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I. Title.

ELK-SHEEP COMPETITION IN THE CASCADE VALLEY
BANFF NATIONAL PARK

Mr. H. O. Tanner

On arrival at Banff National Park on the 24th of May, I contacted the Park Superintendent, Mr. Hutchinson; Chief Warden, Mr. F. Bryant; Special Warden, H. U. Green, and discussed the situation with them. I took up residence at Cuthead Cabin in the Cascade Valley May 27. During the latter part of May and the entire month of June, my work was confined to the Cascade Valley from Stoney Creek to Flints Park Cabin in the West, and Windy Cabin in the North.

Spring range surveys were made to determine the condition of the alpine meadows at the beginning of the growing season. A series of 40 photographs were taken on the Palliser Range from Stoney Creek to Flint's Park. Patrol was maintained between Flint's Park and Stoney Creek to determine the elk and sheep population before they moved to their summer ranges.

During July, visits were made to other known sheep and elk ranges in the Park. These were generally made in the company of the warden in whose district I happened to be at the time. I also contacted as many wardens, ex-wardens and "old-timers", as possible. In this manner it was possible to build up a picture of the animal population in the early days of the Park, as very little true quantitative data exists.

During August, and the first week in September, range studies were being made on the Palliser Range to determine the amount of growth during the summer.

From this survey it would appear that the elk invaded the Cascade Valley soon after their introduction into Banff during the period 1917 to 1920. This movement was accentuated by two fires in the Valley, one in 1929 and one in 1935. These fires created sub-alpine meadows which served to carry the elk population for the first few years.

Between 1936 and 1941 the sheep population was drastically reduced due to the unknown disease which Dr. Cowan thinks may have been haemorrhagic septicemia. During this period, regeneration of lodge pole pine had forced the elk up the slopes of the Palliser Range to the alpine meadows where they can now be found grazing as high as 8,000 feet. Sections of the Palliser Range have been so badly over-grazed that the soil has been almost entirely lost due to sheet erosion. Other areas are badly terraced and show signs of incipient erosion. It is assumed that approximately 25 percent of the Palliser Range will never support sufficient vegetation to supply the needs of the sheep during the winter months.

Sheep very seldom feed on the same range as the Elk and as

the elk appear to be the more aggressive of the two, the sheep have been forced to live partly during the winter in areas which can be considered sub-marginal. During the past two winters the elk have moved off the Palliser Range by December but it is felt that, due to extremely low carry-over of grass noted this spring, that little grass or other herbaceous vegetation was left for the sheep during the winter months.

Before the advent of the elk in the Cascade Valley, no wolves were known to exist there. At the present time, the minimum wolf population of the Cascade Valley is 18 animals. In the past, the principle diet of the wolves was elk. However, since the elk have invaded the alpine meadows, the wolves are hunting up to 8,000 feet. Preliminary wolf dropping analysis has indicated that they have fed on sheep. Whether the sheep are carried, or wolf-killed is not known, but the fact that wolves are hunting at this high altitude, indicates that they may kill the occasional sheep. As the known sheep population of the Cascade Valley is 39 animals, even the loss of one or two sheep to the wolves may be serious. A total of 351 sheep were noted in the Park during the summer. However, there may be some duplication as it is known that the sheep of Banff Park will travel twenty or twenty-five miles to a salt

lick. If this is the case, it means that the sheep population is not holding its own and may be even decreasing in numbers. Twelve ewes and one ram were reported on the southeast slope of Mount Bourgeau where none were known to exist before. Warden Stenton reports a high sheep population (40-50) at Lake Minnewanka. As it is not sheep terrain, it is felt that they are there because of the salt blocks put out to attract them.

Elk Population

As I arrived in the Cascade Valley after the elk had started to move to their summer ranges, it was not possible to obtain exact figures on the elk population. The maximum of 147 was counted at one time, but it is felt that the total elk population of the Cascade Valley is approximately 280 animals.

THE FOLLOWING RECOMMENDATIONS ARE MADE:

As the Palliser range has been one of the finest continuous sheep ranges in the Park, and is more readily accessible by road than other known ranges, it is suggested that efforts to regulate the elk and sheep competition be concentrated on this valley for the time being. All the elk should be removed from the Cascade Valley by shooting. If it is not possible to salvage some of the carcasses, they should be abandoned. At the same time, wardens

patrolling the area, should be instructed to shoot all wolves on sight. The Valley should be kept clear of elk and wolves for at least five years or until such time as the sheep population reaches a minimum of two to three hundred animals.

This is a brief preliminary report. A full report will be submitted as soon as possible.

H. J. James

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the Cascade Valley,
Banff National Park.

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