Does the spatiotemporal distribution of livestock influence forage patch selection in Eurasian lynx *Lynx lynx*?

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Depredation on livestock is one of the main conflicts associated with Eurasian lynx *Lynx lynx* conservation in Norway. Our study investigates how Eurasian lynx utilise high-density patches of free-ranging and unguarded livestock (domestic sheep *Ovis aries* and semi-domestic reindeer *Rangifer tarandus*) as compared to patches associated with low-density wild ungulate prey, roe deer *Capreolus capreolus*. We monitored 10 radio-collared lynx in central Norway in two seasons that differed in ungulate distribution and density. According to the 'optimal foraging theory' an animal should preferentially utilise areas with more abundant food if not constrained by other factors; therefore we predicted that lynx should select patches containing livestock. Contrary to our prediction the results indicate no selection for livestock patches in any season. In contrast, a clear preference was shown for roe deer patches in both seasons. Our findings support the hypothesis that lynx depredation on livestock seems to be affected by chance encounter rates, rather than by active selection for livestock-dense patches. We conclude that habitat selection by lynx seemed to be governed by a number of other factors than food alone, and that lynx predation on livestock, especially on sheep, should not be regarded as being ecologically equivalent to predation on wild prey.

Key words: *Capreolus capreolus*, GIS, habitat use, livestock, lynx, *Lynx lynx*, roe deer, social system

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