

tellectual facets of preparation for research. Centralized research perhaps should be examined by Western scholars before starting long-term projects. Currently, Western anthropologists often produce monographs consisting of articles which are not topically related. Employment of a centralized approach could lead to the production of monographs that are as well organized as the one being reviewed.

The most important aspect of the ethnohistory of the people of the high north, as the authors note, was the process of exploration and colonization of Siberia by the officials of the Russian Empire. The process of exploration of the northern territories in the seventeenth century caused a significant transformation of population, strengthened conflicts between local ethnic groups, and changed modes of production, among other effects. However, as the authors point out on the basis of information obtained from historical records, exploration of the northern territories did not cause the extinction or decrease of the native population. Russian officials did not wish to exterminate the aboriginal northern population, but rather, in cooperation with local Siberian leaders, to reform them into good and meticulous suppliers of valuable furs.

There would be value in studying the history of the Russian period in North America as a correlate of the socioeconomic strategy of the Russians in Siberia. From the point of view of Russian officialdom, the process of exploring the North American territories presumably had the same rationale as in Siberia; North America was viewed by the Russians as a geographical continuation of their colonial politics (Alekseev, 1982:86). The Russians used a socioeconomic and political strategy in North America similar to that used in Siberia, imposing the local head tax (*yasak*) and strengthening their influence.

The process of colonization of the eastern territories was quite elaborate and will be described briefly below. One of the peculiarities of the aboriginal populations of Siberia, the Far East, and northwestern North America was the absence of any State organization. Lacking an institutional defense against the sophisticated social organization and military superiority of the Russians, the native population had to accept Russian dominion and consequently agreed to pay them *yasak*. Another peculiarity in the Russian population of the eastern territories was the absence of serfdom. Oppressed Russian peasants who had escaped from their landlords in the European part of Russia often fled to Siberia, the Far East, or North America in order to attain freedom. The Russian authorities, surprisingly, instead of having them prosecuted, had promoted them into government jobs. When the government had thus established its control over the northeastern territories, the commercial people (*promyshlenniki* and *kuptsy*) began organizing commercial companies (*artels*) and markets (*yarmarkas* and *bazars*), and the Russian Church began sending missionaries to the East. Thus, in contrast to peasant movements, which had a spontaneous character, the organized government expeditions to the East already had in place a colonial system, i.e. the imposition of regular *yasak* and the extension of State territories.

After the discovery of the Aleutian Islands and southern Alaska, a series of commercial expeditions to North America from Siberian and Far Eastern Pacific ports (Okhotsk and Nizhne-Kamchatsk) took place. Between 1743 and 1786 the Russian Government Treasury received from North America commercial products (primarily fur and sea mammals) worth 193,797 rubles, 90 kopecks. In addition, they collected products worth 42,392 rubles, 10 kopecks, in *yasak* (Makarova, 1968:55,81). One effect of these enterprises was a significant increase in the Russian population in North America. In 1794 the Russian population in Alaska was over 800, compared to 500 in 1788 (Alekseev, 1982:38-39). However, according to Fedorova (1971:120-121), by the end of the eighteenth century the population in Russian America was about 8000 which included only 225 Russians. The Russians in North America hunted sea mammals, fished, built ships, and attempted to cultivate some crops. Several Russian settlements were established, in the Aleutian Islands, on Kodiak Island, on the Kenai Peninsula, and in southeastern Alaska. By the end of the eighteenth century the Russian-American Company was founded. The company monopolized all commercial enterprises in Russian North America and held almost all the political power in the region. Until Alaska was purchased by the American government in 1867, Siberian-North American contact was very close. The Russians' management of Alaska always represented the interests of the Tsarist government and was carried out in cooperation with their Siberian partners and supporters.

The Russian period in Alaskan history is not emphasized in the present monograph; my purpose in briefly illuminating this period is to suggest that future research address Russian colonial history in the East as a unified whole.

This monograph can be recommended as an excellent textbook for students of circumpolar science and history. It should be translated into the major scientific languages, since it contains recent scientific information about the ethnohistory of the people of Siberia and the Far East which is an important contribution to the social sciences.

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## THE ROLE OF FIRE IN NORTHERN CIRCUMPOLAR ECOSYSTEMS.

Edited by ROSS W. WEIN and DAVID A. MacLEAN. Scientific Committee on Problems of the Environment (SCOPE) 18. New York: John Wiley and Sons, 1983. 322 p. with glossary; and author, geographic, and subject indices. US\$65.00. Hardbound.

Fire is clearly an important ecological force throughout much of the northern circumpolar forests and taiga, playing a major ecosystem role and presenting a land management problem. This volume of SCOPE 18 is based on an October 1979 conference sponsored by SCOPE, International Man and the Biosphere, and the Fire Science Centre of the University of New Brunswick. The stated objectives of this book and conference are to identify which temperate-region fire concepts or theories apply to the circumpolar north and which concepts are unique to northern ecosystems. Fifteen chapters, contributed by principal authors representing Canada (nine chapters), the United States (three chapters), the U.S.S.R. (two chapters) and Finland (one chapter), cover topics divided into five sections, with an introductory overview by the editors, R.W. Wein and D.A. MacLean.

The first section considers 'Past and present fire frequencies' from post-glacial time (K. Tolonen) to the present industrial period (R.J. Barney and B.J. Stocks). Tolonen's review of sedimentary reconstructions of post-glacial fire histories is outstanding and covers both Europe and North America. The section 'Physical effects of fire' next examines fire behavior in northern forests and shrublands (C.E. Van Wagner) and organic soils (R.W. Wein), effects of fire on the ground thermal regime (the late R.J.E. Brown), and nutrient cycling (D.A. MacLean *et al.*) in northern ecosystems. Van Wagner's chapter here provides a lucid basis for understanding the physical parameters of fire behavior and proposes the idea of the negative exponential age-class distribution as a model for managing boreal forest vegetation stands. A section on 'Concepts of fire effects on individuals and species' specifically considers plant individuals and species (J.S. Rowe) and small mammal and bird communities (J.F. Fox). Rowe's contribution is the outstanding chapter in the book, in this reviewer's opinion; it is much more than a synthesis of the literature in that it proposes new concepts of species fire adaptations in terms of five strategies which boreal forest and tundra plant species have evolved for coping with fire. Rowe then applies these adaptive strategies to different fire regimes and predictions of post-fire succession.

The section 'Fire effects in selected vegetation zones' includes reviews of the role of fire in jack pine (*Pinus banksiana* Lamb) (J.H. Cayford and D.J. McRae), in black spruce (*Picea mariana* (Mill) B.S.P.) (L.A. Viereck), and in fir-dominated forests (V.V. Furyaev *et al.*), as well as the lichen-dominated tundra and forest-tundra (A.N.D. Auclair). Unfortunately a more general discussion or survey of fire effects in arctic tundra is not included here or elsewhere in the book. The final section, 'Fire control and management', includes chapters on the special problems of fire control and prevention in commercial peatlands in the U.S.S.R. (V.I. Chistjakov *et al.*), and on important topics of fire management in wilderness areas and parks (M.E. Alexander and D.E. Dube). Here the difficulty is discussed of formulating a policy that protects facilities and visitors and at the same time insures long-term ecosystem functioning.

Although most authors attempt to provide a circumpolar dimension to their discussions, it is sometimes difficult to see which temperate area fire theories are being tested for their applicability to northern ecosystems. The excellent overview by R.W. Wein and D.A. MacLean states that in northern forest and

tundra, fire frequency is determined more by weather conditions and ignition sources than it is in temperate areas. Other unique features of fire in circumpolar regions include peat fires, crown fires in spruce forests, and longer fire rotation periods than those in warmer and more arid climates. Some concepts and theories which recur in different chapters as a basis for discussion are paludification-nutrient release and insect-wildfire relationships.

The printing is very high quality and the editing excellent but the book is expensive. Author, geographic, and subject indices are very useful. The only drawback to this book as a review of the current literature is the relatively long interval of time between the presentation of these papers in October 1979 and the appearance of the printed book in 1983. Consequently there are few references to literature published later than 1979. In comparison with other recent fire-in-northern-environments symposia, this book provides a better insight into the role of fire from a circumpolar perspective.

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**WATER POLICY FOR WESTERN CANADA: THE ISSUES OF THE EIGHTIES.** Edited by BARRY SADLER. The Banff Centre School of Management. Calgary: The University of Calgary Press, 1983. 203 p. Can\$10.00. Softbound.

The Banff Centre School of Management has succeeded in presenting a book, containing ten papers and various commentaries and summaries emanating from the Second Annual National Resource Conference, which should appeal to a wide variety of readers.

The objective of the conference was to discuss the institutional aspects of management of waters crossing provincial boundaries, as well as the all-encompassing aspect of water resources policy and decision-making, in the context of pressing issues of the 1980s. The topics covered reflect the diversity of interpretations the authors placed upon the theme of the conference. The papers begin with an academic presentation of goals and decision-making processes, immediately followed by a sharply contrasting revelation of the political realities surrounding decision-making by government. Subsequent papers include an entertaining discussion of a myriad of western Canadian water problems, first-hand experience of the merits and weaknesses of using an adversary system in the public hearing process, an excellent presentation on the river basin planning process, and a legal discussion of "new" approaches to resolving potential conflict (which favours the status quo). Two informational papers on prairie and northern river basins, followed by an emotional but irrational plea for a better method for water resource decision-making, complete the spectrum of topics.

While the objectives of the conference are addressed, the perspective of time is lacking, so that identification of issues peculiar to the 1980s is missing. Part of the reason for this problem lies in the reader's inability, on the basis of the material presented, to measure the magnitude of past and existing water resource problems in western Canada, so that the postulated opportunities for resolution of issues are without a standard by which to measure their urgency or viability. In this respect, the conference objective of focussing on pressing issues is not met.

Individual biases often come to the fore, reflective of the variety of backgrounds represented by the authors. For this reason readers are cautioned to maintain objectivity throughout the book, because the issues addressed do not have a right or a wrong solution. This view is further reinforced by the observation that most of the papers offer comprehensive problem-identification but few offer constructive solutions. Exemplification of this may be found in a theme common to a number of papers — the problems inherent in planning and decision-making being undertaken by agencies with vested interests in the outcome. No new solutions are proposed.

Another shortcoming is the inability of some authors to address policy formulation and decision-making strictly in the context of water resources. The tendency is to address the problems inherent to the decision-making process in a universal context.

Nonetheless, this book is recommended to water resources decision-makers, planners, and administrators, university and college professors and students, and anyone with more than a passing interest in water resources management. The reader will obtain an insight into the complexity of decision-making surrounding water resource development without being overwhelmed by tedious discussions of the technical details. The material is easy to understand and the editor has supplied refreshing contrasts of differing

perspectives supplied by government administrators, academics, interested private organizations, lawyers, politicians, and the concerned public. The papers are interesting and thought-provoking, and only in a few instances will the reader feel he has regressed into studying for a mid-term political science examination.

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**NOTES ON THE VASCULAR PLANTS OF THE MACKENZIE MOUNTAIN BARRENS AND SURROUNDING AREA.** By HILAH SIMMONS and SAM MILLER. Illustrated by EVA MELODY. Information Series Report No. 3. Yellowknife: Northwest Territories Renewable Resources Branch, 1982. xi + 132 p. Gratis.

This report is written for consumption by the general public rather than the more informed academic botanist, although it is clearly of interest to anyone who is unfamiliar with Canada's northern plants and wishes a working knowledge of some of the more common types.

The writing style the authors have chosen for their plant notes is easy-going and readable, and reflects the genuine personal interest that northerners often display when they discuss the living things of their land. The species notes are an interesting mix of technical information (particularly on the nature of plant toxins) and anecdotal accounts of historical plant uses and etymology of plant names. Perhaps the best way to demonstrate the nature and style of the report is by quoting entries from three genera, *Lupinus*, *Corydalis*, and *Myosotis*.

*Lupinus* Lupine

(Lat. *lupus*: wolf, because these plants are thought to rob the soil of its fertility, while actually, being legumes, they enrich the soil by adding nitrogen to it). Some Lupines are poisonous, containing toxic alkaloids. The seed pods poison livestock, especially sheep. Some Lupine rhizomes may be eaten but only if cooked.

*L. arcticus*

Seeds reputed to be 10,000 years old were germinated by G.A. Mulligan and Dr. A.E. Porsild in 1966.

*Corydalis* Corydalis

(Gk. *Korydallis*: the ancient name of the crested lark). *Corydalis* has been considered effective for various medical conditions including skin diseases. It has been used as a tonic, a purifying and softening agent, and a stimulant. It has been administered to aid digestion, treat jaundice, expel worms, and promote menstruation. Its powder has been recommended for bone decay and sores. This plant may be abundant following a fire.

*C. pauciflora* Few-flowered Corydalis.

*Myosotis* Forget-me-not

(Gk. *mus*: mouse, and *otos*: ear, the leaves of some species being similar to a mouse's ear).

A German legend says a beautiful girl walked with her lover along the banks of the Danube. She saw flowers on an island and expressed a wish for them. Her lover swam to the island and picked some, but was swept away by the swift current on his return. He threw the flowers at her feet calling out "Forget-me-not." She never did.

*M. alpestris* ssp. *asiatica* Alpine Forget-me not

This is Alaska's State Flower.

From these three examples it is obvious that the report title, though technically correct, does not reflect the broader nature of the notes. As many notes relate to the ethnobotany of the taxa it would be useful if the title reflected this content. I have found that amateur botanists particularly enjoy this aspect of their hobby and such reflection of content in the title would make the document more alluring to the general public.

The report is presented in 8½" × 11" format with cardboard cover stock and staple binding. Text is double-spaced and illustrations are full-page.

It is refreshing to see reports of this nature coming out of the north, supplementing the more common academic documents. The report will be of particular interest to residents of the area, and those who intend to explore the