Abstract

This thesis present results on reproduction, timing of birth and central management problems in Swedish moose (*Alces alces*). I investigate parturitions due to impregnation in subsequent oestrous. The vast majority (~91%) of parturitions originate from the first oestrous. The date making a demarcation between parturition from the 1st and 2nd oestrous is June the 14th. The average date of parturitions from the first oestrous is 1 June, and from the 2nd is 19th of June. This result suggests that a complete ovulation cycle to be 18 days. Females conceived during 2nd and 3rd oestrous gave birth to calves with an extra ordinary male-biased sex ratio (71%) compared to females conceived during 1st oestrous (51%). This sex ratio variation has a facultative origin, since individual females adjust offspring sex ratio if conceived during 1st oestrous or later oestrous.

Young and old females gave birth later than middle-aged females, which may reflect the order in which adult males choose females to mate. This age-dependent pattern was also confirmed on individual level. Calves born early have a larger growth than late born. Thus, the growing of calves is favoured by an early conception. Until winter there was no difference in calve body mass between sexes, thereafter males become heavier. Litter size will affect the calves' body mass, at least during the first year. A calf born as a singleton is heavier then a calf born as a twin. Litter size decreases during the breeding season.

Ageing females show descent reproduction, survival and ability to raise offspring, i.e. senescence. Offspring from old females have a higher birth mass, regardless of litter size, which suggests an increased parental effort with reduced reproductive value.

The trend in Swedish moose management is a less centralised bureaucracy in favour of local management. I have faith in local management in general, because it involves those having a direct interest in the moose as a resource. However, attempting to apply scientific concepts and methods by non-scientifically trained people is troublesome. I therefore suggest the local involvement to focus on agreement in objectives, but less on the specifically management needed to reach these objectives.

Key words: Alces alces, ungulate, parturition, oestrous, rut, gestation, age dependence, senescence, Bayesian inference, body mass, sex ratio, offspring, growth

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