

## The Mountain Lion in Oklahoma and Surrounding States

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We investigated the historic distribution of the mountain lion in Oklahoma and surrounding areas on the basis of previous publications. Historically, the mountain lion occurred throughout Oklahoma, but was most abundant in the western and southwestern regions of the state. Mountain lion population trends in Oklahoma and surrounding areas indicate that mountain lions may be attempting to reinhabit Oklahoma. ©1997 Oklahoma Academy of Science

### MOUNTAIN LION in OKLAHOMA

The mountain lion (*Puma concolor*, or *Felis concolor* in earlier literature) is a very adaptable predator. Historically, it ranged across all of North America, but today viable populations are confined mainly to the mountainous West. Although the mountain lion has been studied extensively in the western region of its range (1-3), relatively few studies have been conducted in its eastern and central range (4,5). Of the six states that border Oklahoma, Colorado, New Mexico, and Texas have populations of mountain lions that are hunted. Therefore, it is reasonable for mountain lions to migrate into Oklahoma when conditions are conducive to their habits. In this paper, we compile literature that describes the history of the mountain lion in Oklahoma and surrounding areas.

Young and Goldman (6), in one of the first books dedicated solely to the mountain lion, describe the species in Oklahoma as the subspecies *F. c. stanleyana*, which ranged throughout most of Oklahoma and Texas. They state that *F. c. coryi* ranged mostly in the southeastern United States, and *F. c. hipolestes* occurred mainly in Colorado, Iowa, Kansas, Missouri, Nebraska, South Dakota, and Wyoming. However, the methods they used to develop their distribution map in the United States were not described in their text, and many of the boundaries Young and Goldman list are defined only by state lines, suggesting the need for caution when this map is interpreted. Young and Goldman (6) describe some encounters of early explorers with mountain lions in present-day Oklahoma and surrounding areas. Most of these accounts originated from western and southwestern Oklahoma, although some existed for other areas of the state. Caire et al. (7) states that reports by Abert (8) in 1845-1846 appear to be the earliest documented cases of mountain lions in Oklahoma. One detailed account reports two mountain lions being killed in southwestern Oklahoma in 1852 (9). Mead (10), in 1899 indicates that mountain lions were occasionally found in Kansas, but were more abundant in Indian Territory (present-day Oklahoma). Young and Goldman (6) document reports of mountain lions in Oklahoma through the turn of the century and until the publication of their book in 1946.

In March 1953, Bryan P. Glass, Oklahoma State University mammalogist doc-

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umented tracks of a mountain lion southeast of Canton Reservoir, Canton, Oklahoma (11). In 1957, the Oklahoma Department of Wildlife Conservation listed the mountain lion as a game species with a closed season, which protected it from unnecessary harvest. Until this time, the mountain lion had no hunting season or protection in Oklahoma. During the years 1961-1965, repeated accounts appeared of lion sightings in northeastern Oklahoma (7). In April 1968, the remains of a yearling female mountain lion were found in McIntosh County in eastern Oklahoma (12). Bissonette and Maughan (13) reported that a mountain lion was observed on 2 different occasions near Stringtown, Oklahoma, and that an adult with cubs was reported in Sequoyah, Oklahoma, in 1974. In view of their reports, Bissonette and Maughan (13) concluded that the mountain lion did occur in parts of Oklahoma. In September 1984, a mountain lion was observed on Oklahoma's Wichita Mountains Wildlife Refuge by the refuge manager (7).

Many undocumented observations have been received since 1984 from the southeastern region of Oklahoma including McCurtain, Pushmataha, and LeFlore Counties (B. Heck, pers. comm). The Oklahoma Department of Wildlife Conservation's furbearer biologist has kept records of mountain lion sightings in Oklahoma since 1987. These records include forty-six sightings of mountain lions in Oklahoma, two being mortalities (one of which was not documented) (J. Hoagland, pers. comm.). In addition, one mountain lion skull was found in McCurtain County, Oklahoma within the past five years (B. Heck, pers. comm.).

Pike (14) concluded that sightings and sign (tracks, kills, scat, etc.) of mountain lions were most common in the western and southwestern regions of Oklahoma. Additionally, sightings and sign of mountain lions have generally increased with the years and with the total statewide population of white-tailed deer (*Odocoileus virginianus*). Since 1985, sightings of mountain lions and their sign, when tested statistically, occurred significantly more in the Central Rolling Red Plains ecoregion (15) than in any other ecoregion in Oklahoma. This ecoregion is in the western region of Oklahoma and is 60% rangeland with large blocks of private land holdings and a low human population density, characteristics which appear to be conducive to immigration by mountain lions from other western states.

### **MOUNTAIN LION in SURROUNDING STATES**

The mountain lion was thought to be extinct in Arkansas until 1969 when an adult lion was killed approximately 6 miles east of Hamburg, Ashley County (16). As in Oklahoma, the mountain lion in Arkansas appears to be reestablishing populations. Sealander and Gipson attribute this to an increasing population of white-tailed deer, reduced hunting pressure, and the removal of the rural, human population in contiguous blocks of national forest land. McBride et al. (17) suggest that Arkansas may be a suitable place for reintroductions of mountain lion in the future; however, their surveys of > 1. 16 million ha failed to produce any evidence of a wild, breeding population in Arkansas.

Hoover and Henderson (18) reported two documented cases and numerous undocumented sightings of mountain lions in Kansas, but the last verified mortality of a mountain lion in Kansas was in Ellis County in 1904 (19). The mountain lion has received considerable attention in Kansas, including the establishment of a clearinghouse at Kansas State University for sightings of mountain lions. Some biologists maintain that mountain lions in Kansas are emigrants from a population existing in the Ozark, Ouachita, and Mark Twain national forests of Missouri and Arkansas (16,20).

Mountain lions occupy an extensive range in Texas (21-23). As in other states surrounding Oklahoma, sightings and mortalities of mountain lions have increased in Texas from 1983 to 1994. Texas possesses a viable population of mountain lions that does not have any protective status and can be hunted at any time of the year. As in other regions in the United States that are

inhabited by the mountain lion, they are recognized as filling an important ecological role in Texas (21).

### CONCLUSIONS

There is no doubt that the mountain lion historically occurred in Oklahoma and the surrounding areas, and there is evidence that mountain lions are reestablishing themselves in their historic range in Oklahoma (14). Mountain lions are significant predators in North American ecosystems (1), and it is of great ecological importance to allow this carnivore the opportunity to immigrate back to its original domain. Biodiversity is a priority of many natural resource state agencies, and the mountain lion in Oklahoma could serve as a keystone species for sound management and protection of the state's native fauna.

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