

are accustomed to even greater levels of logistical support, security, and comfort. Although the tundra still offers its share of inclement weather, isolation, and adventure, modern equipment and methods of travel have made it a safer and less intimidating environment in which to live and work. These technological advances undoubtedly have made it difficult for many people to appreciate how man's relationship to the northern wilderness has changed during the last sixty years.

The best way to derive a sense of what travel in the Barrenlands once was like is to read the accounts of explorers, traders, scientists, and missionaries who roamed the wilderness north of the 60th parallel during the 18th, 19th and early 20th centuries. The classic writings of Hearne, Back, Pike, Hanbury, Tyrrell, and Douglas are prime examples of works that provide a sense of history and place. *Journal of a Barrenlander* is another book that will assist anyone seeking to develop a better understanding of what travel on the Barrens was like before airplanes began to shrink the vast northern distances, when the courses of many rivers remained unmapped and most travel was by dogsled and canoe.

This small volume presents the journals of W.H.B. "Billy" Hoare, who, with A.J. Knox, journeyed north and east from Fort Smith, Northwest Territories, to the Thelon River in 1928-29. The journals, edited and annotated by Hoare's daughter, Sheila C. Thomson, describe one of the last federally sponsored northern investigations conducted without logistical air support. On the surface, the journey was unremarkable. Hoare and Knox had been assigned by the Department of the Interior to investigate the recently established Thelon Game Sanctuary. The two men entered the Thelon area via a previously traveled and mapped (albeit somewhat inaccurately) route — Pike's Portage, Artillery Lake, and the Hanbury River — and conducted no original scientific research during their 19 months in the field. And yet *Journal of a Barrenlander* recounts an impressive story.

Hoare and Knox attempted to transport more than three tons of supplies by dogsled and canoe from Fort Reliance, at the eastern end of Great Slave Lake, to the Thelon River, where they planned to establish a permanent warden's post. It took them more than seven months of tedious and arduous labor to move their outfit approximately 500 km to the Thelon River. For day after day, the men ferried supplies from one cache to another. Inaccurate topographical maps, break-up, freeze-up, inclement weather, and the sheer physical task of transporting so much equipment all helped delay their progress, and they did not begin work on the cabin at what would later be called Warden's Grove until the end of October. Hoare barely survived a dunking in the Hanbury River in November 1928, and the men had to fend off starvation while building their cabin and during the return to Fort Reliance, which they reached on 13 December.

I found their dogged determination admirable, especially when I recalled my own experiences on the Barrens. In 1977 and 1978, I overwintered at Warden's Grove with five other men. After paddling from Fort Reliance to the Thelon River, we were resupplied by Twin Otter. Much to our chagrin, the plane delivered 4000 kg of food and equipment to a lake 4 km from our camp, and we had to portage all of it back to Warden's Grove. This was a tedious task, but it pales in comparison to what Hoare and Knox accomplished.

Hoare and Knox returned to Warden's Grove the following spring. They spent three months exploring the area around the Hanbury-Thelon River junction and then completed their journey by canoeing eastward to the Baker Lake post. The results of Knox and Hoare's work in the Thelon Game Sanctuary were summarized in an official publication (Hoare, 1930) that omits much of the drama and exertion of their journey.

Sheila Thomson has taken pains to ensure that *Journal of a Barrenlander* presents a precise version of Hoare's field notes. She has supplemented the journal entries with material from a slightly expanded account of the trip written by Hoare at Warden's Grove in the spring of 1929; these inclusions, as well as her editorial comments, provide further useful information. Because all sup-

plemental materials are clearly indicated in the text, they do not detract from the accuracy of the published account. The book is nicely designed, especially considering that it was privately printed, and is illustrated with detailed maps. An interesting appendix by Kenneth L. Buchan describes the early mapping of Campbell and Smart Lakes, where Knox and Hoare were forced to transport their outfit over an unexpected 20 km series of portages.

An unavoidable shortcoming of the journals are their lack of detail. Although the entries provide a good summary of Knox and Hoare's itinerary and daily activities, they are generally terse and provide few details about the history of the area, life on the trail, or interactions between the two men. Even after finishing the book, I was left wondering how the men *felt* about the arduous portages, cold, subsistence on near-starvation rations, and inaccurate maps that contributed to their exertions. Nor are there many observations on natural history or people encountered during the trip. In this way they are less rewarding to read than the essentially contemporary journals of P.G. Downes (Cockburn, 1985, 1986), which are rich in self-analysis and human and natural history.

Journal of a Barrenlander deals with a relatively minor story in the history of northern travel and exploration. Thus it will be of primary value to those with scholarly or strong avocational interests in the history of the Barrenlands, particularly the Thelon Game Sanctuary. However, I recommend it to anyone who would like to develop a better sense of what travel in the North once was like — particularly those of us foolish enough to have complained about carrying a few weeks of food and equipment over a portage of a mere two or three kilometres.

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SCIENCE IN NORTHWEST ALASKA: RESEARCH NEEDS AND OPPORTUNITIES ON FEDERALLY PROTECTED LANDS. Compiled and edited by D.M. HOPKINS, W.H. ARUNDALE and C.W. SLAUGHTER. Alaska Quaternary Center and the University of Alaska Museum. Fairbanks: University of Alaska Fairbanks, 1990. Occasional Paper #3. 95 p., 2 tables, 3 maps, 15 black and white photos, bib. Softbound. US\$5.00; US\$3.50 for handling to the U.S. or Canada (all costs prepaid).

The volume is a brief summary of a symposium and workshop held in Anchorage 26-27 September 1987 to address the "wise management" of more than half of northwest Alaska now in federal U.S. control due to passage by the U.S. Congress of the Alaska National Interest Land Conservation Act of 1980. More than 100 scientists, land managers and Alaskan Native participants attended the sessions. The symposium and this published summation reflect the intensive involvement of diverse interest/user groups in addressing future research needs in the area, especially indigenous Native people, who were acknowledged as needing to be involved in all phases of planning and policy making regarding needed research.

Five brief chapters present the authors' summary of the complex blend of biology, ecology, archeology, resource management, baseline study needs, fire ecology, Native hunter/user views and land manager concerns.

The Introduction outlines northwest Alaska's important value to science by looking at prior studies of the region, beginning with early-20th-century reports, on through U.S. Geological Survey work, archeological investigations, petroleum-related research in the 1920s to the present, the Naval Arctic Research Laboratory (1947-81), an Atomic Energy Project near Cape Thompson, the International Biological Program near Barrow and the Outer Continental Shelf Environmental Assessment Program more recently. The "unique aspect of northwest Alaska is its position at the crossroads of a land dispersal route between Asia and North America and a sea dispersal route between the Pacific, the Arctic and the Atlantic Oceans" (p. 9). In addition, northwest Alaska's glacial deposits and marine beds, annual tree-ring growth data and Native oral history provide "a major opportunity to detect warning signs of global atmospheric pollution and climate modification" (p. 11).

A three-page summary of the distinctive social, cultural and political context of the region concludes the Introduction. The potential and real conflict between Alaska Native peoples (mostly Inupiaq Eskimos, some Yupik Eskimos and some Athabaskan Indians, 80% of the total local population) and other users of the land is sympathetically described from the indigenous perspective. Native participants in the symposium voiced their intention quite clearly to be involved in research on their homeland.

Chapter 2 presents "cross-cutting issues." These are summarized succinctly in jargon-free language and include: increasing the local involvement of people in research planning and activity, creating adequate baseline data for almost every attribute of federal reserve lands in Alaska, obtaining long-term funding, the U.S.S.R./U.S. cooperative proposal for a preserve in the Bering Straits area, coordination and cooperation among researchers and the need for regional research/resource centers in Kotzebue, Nome or both, plus strengthening the resource center at Barrow. The latter are needed to develop regional research plans, which would involve local Native people and provide jobs/cash income to local communities.

Chapter 3 provides detailed recommendations regarding scientific research needs. Land dynamics, the effects of fire on vegetation over time, minerals, human-induced environmental change and the effects of tourism and biological harvests by humans are examined in some detail. The chapter ends with a section on the need to preserve oral history in the region and to encourage the prompt and adequate publication of archeological studies and syntheses in other than agency reports.

Chapter 4 describes what local involvement means and why it is essential for current scientific research to include Alaskan Native peoples in all phases of such efforts. This is the most innovative concern, perhaps, of the publication and it is expressed consistently in each chapter. The authors note that words such as "remote," "isolated," "frontier" or "pristine wilderness" can make Native people bristle when their homeland is described in such a way. In addition, reports by scientists have been seen to change if the researcher knows that local people are going to review it. This section concludes by outlining the educational and training needs for Native Alaskans to achieve local involvement in scientific research. Ethical guidelines should be constructed, following the example of the MAB working groups in Canada (1977) and the 1986 "Scientific Research Issues in Draft Principles for an Arctic Policy" of the Inuit Circumpolar Conference.

The final chapter briefly summarizes the main points of the preceding sections.

The names and addresses of symposium and workshop participants are provided in an appendix. Of the authors, Hopkins is director of the Alaska Quaternary Center, Arundale is adjunct assistant professor in the Department of Anthropology and research associate in the Institute of Arctic Biology of the University of Alaska Fairbanks, and Slaughter is principal watershed scientist of the Institute of Northern Forestry, USDA Forest Service, in Fairbanks, Alaska.

The publication is an important and well-argued overview of the kind of sustained, well-integrated scientific research deserved and

needed on federal lands in northwest Alaska. It is very compact but jargon-free and merits reading by anyone involved in conducting or planning scientific research in Alaska. Businesses wishing to extract non-renewable or renewable resources from northwest Alaska would benefit, also, from reading the volume, because it alerts readers to the need for a holistic awareness of the complex links among land, climate, flora, fauna, humans and variable interests of agencies responsible for managing such lands.

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PEOPLE AND CARIBOU IN THE NORTHWEST TERRITORIES. Edited by ED HALL. Yellowknife: Department of Renewable Resources, Government of the Northwest Territories, 1989. 190 p. Softbound. Cdn\$20.00.

This comprehensive book is the first attempt to synthesize the biology and status of all five caribou subspecies found in the Northwest Territories and to provide a link to their traditional and present users. This is a formidable undertaking and the book's success is a tribute both to its editor and 21 separate contributors. This success, however, is not without its limitations. The book covers a lot of ground, sometimes at the cost of treading too lightly on a given topic.

The book is broken down into four major sections: people, science, barren-ground caribou and "other" caribou. There is considerable value in combining a discussion of people and caribou, for in the North they are inextricably bound. The section "People" constitutes about one-third of the book. The chapter on traditional use by Inuit and Dene users includes interesting descriptions of their historical distributions, early culture and capture methods. The chapter on present use consists of an effective montage of black-and-white photographs with short captions. Chapters on nutrition and clothing provide an additional and informative perspective on the relationship between users and their prey.

The final chapter on people relates stories and legends of the Inuit and Dene. This chapter exemplifies, in a striking way, the intimate cultural relationship between caribou and their Dene and Inuit users. The legends are a powerful statement of the myth of oneness that is often articulated by native people. The theme of reincarnation pervades the legends that define the spiritual relationship between the people and their environment. The theme of hunger also runs through the stories, a theme common to all nomadic hunting peoples.

The "caribou" section of the book discusses the general biology of caribou followed by specific chapters devoted to each of the major herds and subspecies. The general sections include discussions of biology and habitat, research and management at various levels of technical detail. Authors have made an obvious attempt to avoid technical jargon, as the book is aimed at a wide readership. However, some terms that are taken for granted by biologists, such as "rut," "sex-ratio" and "composition," will be unfamiliar and bewildering for a general reader or student. A glossary with clear definitions would be a considerable asset and obviate the need for cluttering the text with definitions.

"Research" is an excellent chapter for the lay reader, especially the discussion and illustrations involving caribou surveys and sampling. An excellent chapter on the history of research is awkwardly placed following the "Research" chapter.

Chapters on individual herds and subspecies are informative and interesting but reflect differences in available information and insights of the individual authors. A standardized format maintains consistency, although at a single reading the format becomes repe-