faktorer og driftsprosesser, driftsutbytte og inntektsforhold). Kap. 3 og 4 behandler den senere utvikling og dagens struktur av reindrifta i Finnmark og Troms (oppbygd som Kap. 1 og 2). Kap. 5 omfatter en detaljert undersøkelse og sammenlikning mellom distriktene nr. 27 i Vest-Finnmark og nr. 11 i Troms. Kap. 6 prøver å gi en kortfattet sammenlikning mellom reindrifta i Finnmark og Troms. Kap. 7 handler om reindriftas innvirkning på området (inklusive næringskonflikter) og kap. 8 om mulighetene for å forbedre strukturen.

Doktoravhandlingen, som ble godkjent av universitetet i Bamberg, ble aktualisert og kom i slutten av 1985 i noe forkortet form ut som bind 1. av «Bamberger Wirtschaftsgeographische Arbeiten». I denne versjon har avhandlingen 42 figurer og kart, 54 tabeller, 14 fotografier, litteraturliste samt sammendrag på engelsk og norsk.

Dissertation: The thesis *Entwicklung und Strucktur der Rentierwirtschaft in Finnmark und Troms (Nordnorwegen)* by **Ingrid Hemmer** was approved for the Phil. dr.'s degree at the University of Bamberg, West-Germany. The dissertation took place in Bamberg February 29. 1984. A shortened version is published as Vol No. I of «Bamberger Wirtschaftsgeographishe Arbeiten» (with English summary).

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Steve G.Fancy Successfully defended his Ph.D. Thesis, *«Daily energy budgets of caribou: a simulation approach»*, at the University of Alaska, Fairbanks, on March 12, 1986.

Abstract: Energetic constraints have played a major role in the evolution of caribou *(Rangifer tarandus).* This thesis discusses several ways in which these constraints have affected caribou morphology, physiology and behavior through their effects on the physiological condition of caribou. A computer model of daily energy budgets was used to simulate energy budgets of caribou in late winter, spring migration, and during the month of July when caribou may be harassed frequently by insects. Model outputs included estimates of metabolizable energy intake, and changes in body weight and body composition.

Several of the model inputs, such as fasting metabolic rates and activity costs, were measured using captive caribou. The mean energy cost for locomotion by adult caribou was the lowest recorded for any terrestrial species, and was more strongly related to leg length than to body weight. Highly significant ($p<0.001$) relationships between oxygen consumption and heart rates were used to estimate energy expenditures for activities from heart rates of caribou ranging within a large enelosure. Energy expenditures by caribou while feeding on grain at a trough, grazing, browsing and walking, as estimated from heart rates, were 12%, 18%, 18% and 46% higher than that while standing, respectively. The doubly labeled water method was validated using caribou and reindeer as a method for estimating energy expenditures by free-ranging ruminants.

The computermodel accurately predicted changes in body weight and composition in trials with captive caribou. The model predicted fat losses of approximately 4 kg for pregnant females of the Porcupine Herd during spring migration. During the insect season, a lactating female was predicted to be in negative energy balance on all days when insect harassment occured for 12 h or longer.

Variations in input data associated with energy intake had a much greater effect on model outputs than did factors associated with energy expenditure. Consequently, the optimal range use strategy in the absence of other constraints should involve movements to areas where the most digestible forages can be obtained and the highest eating rates attained.

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