats inhabit caves throughout the year. Harvey et al. (1978) reported on the status of *P. t. ingens* in Arkansas. Since that time, however, additional relevant data have been obtained. Until recently, the largest known hibernating colony of Ozark big-eared bats ever reported numbered 60 individuals, and maternity colonies were completely unknown. During the summer of 1978 we discovered a maternity colony numbering approximately 120 individuals in a Marion County, Arkansas, cave. In early March 1979 we discovered 257 *P. t. ingens* hibernating in another Marion County cave. Thus, the total number of this taxon known to exist has increased from less than 100 (U. S. Fish and Wildlife Service 1973), to over 300 individuals. Continuing efforts to locate additional Ozark big-eared bat colonies, as well as those of *M. sodalis* and *M. grisescens*, are being made so that management plans can be formulated and implemented for the protection and recovery of these taxa.

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