



## ASSOCIATION OF MOOSE PARTURITION AND POST-PARTURITION HABITAT WITH CALF SURVIVAL<sup>1</sup>

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### ABSTRACT

Habitat use during calving and the energetically demanding post-parturition period can be an important determinant of neonatal survival. The moose (*Alces alces*) population in northeastern Minnesota, USA declined 65% from 2006 to 2018. During 2013–2015, annual survival of calves was estimated as low as 28%. We remotely monitored global positioning system (GPS)-collared adult female moose and their neonates during the calving and post-parturition seasons to examine calving movements, birth-sites, habitat use, survival, and cause-specific mortality of neonates. Identifying the association of specific landscape characteristics with neonate survival should yield insight into mechanisms contributing to the declining moose population and serve as a basis for an ecologically sound management response. We compared habitat characteristics of pre-calving, calving, peak-lactation, and mortality sites at a fine and broad scale. We also compared calving sites of females that successfully reared a calf to winter to those that did not. In general, females tended to move to areas of more conifer cover to calve. During peak-lactation, females and their calves used steeper areas with abundant forage and high concealment but less conifer cover. Mortalities occurred at sites that were more level than other site types. Females that successfully reared a calf to 1 February typically calved in areas with more deciduous forest and less forested wetland cover than females whose calves died before 9 months of age. Habitat improvement projects for moose should consider forage requirements and placement on the landscape in relation to cover and slope. © 2018 The Wildlife Society.

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