

The effects of outdoor recreation on range use by semi-domesticated reindeer and lichen vegetation

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The effects of a large holiday resort on the distribution and range use by semi-domesticated reindeer and lichen vegetation were studied in Saariselkä, eastern Finnish Lapland, in 1986 and 2000. The study area, including three most important habitat types (Scots pine forests, sub-alpine birch forests and alpine hill-tops), was divided into three zones (5 km in breadth) according to the intensity of outdoor activities (1 = holiday resort, 2 = day use zone, 3 = wilderness zone). In 2000, when the study was repeated, the intensity of outdoor activities on the zones closest to the resorts were much higher than 14 years before, whilst the number of the reindeer of Ivalo herding association was of the same magnitude.

We used GLM models to compare the relative reindeer densities between habitats, zones and the two inventories. A clear change was found in alpine hill-tops, where relative densities were increased both in summer and winter especially in zones 1 and 2. The vegetation analysis showed that the volume of reindeer lichens has not changed remarkably, whereas changes in the lichen height and species composition may indicate avoidance of areas under the most intense recreation use in 1986. At present reindeer seem to adapt better to various kind of disturbances, which likely reflects an over-all increase in tameness grade of reindeer resulted especially by supplemental feeding in winter. That new feature is most conspicuous in open alpine terrain, where reindeer are known to cope with humans better than in forests with restricted visibility.