

The two longest sections of the review describe the effects of fire on vegetation and animal life in Alaska. By treating tundra and taiga fire separately in the vegetation section, the authors emphasize the general lack of knowledge about all aspects of tundra fire. The effects of fire on treeline in Alaska are also poorly understood. In the vegetation section, fire effects both on individual species components and on ecosystem processes and post-fire revegetation patterns are covered. An interesting observation here is that fire returns both black spruce taiga and tussock-shrub tundra ecosystems to a more productive condition with a larger available nutrient capital.

The effects of fire on animal life are discussed with reference to caribou and reindeer, moose, furbearers, small mammals, birds, aquatic life and terrestrial invertebrates. A particularly important aspect of this section is the discussion of fire-caribou interactions in which it is made clear that the relationship is controversial, complex and unresolved. The authors caution that recent declines in caribou numbers should not necessarily be ascribed to increased fire frequencies. Through a review of fire effects on caribou in each of six regions in Alaska, they show that relationships may be different in different areas of the North and in different herds. The authors also point to conspicuous gaps in our knowledge of fire effects on bird populations, aquatic life and invertebrates.

The review does not include a discussion of fire management policy for Alaska nor does it translate the review information into such policies. However, in contrast with past fire control and prevention approaches, the review definitely promotes the role of fire as a natural ecosystem process and therefore a "tool" to reach certain management objectives. With the settlement of land claims in Alaska, each of the land-managing agencies will be required to formulate a fire management policy. The present review should contribute greatly toward this end.

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VASCULAR PLANTS OF CONTINENTAL NORTHWEST TERRITORIES, CANADA. By A. E. PORSILD and W. J. CODY. Published by the National Museum of Canada, Ottawa, 1980. ISBN 0-660-00119-5. I-VIII, 667 p. Illustrated. Cloth. \$105.00.

For years now, those of us interested in arctic and subarctic vascular plants have had a very meagre selection of floras from which to determine our collections. Hultén's *Flora of Alaska and Neighbouring Territories* (1968) has been a mainstay for those of us working in the Western Arctic whereas Porsild's *Illustrated Flora of the Canadian Arctic Archipelago* (1957) has been a constant companion during our wanderings in the Arctic Islands. For the more southerly of the northern researchers, a various assortment of provincial floras have had to do the job.

Many pleasant and often frustrating hours have been spent both in the field and seated in our cloistered laboratories staring at our more obscure specimens collected somewhere away from the main transportation routes east of the Mackenzie River and west of Hudson Bay. Our specimens have stared up at us like fixed points of reality in a botanical black hole, taunting and daring us to force them into some taxonomic framework developed for areas hundreds of miles away. All too often we have forced our specimens into nomenclatural niches by "stretching the keys" so as to simplify our perceptions of nature and place human order into what would otherwise be apparently unordered objects.

With the publication of Porsild and Cody's book, the botanical black hole now appears less black. The keys and descriptions for the 1112 species provide us with taxonomic pigeonholes in which to place our diverse collections, while the distribution maps and line drawings of most of the species (978) instill confidence that someone has actually examined specimens from within that 1 500 000-km² area.

The authors begin their thesis with a brief review of the usual climate, bedrock geology, Pleistocene aspects, treelines, active layers and phytogeographical provinces. They point out that few attempts have been made to subdivide the continental Northwest Territories into phytogeographical regions, and then propose the following six tentative provinces on the basis of our present knowledge of the flora: (1) Mackenzie Mountains; (2) east slope of the Richardson Mountains and north from the Peel River gap to the Arctic coast; (3) Mackenzie River delta and coastal plain between the lower Mackenzie and Anderson rivers; (4)

treeless northern portion of the District of Mackenzie and all but the southern portion of the District of Keewatin; (5) Precambrian Shield area and Mackenzie lowlands between the Shield and Franklin Mountains; and (6) south of the southern shores of Great Slave Lake to the Provincial boundaries, a floristic province similar to that of northern Alberta and Saskatchewan.

Before entering into the taxonomic work itself, the authors provide an interesting, slightly unorthodox and of necessity incomplete chronological review of the history of plant collecting in the north. Some might dismiss this section as *too folksy*; however, we feel this presentation is eminently appropriate given the long-standing ties and empathy that both authors have not only with their subject plants but also with the north in its entirety.

As for the adequacy of the floral keys themselves, it would be premature to judge them as only time and use by botanists will allow fair judgment to be made. The proof of the pudding is always in the eating. We did, however, test the keys on material we have collected over the past few years from the Anderson, Horton, and Mackenzie rivers and Banks Island. After the normal period of adjustment to a new flora as one becomes acclimatized to the authors' use of morphological terminology, we found them to be generally very adequate. With a book of this magnitude, it is difficult to relate text and illustrations. It would have increased the usefulness of the book had the distribution maps and illustrations been placed adjacent to the species descriptions.

The book is clearly essential to any northern researcher with anything more than a fleeting interest in northern plants, and most important to the botanical researcher. It provides nodal species definitions for a little-known area thus giving us mental bench marks upon which to begin our investigations into intraspecific variation.

We take our hats off to you, Dr. Cody, and posthumously to you, Dr. Porsild, for completing such an onerous undertaking. A special note of thanks to Dr. Porsild for a very long life of significant northern scientific contribution which culminated in the production of this book.

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EXPLORATION IN ALASKA: CAPTAIN COOK COMMEMORATIVE LECTURES. Edited by ANTOINETTE SHALKOP. Anchorage: Cook Inlet Historical Society, 1980, 219 p., 109 plates, references. \$12.50 U.S. Available from Anchorage Historical and Fine Arts Museum Sales Shop, 121 West 7 Avenue, Anchorage, AK 99501. (Add \$1.00 mailing charges.)

Over the last decade bicentennial celebrations of James Cook's explorations have followed the path of his voyages around the Pacific. Beginning in New Zealand and Australia in 1969, the cycle concluded in the north Pacific in 1978 when both British Columbia and Alaska celebrated the presence on their shores of the greatest of all navigators. Many of these bicentennial celebrations have produced contributions to scholarship and *Exploration in Alaska* is a collection of essays that were given in Anchorage to commemorate Cook's visit.

Although occasioned by the celebration of Cook's exploration of Alaska, this collection does not concentrate on that alone. It is much broader in scope. There are essays dealing with the background to Cook's exploration of the Pacific; papers on explorers of other nationalities, particularly the Russians and the Spanish, who visited Alaskan waters; there is an interesting piece that examines the collective identity of later American explorers of inland Alaska; and finally a section dealing with the immediate and long-term impact of the arrival of Europeans on the native peoples of the area. The editors have brought together a number of scholars from a variety of disciplines to look at many aspects of the exploration of Alaska.