

visitor at all seasons over the past 25 years), each turn of the page evoked vivid memories of every facet of life in Churchill, from the ice floes in the bay to the one-sided trees on the shoreline, or from the fog-covered ponds in the harbour to the peculiar telephone-line tripods, which resisted the soil movement in this permafrost area. It is from this town and these links to the North (particularly from Pere Volant's superb museum) that the reviewer (and doubtless many other people) first came to admire the Inuit artisans in their ability to release from the ivory and soapstone rock of their surroundings their vibrant life and legend in exquisite carvings for which they are justly famous. These links to the North and the more familiar polar bear migration (and its attendant wildlife tourist "reverse migration") are described carefully in the book, as they affect the everyday life of the town's inhabitants. It is a sign of the thoroughness of the coverage of this pictorial essay that not one of the features of the reviewer's remembrance of Churchill is missing within it. The constant tribute to the indomitable spirit of its people both past and present is not misplaced in the text. The author returns again and again to his admiration for their zeal and to his thanks for their acceptance and friendship towards him and his family.

The book is not without fault, however. The text is somewhat disjointed as it presents a series of vignettes of both people and places, although within each section the prose flows smoothly, with an obvious twinkle of wry humour and perceptive judgement. The regular and irritating use of contractions (it's, didn't) is perhaps a consequence of the narrative style of the prose, while the spelling jumps from Canadian (kilometre, centre) to American (endeavor, harbor, chauffeured [!]) throughout the book. Captions to many photographs are either missing or misplaced in the margins of the book. Nevertheless, these minor flaws do not seriously mar an excellent if lightweight book about a fascinating town.

This book is highly recommended for both lay persons and scholars who are curious about the enigma that is Churchill. The book certainly meets the dual aims of the author in providing the short-term visitor with a glimpse of the year-round life of a unique northern community, while presenting a heartfelt and lasting tribute to its people.

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THE ALASKA ALMANAC. From the EDITORS of *The Milepost*, *The Alaska Journal* and *Alaska Geographic*. Anchorage: Alaska Northwest Publishing Company, 1988. 254 p., maps, charts, illus. Softbound. Cdn\$8.85; US\$6.95.

The *Alaska Almanac's* contents are a veritable iceberg's tip of what makes Alaska different from anywhere else, even in post-development 1988. This book is essential for three audiences: devotees of the Alaska Trivia game, visitors or newcomers to the state and anyone who has an interest in life in the North.

Consider this event from "the Year in Review (1987)":

Fish Collides With Jet: Just before April Fools' Day, a flying fish collided with an Alaska Airlines jet. It was no joke. The flight of a Boeing 737 was delayed for about an hour, while the plane was inspected for damage. "They found a greasy spot with some scales, but no damage," said Paul Bowers, Juneau airport manager. The fish was dropped by a bald eagle as the jet approached. The plane was taking off from the Juneau airport and about 400 feet past the runway's end, the jet crossed the flight path of the bald eagle, fish in talons. A mechanic was dispatched to the plane's next stop in Yakutat to check the plane. The eagle escaped injury [p. 242].

Tall tale that it seems, the incident illustrates all too well the contrasts between modernity and natural history and the continuing risks inherent in contact between them. The *Almanac* gives ample

evidence that what happens each year in the North is tied to natural and human processes that have been in existence for millenia and are not yet tamed or even subordinate to the technology and bureaucracy of our times.

The reader may choose any of 281 topics listed in the index (located at the beginning of the book, in place of a table of contents). To sample 1988 in Alaska, contrast "Alascom" (handles 70 million long-distance calls each year and provides long-distance service to every community of at least 25 persons) with "Akutak" (the native delicacy made of whipped berries, seal oil and snow) and then "Alcoholic Beverages" (Juneau and Anchorage have cut back the number of hours for serving alcohol allowed under state law, Fairbanks defeated a similar motion, and 68 communities have banned both the sale and importation of alcoholic beverages).

An unfortunate aspect of this and any almanac is the difficulty of checking facts and figures for errors and omissions; no references are provided. Furthermore, the content stands in isolation; there is little attempt to attach significance to the facts compiled or to describe their relationship to each other. Interpretation, however, is not the function of almanacs, and the interested reader can, of course, pursue questions or topics of interest through other sources.

The *Almanac* is biased towards the interests of recent rather than aboriginal Alaskans. This is evident in both the topic headings and such entries as "Native People," describing Aleuts, Eskimos and Athapaskans all in one and one-half pages. Following is a very brief description of the Alaska Native Claims Settlement Act, omitting any mention of the revised legislation that has since altered the 1971 act or even the work in progress on revisions in recent years. (Other aspects of native cultures are covered under such entries as "Masks" and "Totems," flawed in that they give an external, materialist emphasis to native culture rather than a current and holistic view.) Even "Subsistence," a contentious issue for many non-native as well as native Alaskans, receives only a brief, albeit accurate description. "Hunting," in contrast, is longer and more detailed.

The diverse entries hint at innumerable fascinating and problematical stories. Some of the most moving are in the obituaries, which include a cross-section of native Alaskans and people who gave most of their lives to the state. The history encompassed in lives such as those of Bergman Kokrine, Paul Nagaruk and Howard Romig brings to life the 20th century in Alaska. Carrying mail by dog team, piloting aircraft to practice bush medicine and transferring ancient Eskimo skills into Nome's school curriculum are only a tiny sample of the challenges Alaskans have met.

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REVIEW OF METHODS FOR EVALUATING THE PHYSICAL CONDITION OF WILD UNGULATES IN NORTHERN ENVIRONMENTS. By JEAN HUOT. Québec: Centre d'études nordiques, series Nordicana No. 50, 1988. Published and printed simultaneously in English and French (back to back). 30 p. in English, 32 p. in French, plus review table, bib., index. Softbound. Cdn\$12.00.

This book summarizes and evaluates measurements of body condition in wild ungulates often used by wildlife biologists and managers. These measurements can be a sensitive way of monitoring both animal performance and the nutritional adequacy of range or habitat for a particular group or population of animals from "the animal's perspective." There have been many papers on body condition of wild ungulates, but little critical validation of common indices. In many species the relationships between indices of fatness and body fat are unknown. A review such as this can be of considerable value to biologists and managers.

The author sets out to provide "an analysis of available methods for evaluating the physical condition and diet quality of ungulates in the wild with special attention given to northern conditions and to caribou." The book is a survey of such methods, noting advantages and disadvantages of each, and recommending the most appropriate methods in the conclusion. There is one table that encapsulates much of the text. The book has a clear emphasis on identifying simple, reproducible methods useful to wildlife managers. Physical condition is defined as "the physical state of an animal considered relative to its medium-term chances of survival and the realization of its reproductive potential according to its age and sex, and to the moment in its annual cycle." Measures of diet quality discussed are confined to methods usable on harvested or field-tranquilized animals. Huot comments primarily on measures of growth, glands and organs, fat reserves, and blood chemistry. There are smaller sections on visual examination, hair analysis, rumen content analysis, fecal diaminopimelic acid (DAPA), parasites, behaviour, and demographic vigour.

In the conclusion, Huot recommends these measurements in harvested animals: eviscerated weight, morphometric data and standard fat indices (kidney fat, femur fat, back fat), abundance of parasites, reproductive data, and chemical analysis of rumen and fecal material for diet quality and DAPA. The use of indicator muscles is suggested as a promising new approach. Huot identifies fall and late winter (typically best and poorest condition) as critical periods for sampling, cautions against the use of small sample numbers (50 is a suggested target), and points out the lack of good measures for evaluating condition in live animals. Despite many studies of various blood parameters, the author notes that most have proved at best weak correlates of condition.

Within its objectives, this book is a thorough and useful analysis of most commonly used indices. The list of references is comprehensive and the author offers a balanced assessment of each index. Huot should be credited for his emphasis on reproducible measurements useful to field personnel often working with considerable logistical constraints. This book is a useful update to the earlier reviews of this subject cited in the book. A few studies of body condition in caribou, particularly from the Fourth International Reindeer/Caribou Symposium and from 1987 would have been useful additions, but inevitably a review in a rapidly expanding field will be dated almost as soon as it is printed. The study of Reimers and Ringberg (1983), which is one of very few studies in which chemically and anatomically determined fat are related to an index (back fat) in reindeer, should have been noted.

The book could have been improved in some areas. Other reviews in this area have provided good line drawings of recommended measurements, and consideration could have been given to similar drawings, particularly if wildlife managers are to make use of this book. The kidney fat index is discussed, but the lack of a good relationship between kidney weight and body weight, and the lack of validation of this relationship in many species, might have been more thoroughly discussed. The kidney fat index (as opposed to kidney fat weight) is suspect in any animal for which this relationship is unknown. The technique developed by R. Hofmann for measuring rumen papillation as a measure of recent diet quality could have been included.

The author could have brought out the theoretical underpinnings of this field — principles of growth, development, and compensatory growth — more strongly. Conceptual reviews of growth and development and compensatory growth are available in the literature but were little used here. The number of controlled studies of growth, development and nutritional stress carried out over the years with domestic ruminants dwarfs that available for any wild ruminant, and this wealth of knowledge has not been fully explored, either in this review or in most studies of body composition in wild ruminants. Huot does recognize the severe shortage of even basic studies of body composition in wild ruminants in North America. The evaluation of diet quality might have been more fully developed.

The review is generally quite readable. There is the odd misspelling and grammatical error, but these are not a major distraction. The summary table is conveniently laid out for quick reference.

This book can be recommended to biologists, students and managers interested in the field. The price is not overly high, but other similar reviews have generally been available as reprints, and the length of the review seems closer to that of a long paper than to that of a book. Academics might look for a stronger theoretical development, and wildlife managers might look for diagrams illustrating key measurements. Dr. Huot should be commended for his effort to evaluate a growing field.

REFERENCE

- REIMERS, E., and RINGBERG, T. 1983. Seasonal changes in body weights of Svalbard reindeer from birth to maturity. *Acta Zoologica Fennica* 175:69-72.

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THE ARCTIC GRAIL: THE QUEST FOR THE NORTH WEST PASSAGE AND THE NORTH POLE 1818-1909. By PIERRE BERTON. Toronto: McClelland and Stewart, 1988. 671 p., 44 maps, illus., index, bib. Hardbound. Cdn\$29.95.

The primary objective of the naval expeditions that left England between 1818 and 1845 was not that of pure geographical discovery, but of sailing a ship through from the Atlantic to the Pacific Ocean by a route north of the American continent — and before any other nation did so. Parry's success in reaching Melville Island in an exceptionally open season in 1819 led to over-confidence, in spite of the comparative failure of later voyages.

The loss of the Franklin expedition, which sailed in 1845, was a profound shock to the nation in general and to the Navy in particular. The potential for disaster should have been realized, but the warnings were ignored. In the four preceding voyages to the Arctic, Parry's *Fury* had been wrecked, John Ross's *Victory* abandoned, and Lyon's *Griper* and Back's *Terror* had narrowly escaped loss with all hands. Ross's crew had survived four winters in the Arctic and had at length found their way to safety on foot and in boats after their ship had been inexorably frozen in; this was taken as sure evidence that a long stay in the Arctic was not to be feared. Ross's crew, however, was small — only 21 when they abandoned their ship. Moreover, their survival had depended much on the fresh food they had obtained with the help of Eskimos and game that they had shot themselves. When supplies of fresh food were only intermittently available, they soon suffered from scurvy, even though they had good supplies of tinned food. What chance had Franklin's crews, 130 strong, if they became frozen in, especially should that occur where there were no Eskimos and game was short? That was what happened.

A long search followed, and the Admiralty was much criticized for the complete lack of success of the search in spite of the enormous resources devoted to it. First news of the fate of the expedition was obtained through Dr. John Rae of the Hudson's Bay Company, who was travelling with a small party, not to search for Franklin but to complete the survey of the arctic coastline. This news was received from the neighbourhood of the Great Fish River, which was well distant from Franklin's prescribed route and which he had reached through a hitherto unknown channel, Peel Sound. Despite all that has been written, the Admiralty search to the west and north of Barrow Strait seems perfectly logical in the light of Franklin's instructions and the evidence available at the time.