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RANGELAND ASSESSMENT AND GRAZING IMPACT: A CASE STUDY IN GUNNARSHOLT, ICELAND

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ABSTRACT

Overgrazing by domestic animals is one of the major drivers of land degradation, loss of soil fertility and deteriorating pasture resources. This study focused on rangeland assessment and grazing impact in two adjacent sites, protected and grazed. The aim of the study was to better understand the impact of grazing on land condition and soil properties. The study was conducted at Gunnarsholt, South Iceland. Five plots were randomly placed in a protected area and five in a grazed area, a total of ten plots. In each plot vegetation cover and biomass were estimated and soil parameters measured (soil organic matter, soil bulk density and pH). In this study grazing affected soil fertility when estimated by ground biomass and vegetation cover, and significantly increased soil pH and soil bulk density. The grazed area also had significantly higher grass and herb cover and lower moss cover than the protected area. Bare soil was only found in the grazed area. This indicated that grazing in the area could be a driver of soil degradation in the near future. Land condition at the grazed sites could be improved by reducing grazing as the land still has good vegetation cover and seed production. Land users should always consider land potential and land condition in their management plan and also simultaneously implement soil rehabilitation.

Keywords: grazing, soil, vegetation, biomass, management, impact.