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SPRING GREEN UP

Many believe that the primary limiting factor for moose populations throughout their North American range is habitat. Populations of moose in good habitat respond with high initial calf production and, in most instances can absorb mortality from severe winters, predation, regulated hunting, poaching, disease, competition and accidental deaths. However, moose populations in poor habitat with low initial calf production and survival cannot absorb significant natural and hunting mortality (Franzmann 1978). The same can be said for elk, deer and caribou living in similar parts of North America.

Winter mortality results from a complex of several factors related primarily to snow depth, density, hardness and persistence of these conditions over time along with condition of animals going into the winter. These factors affect mobility of ungulates and the availability of adequate food (nutrition) which in turn influences energy balance.

The early spring period therefore becomes very important in the recovery of herds following severe winters. The condition of a herd could be additionally stressed if there is a delay in new plant growth due to unseasonably cold and wet springs. Normally, it is estimated that about 15% of all newborns die at birth due to various natural factors. In those years in which the female has experienced severe winter conditions and enters the calving period in a condition that has deteriorated more than normal over the winter, she will sacrifice the unborn in an attempt to maintain herself at a level to ensure survival. In such years, the mortality at birth could be much greater. Moose calves and other ungulates begin experimentally chewing on plants within a few days after birth and start foraging regularly by two weeks of age. Development of the rumen depends on this forage intake. Calves born into less than optimal spring conditions could be additionally weakened and a potential loss of a cohort could result. The implications of this loss are significant when this cohort reaches the age category where reproduction is greatest. Consecutive losses over two years can have major implications to herds when these cohorts reach the prime producing ages.

The significance of the spring period to the winter or moose tick is now recognized. It is known that this tick has caused up to 50% loss of some moose populations in North America. Cold spring weather, especially in April and early May, can cause significant losses of female ticks and thus, the larvae available for dissemination to moose in the fall is greatly reduced.

Data collected on the spring "green up" form in conjunction with winter weather is used to guide managers in interpreting how annual weather patterns together with the availability of new plant growth will influence the welfare of herd. It enables managers to compare the impact of one spring with another, make prognostications as to what may occur with populations and make appropriate adjustments to hunting programs.