

David M. Nead

James C. Halfpenny

Mountain Research Station
University of Colorado
Nederland, Colorado 80466

and

Steve Bissell

Colorado Division of Wildlife
6060 Broadway
Denver, Colorado 80216

The Status of Wolverines in Colorado

Abstract

Wolverines (*Gulo gulo*), once classified as furbearers in Colorado, are now afforded complete protection. However, their status in the state is in doubt. This paper reviews historical literature and presents 57 new wolverine reports. Two recent positive reports suggest that wolverines may still exist in Colorado.

Wolverines (*Gulo gulo*) are scarce in the south central Rocky Mountains and reach the southern limits of their distribution in Colorado (Deems and Pursley 1978, Hall 1981, Wilson 1982). Their numbers appear secure in Montana (Newby and McDougal 1964) but in Wyoming they are rare (Hoak *et al.* 1982). Durrant (1952) suggested that wolverines may be extinct in Utah.

Wolverines were once classified as furbearers in Colorado. However, in 1965 the season was closed and wolverines were afforded complete protection. The Colorado Wildlife Commission classified the wolverine as an endangered species in 1973. This paper reviews historical literature and presents 57 new wolverine reports for the state of Colorado. These reports were gathered through a Colorado Division of Wildlife (DOW) project.

Wilson (1982) suggested that wolverine numbers are increasing in Colorado. However, there never has been a population estimate on which to base such a suggestion and it is doubtful that wolverines were ever common in Colorado. Elliot Coues (1879) stated "it is only of late years that the presence of this remarkable animal so far south has been known." Historical records were often based on sight observations (Armstrong 1972, Cary 1911, Field and Feltner 1974, Spahn 1954, Warren 1942). A total of 22 reports, representing at least 25 animals, were based on wolverine carcasses between 1871 and 1919. The last verified kill of a wolverine in Colorado occurred in 1919 (Grinnell 1926). Quick (1964) stated that the occurrence of wolverines in Colorado "in modern times is doubtful."

The Colorado Division of Wildlife initiated a wolverine project in 1978 to summarize the history of wolverines in Colorado and to accumulate information about current wolverine status. Historical information was sought by searches of museum material and

through a review of published literature. Unpublished records were inspected. Historical and current information were also sought by statewide "information request" campaigns. These campaigns employed slide programs, newspaper articles, and distribution of over 3,000 "wanted" posters to district wildlife managers, taxidermists, trappers, outfitters, private individuals, and state and federal agencies. A report form was developed to standardize the evaluation of wolverine sightings. This form was sent to all individuals reporting a wolverine encounter.

Study areas were selected based on returned reports. Snowmachines and skis were used to search these areas for either wolverine or their signs. Baited hair snags, consisting of hardware cloth cylinders with barbed wire interiors, were set to obtain hair samples. Reference slides of hair were prepared from collections at the Denver Museum of Natural History and the University of Colorado Museum. Three keys proved particularly helpful in identifying hair samples taken from snags (Brown 1942, Mayer 1952, Moore *et al.* 1974).

A total of 265 reports of wolverine observations were evaluated during the study. Reports were rated as follows: positive reports, 3; probable reports, 18; possible reports, 36; and non-wolverine reports, 208. The 57 reports classified as positive, probable, and possible are mapped in Figure 1. A detailed listing of reports is available from the authors.

Some of these observations deserve special mention:

1) Three wolverines have escaped from Cheyenne Mountain Zoo in Colorado Springs (Fig. 1, no. 1). A female, which escaped in 1964, was killed by Terry Schmidt on West Las Vegas Street. A second female, which escaped in 1966, was killed by Ray Goecher of Littleton, Colorado in the Rampart Range on February 18, 1966 but the escaped male was never found. These reports were counted as one positive report.

2) July 1977, Al Williams, Assistant Principal of Delta High School, Delta, Colorado found a wolverine skull on the East Fork of the Cimmaron drainage (Gunnison County) (Fig. 1, No. 2). This skull was probably less than ten years old. This report was counted as positive.

3) June 1978, George Lanum of Denver took three photographs of an animal crossing a snow field on Trinchera Peak (Fig. 1, no. 30). His description and the body shape in the photograph suggest a wolverine.

4) June 1978, Mr. and Mrs. Robert Haas of Texas photographed one adult and three young animals west of Lake City (Fig. 1, no 9). The animals were too distant for positive identification. However, the drawings and descriptions made by the Haas's indicate wolverines.

5) October 1978, Stouffer Productions, Aspen, Colorado released two wolverines while filming a movie. The wolverines, which were imported from Canada, were released east of Castle Peak, Pitkin County (not mapped). Three reports in the general vicinity since their release may relate to these animals.

6) March 1979, Robert Kay of Vernal, Utah shot a male wolverine allegedly three km west of the Colorado-Utah border on U.S. Highway 40 (Fig. 1, no. 3). There is reason to doubt that the animal came from Utah. Also, since wolverines may roam over 32 km per day, if this animal came from Utah he probably had part of his range in Colorado.

7) March 1979, Don Roberts, Gary Guggenberger, and Ron St. Pierre of the Colorado Division of Wildlife watched an animal for three minutes at 25 m near the Rifle

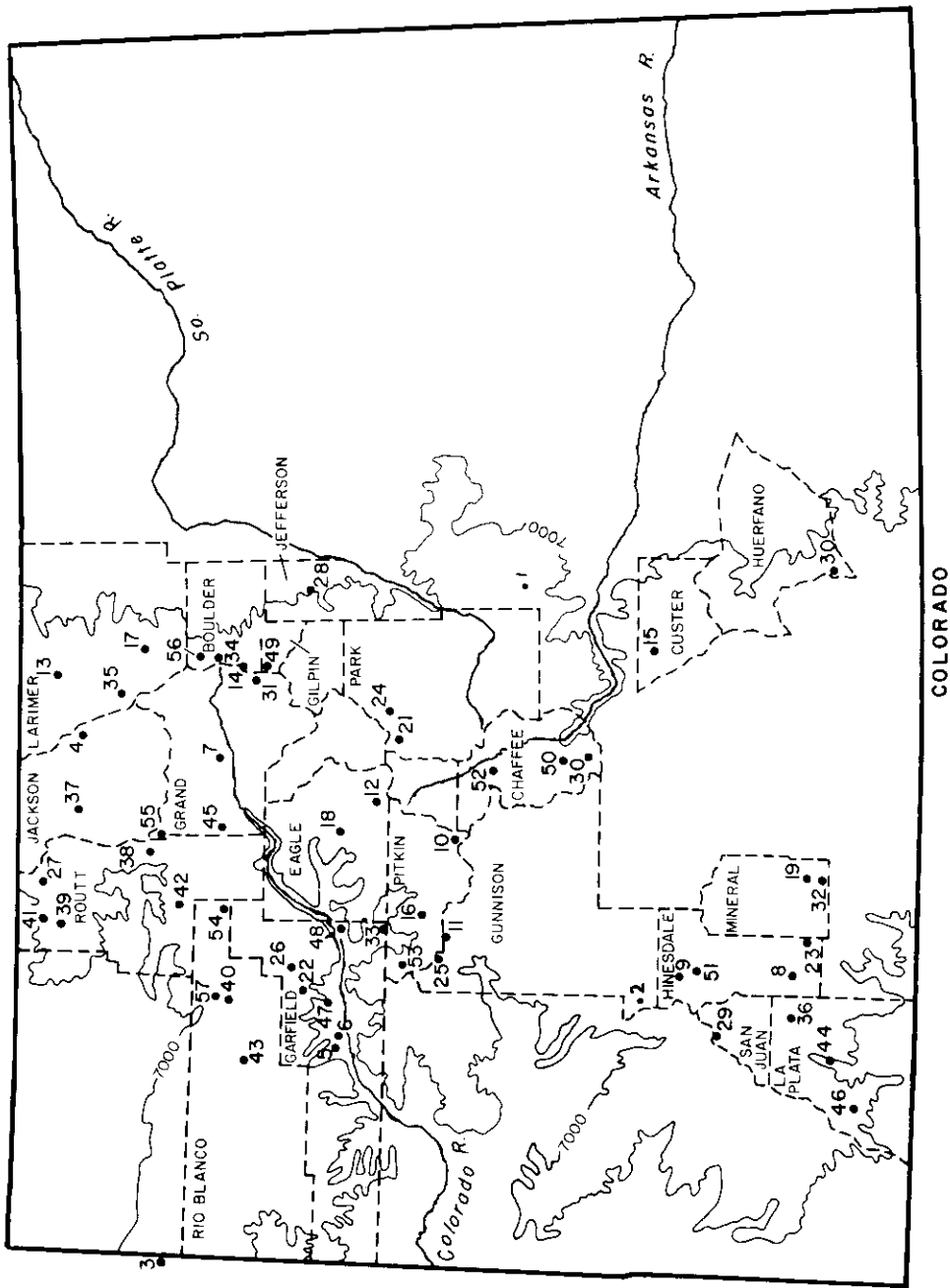


Figure 1. Distribution of 57 wolverine reports in Colorado. Counties are shown only if reports occurred within the county. The 7000 ft contour is also indicated.

Colorado Fish Hatchery (Fig. 1, no. 5). They identified the mammal as a wolverine and the sighting was in an area of other credible reports.

8) June 1979, Kurt Keskamaki watched an animal as it approached a bear bait that he had set near Parshall, Colorado (Fig. 1, no. 7). He watched the animal at less than 10 m for four minutes. Description, behavior, and signs indicated a wolverine.

Despite several credible reports the study did not verify the presence of viable populations of wolverine in Colorado. Verified wolverine include one skull found, one wolverine killed allegedly 3 km west of Colorado-Utah border, and two wolverines killed near Colorado Springs. In addition, two wolverines were imported and released by private interests. Repetition in credible reports suggests areas where wolverine are still likely to be found in Colorado. These include the San Juan Mountains (north of Durango and southeast of Wolf Creek Pass) and the southwestern portion of the Flat Tops Wilderness (Garfield County). North and west of Rocky Mountain National Park is another possibility.

We believe wolverines continue to exist in Colorado. However, irrefutable proof of viable populations is absent due to difficulty in detection and obtaining positive proof. Even if positive proof of a wolverine were obtained, it would not prove the existence of a viable population.

We wish to thank the numerous volunteers and DOW personnel who helped on this project, in particular, Dr. David Armstrong (CU), and Gary Miller (DOW). This paper is a contribution to Colorado DOW Federal Aid Endangered Species Project SE-3-2.

Literature Cited

- Armstrong, D. M. 1972. Distribution of mammals in Colorado. Monogr., Univ. Kansas Mus. Nat. Hist. 3:x+1-415.
- Brown, F. M. 1942. The microscopy of mammalian hairs for the anthropologists. Amer. Phil. Soc., Philadelphia. Proc. 85:250-274.
- Cary, M. 1911. A biological survey of Colorado. N. Amer. Fauna. 33:1-256.
- Coues, E. 1879. Notice of Mrs. Maxwell's exhibit of Colorado Mammals. Pp. 217-225. *In* On the plains and among the peaks: or how Mrs. Maxwell made her natural history collection (Dartt-Thompson, M. A.). Claxton, Remsen, and Haffelfinger, Philadelphia.
- Deems, E. F., Jr., and D. Pursley. 1978. North American Furbearers: Their Management, Research, and Harvest Status in 1976. Int. Assoc. Fish Wildl. Agencies. Univ. of Maryland, College Park, Maryland.
- Durrant, S. D. 1952. Mammals of Utah. Univ. of Kansas Publ., Mus. Nat. Hist. 6:1-426.
- Field, R. J., and G. Feltner. 1974. Wolverine. Colorado Outdoors 23:1-6.
- Grinnell, G. B. 1926. Some habits of the wolverine. J. Mamm. 7:30-34.
- Hall, E. R. 1981. Mammals of North America. John Wiley and Sons, New York.
- Hoak, J. H., J. L. Weaver, and T. W. Clark. 1982. Wolverines in western Wyoming. Northw. Sci. 56:159-161.
- Mayer, W. V. 1952. The hair of California mammals with keys to the dorsal guard hairs of California mammals. Amer. Midl. Nat. 48:480-512.
- Moore, T. D., J. T. Spence, and C. E. Dugnolle. 1974. Identification of the dorsal guard hairs of some mammals of Wyoming. Wyoming Game and Fish Department Bull. 14:1-177.
- Newby, F. E., and J. J. McDougal. 1964. Range extension of the wolverine in Montana. J. Mamm. 36:485-487.
- Quick, H. F. 1964. *In* Rodeck, H. G. Natural History of the Boulder Area. Univ. Colorado Mus.
- Spahn, J. J. 1954. Wolverine. Colorado Cons. 3:1-3.
- Warren, E. R. 1942. The Mammals of Colorado. Univ. Oklahoma Press.
- Wilson, D. E. 1982. Wolverine (*Gulo gulo*). Pp. 644-652 *In* J. A. Chapman and G. A. Feldhamer, eds. Wild Mammals of North America: Biology, Management, and Economics. Johns Hopkins Press, Baltimore.

Received, March 9, 1983

Accepted for publication, June 14, 1983