

GOAT MANAGEMENT IN THE KOOTENAYS

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ABSTRACT

The following discussion is based on an earlier extensive discussion of the subject (Phelps, Jamieson and Demarchi, 1975). This presentation is a short review of that paper and discusses the management options implemented since the original paper was written.

INTRODUCTION

Mountain goats are widely distributed in the East Kootenays of British Columbia and are relatively abundant. The area of major interest (i.e., the Rockies south of Banff and north of Fernie) support the largest goat herd in southern British Columbia. This area and other goat herds in the Kootenays became a management concern in the late 1960's when a drastic decline in population became apparent. The decline was coincident with the bighorn die-off of that era (Demarchi and Demarchi, 1969), and the discovery of white muscle disease in goats (capture myopathy) (Hebert and Cowan, 1971). Neither of these factors served, however, to explain the decline. Hunting seasons during this period were long and goat harvests high. The data available to the wildlife manager at that time (from the British Columbia Hunter Sample) were hunter numbers which showed a substantial increase from 1955 to 1965; harvest figures by Management Area (units of several thousand square miles each) which showed an increase in

all units up to 1965 (Figure 1); and hunter success, which remained constant until the late 1960's (Figure 2). The sex ratio in the kill remained biased toward males, 138:100 through the same time period. Given these data, it was difficult to justify the closures demanded by hunters and guides, especially in view of the philosophy of maximum harvest found among managers and administrators of the time. However, based on local knowledge and an intuitive sense of the problem, closures were instituted beginning in 1963 and culminated in a full closure in 1972.

RESULTS

The first objective of the study, initiated in 1973, was to develop a more detailed description of the spatial distribution of the goat harvest using the hunter sample cards. This provided an entirely different view of the harvest that occurred in the 1959 to 1970 period than that obtained from the original analysis of the hunter sample data. Harvest data for management area 9 (Revelstoke-Golden) showed a gradual increase through to 1970.

Separation of these data into harvest by Management Unit (Figure 3) showed a severe decline in harvest in the Golden area (M.U.'s 4-36 and 4-40), the area which had the majority of road access at that time. This decline, however, was masked by a sharp increase in goat harvest in the Mica Dam area (M.U. 4-38), coincident with the influx of people into that area. In the East Kootenay (Figure 4) the situation, though more complex was essentially the same. A decline in goat harvest was discernible from

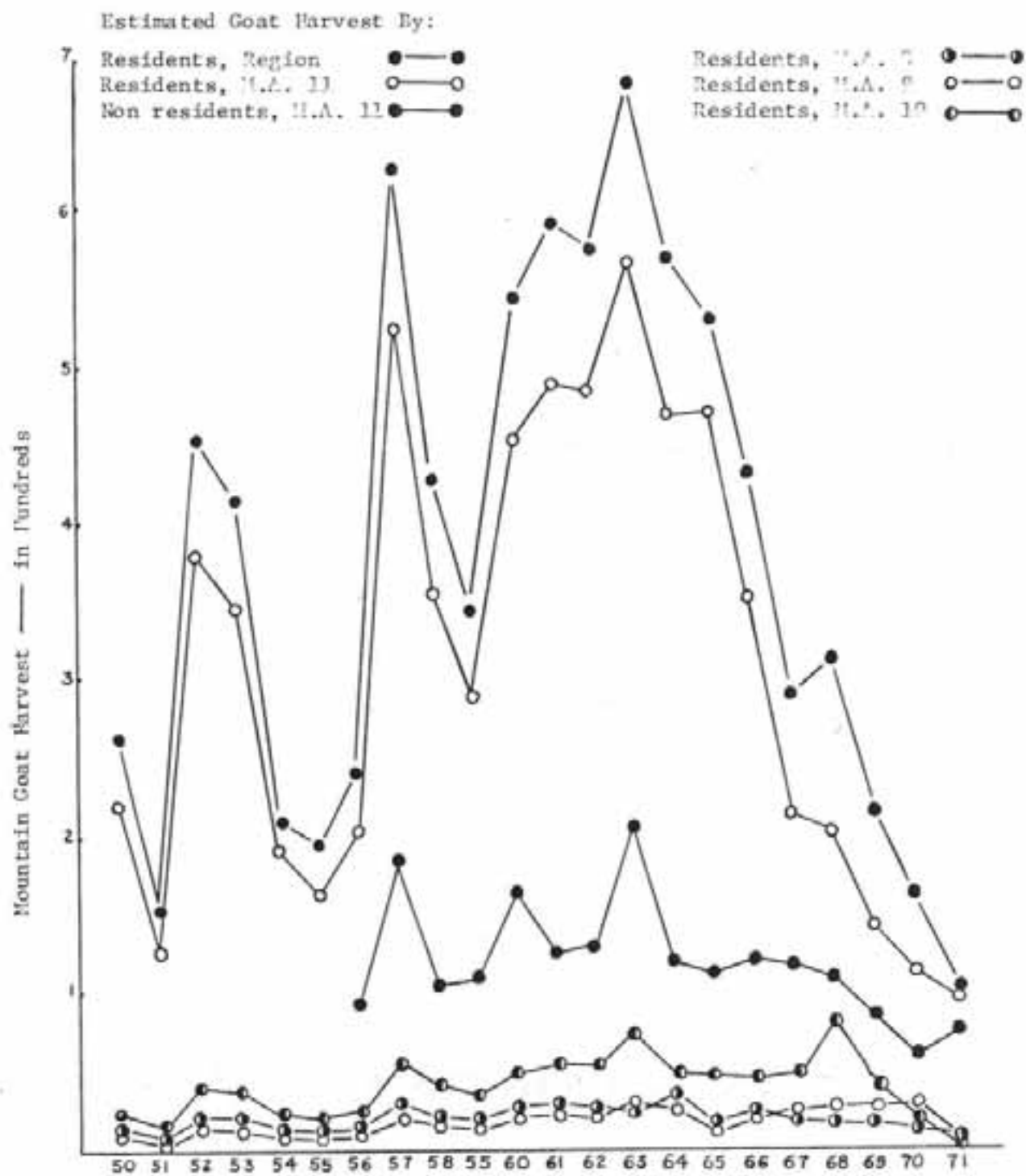


Fig 1. Goat harvests in the Footenay Region, 1950 — 71

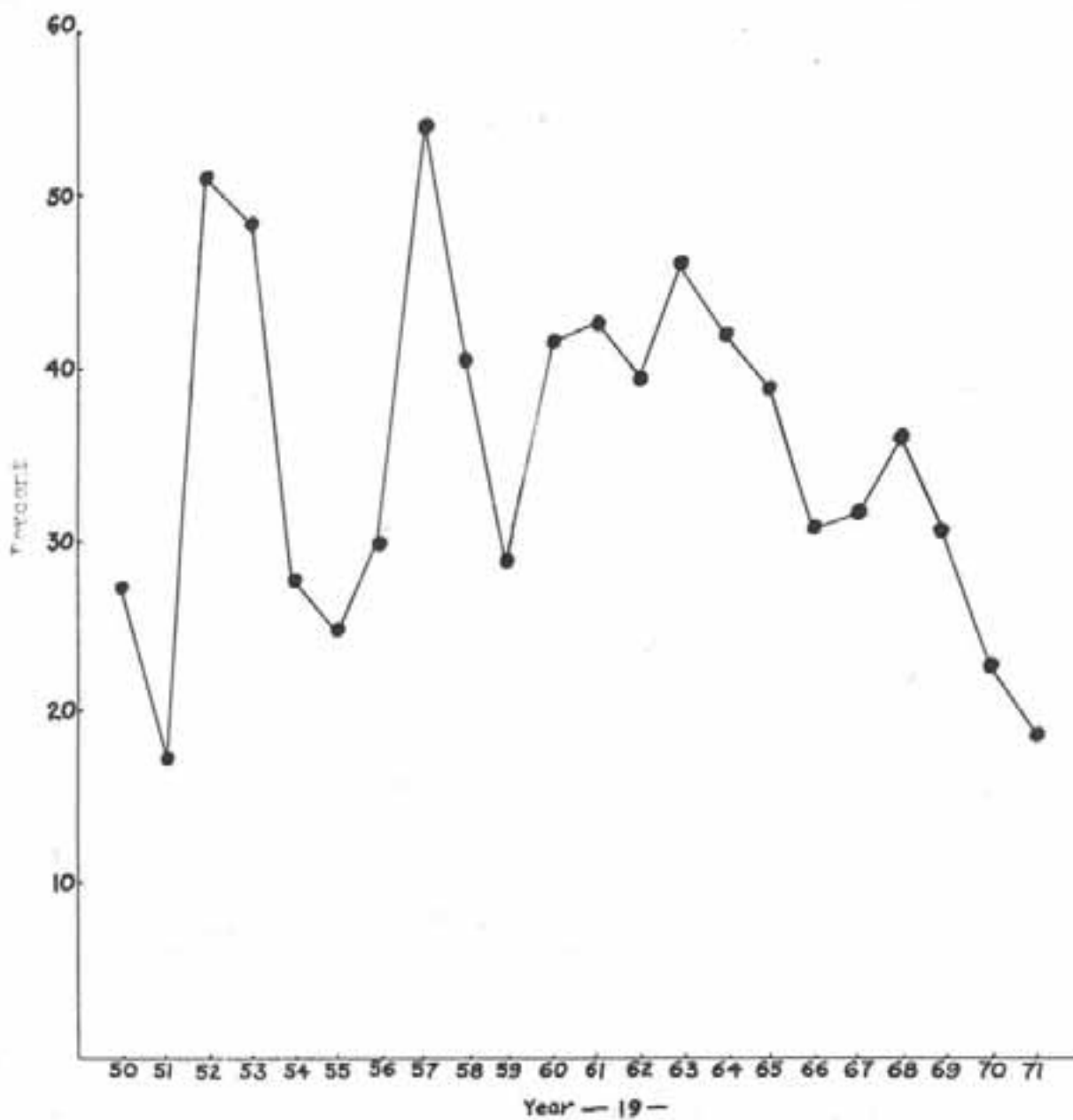


Fig. 2. Resident goat hunter success in the Kootenay Region, 1950 — 71

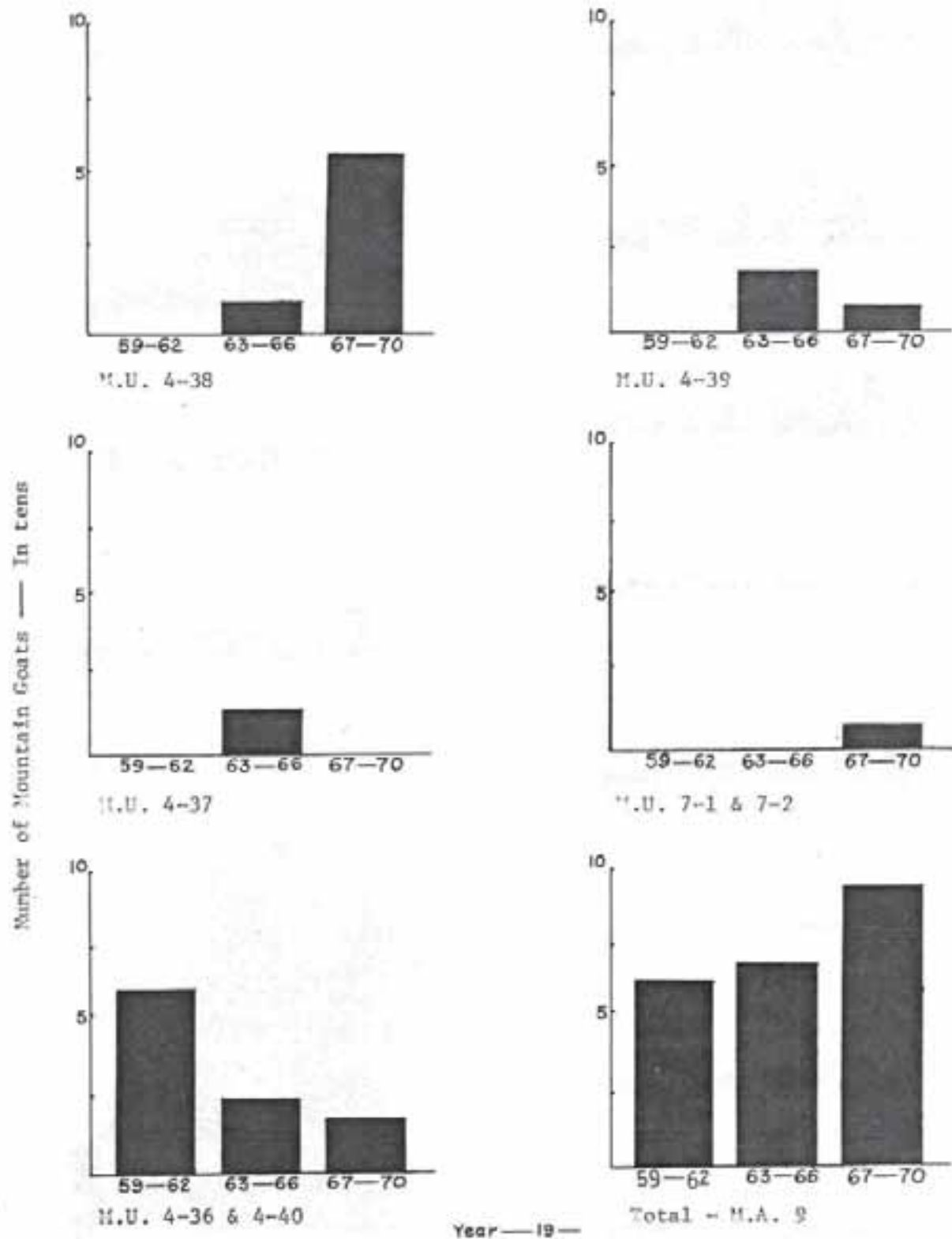
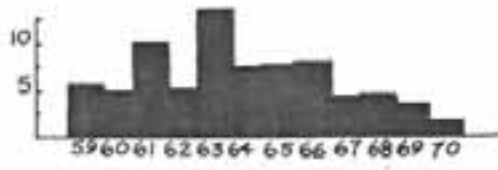


Fig. 3. The goat harvest distribution by Management Unit in Management Area 9, 1959 — 70

Number of Mountain Goat — In Tens



M.U. 4-26



M.U. 4-23



M.U. 4-24 & 4-25



M.U. 4-22



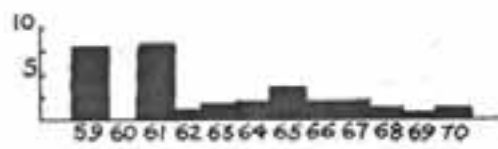
M.U. 4-34



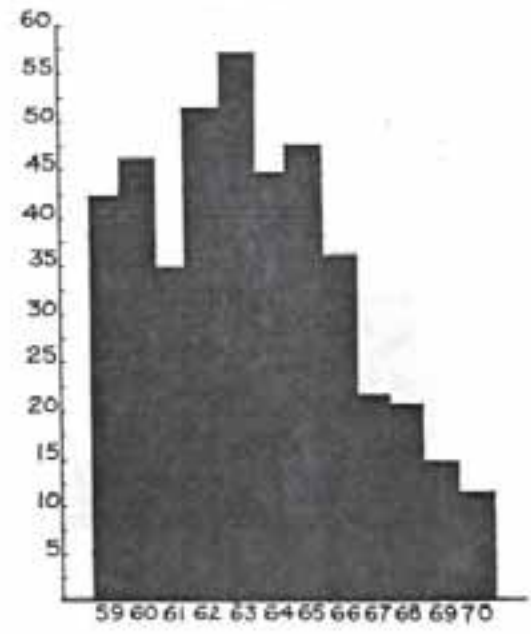
M.U. 4-21



M.U. 4-35



M.U. 4-20



Total — M.A. 11

Year — 19 —

Fig. 4. The goat harvest distribution by Management Unit in Management Area 11, 1959 -- 70

1965 on, but this was made up of declines in harvest beginning as early as 1960 in the Flathead (M.U. 4-1), Bull River (M.U. 4-22)(as early as 1950 - 1955), and St. Mary's units (M.U. 4-20). These declines were masked by increasing harvests in the White River (M.U. 4-24), Upper Kootenay (M.U. 4-25), Horsethief (M.U. 4-26), and Beaverfoot (M.U. 4-35) units. These increases reflected the development of access into these units and subsequent increased goat harvest.

A game check specific to the Granby watershed provided data which indicated a severe decline in goat harvest and mean age of the kill within two years of opening (Figure 5). Harvest in the White River unit, after its status as a game reserve was dropped, and road access developed; showed a similar decline in harvest and a drastic decline in mean age of the kill (Figure 6). Similar examples of exploitation of goat populations are documented for the Highwood River (Jamieson, 1969) and Mt. Hamel (Kerr, 1965) areas in Alberta. These exploitations were attributable to insufficient management capability, a philosophy of maximum harvest and uncontrolled access development.

Based on this study, a management plan for the 1975 to 1985 period was developed and requirements for effective management of goats were laid out. A program of goat inventory was initiated in the summer of 1977 with helicopter flights by

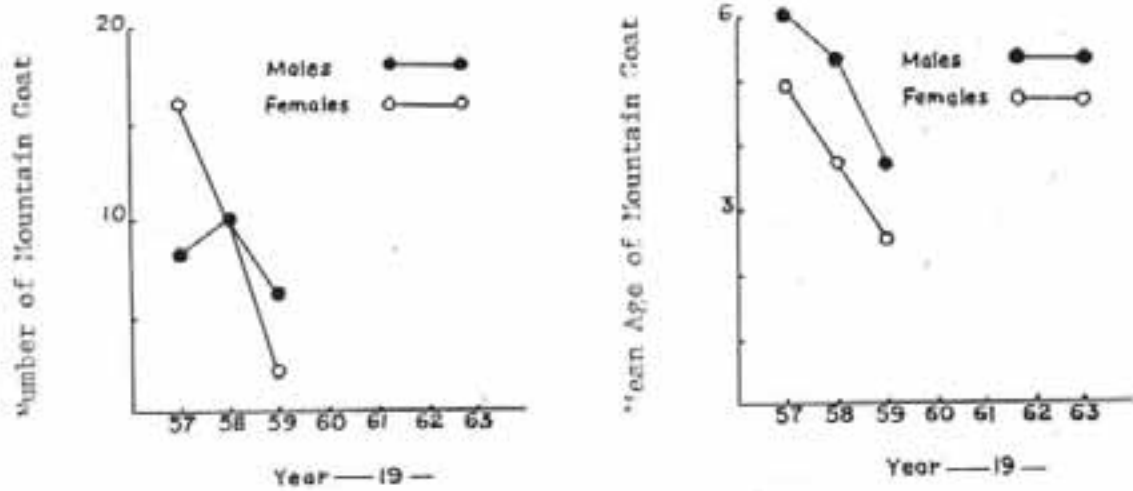


Fig. 5. The estimated resident goat harvest and the mean age of harvested goats in the Granby watershed, 1957 --- 59

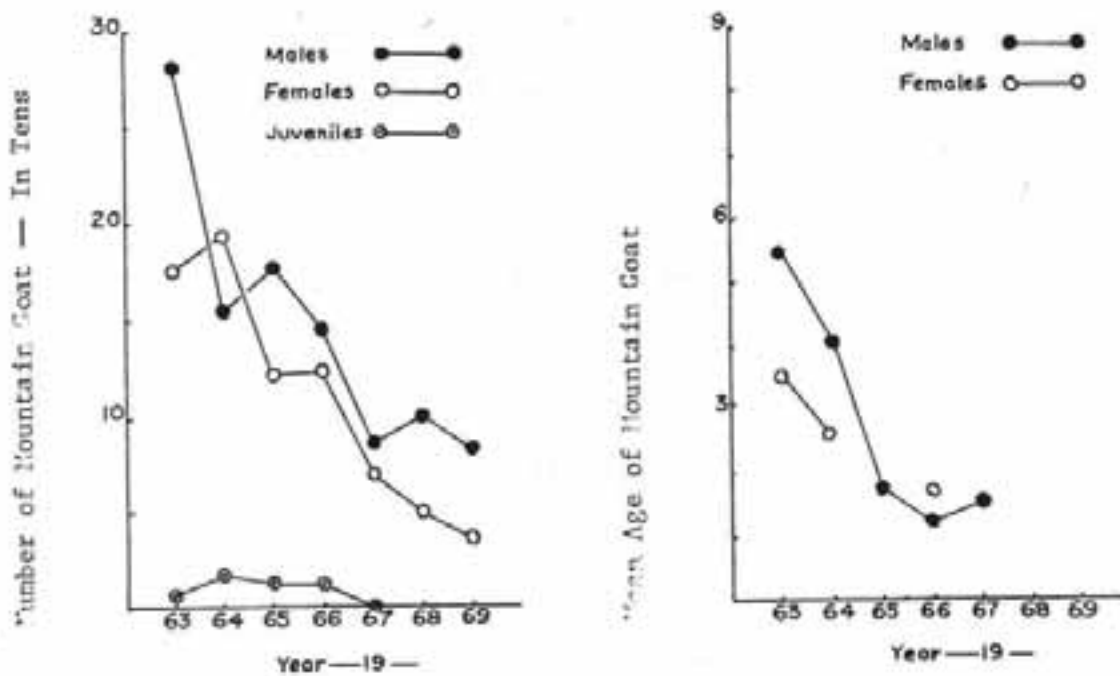


Fig. 6. The estimated resident goat harvest and the mean age of harvested goats in the Rocky Mountains (M.U. 4-21-25), 1963 — 69

W. Warkentin and G. Tipper of the Fish and Wildlife Branch and M. Burns, a consultant working in the area. A total of 503 goats were observed between Fernie and the Cross River, 83 of these were possible double counts, indicating a minimum population of 420 goats. However, within this survey area only 13 goats were seen in the Blackfoot Squaw drainage due to poor flying weather. I made 238 observations while guiding in that area in the fall of 1977. Based on these observations, I calculated a minimum population of 130 goats on one side of that unit. This, combined with the above data would indicate a minimum population of 537 goats. The actual population is probably closer to 1,000 goats.

Data from the helicopter flights indicated 50 kids per 100 adults, as did my data from the Blackfoot Squaw. These data are questionable for several reasons which will not be discussed in this presentation, but we did observe several family groups of a nannie, a two year old, a yearling and a kid, as well as two cases of twinning, indicating excellent recruitment.

No goat harvest occurred for the 1972 to 1975 period. In 1976 a limited entry season with 12 permits was initiated, as goat herds responded to protection. Eleven goats were killed; nine billies and two nannies. In 1977 the season was expanded to 20 permits, 15 goats were killed, ten billies and five nannies, with an average age of 6.2 years. In 1978 the season will be

expanded to 100 permits and a quota of one goat for each guide (29 permits), based on a harvest rate of three to five goats harvested per 100 animals in the population. The length of the season will be increased from October 1 - 15 to September 15 - October 15. Expected success is 80 percent, the sex ratio of the kill is expected to change as billies are taken out of the population.

Major problems remain in goat management in the Kootenays. With the lack of effective tools for monitoring herds over the vast goat ranges of the Kootenays, there is no real guarantee that we won't repeat the errors of the 1960's. We may find that we are taking all the harvested goats out of the more accessible herds in each unit, and decimating these herds, as was found in the limited entry season in the Wilmore Wilderness Park in Alberta (Quaedvlieg, et al., 1973). Our major management concern for this species must be the development of some coherent program for access management. Access control is presently a major public issue in the Kootenays.

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