

Foraging dynamics and woodland caribou: A winter management conundrum

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Abstract: Research, primarily on the endangered Selkirk woodland caribou population has enabled biologists to answer many of the basic ecology questions pertaining to caribou in high snowpack ecosystems. Data have been collected on habitat selection (Freddy 1974; Scott and Servheen 1985; Simpson *et al.* 1985; Rominger and Oldemeyer 1989; Warren 1990), food habits (Freddy 1974; Scott and Servheen 1985; Simpson *et al.* 1985; Rominger and Oldemeyer 1990), arboreal lichen biomass (Stevenson 1979; Detrick 1984; Rominger *et al.* submitted), tree density in subalpine forests (Rominger and Oldemeyer submitted), and arboreal lichen nutritional quality (Antifeau 1987; Robbins 1987). Specific knowledge that is lacking for caribou winter nutritional ecology includes: forage intake rates during winter and the constraints upon this process. The interrelationships of snow depth, aspect, lichen biomass within vertical strata of trees, daily intake, constraints upon this intake, and tree density in relation to both forage dynamics and potential predator detection combine to make this process very complex. The nearly monophagous late-winter diet reported for woodland caribou in these high snowpack ecosystems affords a unique opportunity in wild ungulate ecology to recreate an accurate facsimile of diet choices in a laboratory setting. We prepose a dissertation research project to test specific hypotheses related to late-winter foraging ecology using pen-raised woodland caribou at Washington State University.

Rangifer, Special Issue No. 7: 123

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Printed from manuscript after editorial review.