

The extensive bibliographic references relating to each site are perhaps the most valuable aspect of this volume. Literally hundreds of bibliographic entries are listed and enthusiastic northern students can derive immense knowledge by pursuing these references.

One important aspect of each entry is an indication of the protective status. Of the 71 sites discussed, only 12 receive some form of official protection as portions of Migratory Bird Sanctuaries, Game Sanctuaries, or National Parks. Therefore, the casual reader must not infer that the sites listed are "saved," as it were. These sites are proposals only and will be subject to review before receiving official IBP status.

The reviewer has been fortunate enough to have viewed several of these areas personally. Areas such as

Padle-Kingnait Fiord, Baffin Island; Cape Searle, Baffin Island; Anderson River, Region 4 and Caribou Hills, Mackenzie River Delta are all worthy of IBP status with high biological and aesthetic value.

This book contains very worthwhile information for developers, development-oriented agencies, and northern planners in general. The bibliographic references are a real plus and make the book a valuable tool for anyone interested in northern conservation, ecology, geology, and archeology. This volume belongs on any Arctic reference bookshelf.

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Environmental Change in the Maritimes

Edited by J. G. Ogden, III and M. J. Harvey. 1975. Nova Scotian Institute of Science, Halifax, 109 pp. \$5.00.

This little book, published as a supplement to the proceedings of the institute, is the result of a symposium in Quaternary history held at Dalhousie University in 1971. Change began, for purposes of the symposium, as melting glacial ice began to uncover Nova Scotia and New Brunswick about 13 000 years ago. The environment, studied largely for its own sake, is presumably defined as the human environment. It is the geography of land and sea, of the vegetation and fauna, terrestrial and marine. Change in the physical environment of organisms, change in their distribution through ecology and migration, are both studied, and change in the human habitat, reflecting in part man's impact on nature, is studied for the prehistoric and recent past.

The writing varies as in most symposia from the quite simple and popular to that which makes few concessions to the non-scientist. All have made an effort to adjust to general communication, simplifying with maps and tables, if not in the language. It is a praiseworthy attempt to set forth at an early date the results of recent work on geology and biology of the Maritime Quaternary. But, although one contributor has made an effort to update his bibliography, it is regrettable that four years should have elapsed between symposium and publication.

Ogden introduces the symposium with the idea that quite a small change in such large systems as climate may bring about major change in biology. Even glaciation may be a "small change" amplified. But Terasmae details sixteen categories of hypotheses of climatic change; evidently, it is not to be explained

simply. He uses the Bryson-Borchert hypothesis of the correspondence of vegetation zones with the dominance by a particular combination of winter and summer air masses, to emphasize the relationship of vegetation and climate and to pose the general questions.

Railton and Mott report on postglacial vegetation change as exhibited by pollen sequences, the former from Nova Scotia, the latter from New Brunswick. The only symmetrical arrangement of radiocarbon dates suggests to the former a local ice-cap centered about Kejimikujik National Park and persistent till nearly 7620 BP. The latter finds retreat of the ice margin across New Brunswick extremely rapid. In Railton's article, many divergences in interpretation between his findings and Livingstone's are emphasized. The pollen record is not as yet fully harmonized.

Faunistic studies show an important effect on littoral shellfish (Bousfield and Thomas) of changes in sea temperature, and strong effects on the distribution of beetles—and, by extension, other insects?—from human economic activity (Howden). Byers shows the effects of prehistoric man on fauna: Pleistocene overkill is more likely a result of indifference and omnivory than of overspecialization on a favorite game (mastodon). Fire, he suggests, was introduced into this susceptible forest rather to modify habitat for moose hunting than for its very limited agriculture. Mann illustrates the impact of recent economic demands on the environment in referring to the endangering of the Atlantic salmon population and the pollution of Maritime shores. Perhaps our comfort as to the future must be sought in such technological feats as now maintain salmon on the St. John River above Mactaquac Dam.

Grant reviews the evidence as to rates of coastal submergence, its location and causes, thus providing a most interesting supplement to Goldthwait's classic of 1924, *The Physiography of Nova Scotia*. In conclusion, Ogden suggests the value of certain isotopes as measures of change, such as pollution, in the environment.

Has the Quaternary in general not seen rapid change in the biota of the Maritimes and its environment? Should man's activities be looked upon as a mere fluctuation in the geological record, another

change among many? Since the ice began to melt away, man seems to have induced a series of ever more rapid changes. May not change in the freshwater and coastal environments be as great as the changes brought about in flora, insect, and other terrestrial faunas over the past two centuries?

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NEW TITLES

Zoology

Advances in the study of behavior. Edited by J. S. Rosenblatt, R. A. Hinde, E. Shaw, and C. Beer. Volume 6. Academic, New York. 304 pp. \$19.50.

† **America's master of bee culture.** The life of L. L. Langstroth. 1976. By Florence Naile. Cornell University Press, Ithaca, N.Y. 215 pp. \$9.95.

Amphibians and reptiles of the Lake Michigan Drainage Basin. 1976. By Edwin D. Pentecost and Richard C. Vogt. Volume 16, Environmental status of Lake Michigan region. Argonne National Laboratory, Argonne, Ill. (Order from U.S. National Technical Information Service, Springfield, Va.) 69 pp. Paper \$4.50.

* **Anatomy of fishes, part I: text and part II: figures and plates.** 1976. By Wilhelm Harder. Translated by Stephen Sokoloff. 2nd edition. Schweizerbart'sche, Stuttgart. xii + 612 pp. and ii + 132 pp., illus. DM 238 (\$96.40).

Animal communication by pheromones. 1976. By H. H. Shorey. Academic, New York. 176 pp. \$16.50.

Aspects of sponge biology. 1976. Edited by F. W. Harrison and R. R. Cowden. Academic, New York. 371 pp. \$16.50.

† **Biology of the Kaminuriak population of barren-ground caribou.** Part 4: Growth reproduction and energy reserves. 1976. By T. C. Dauphiné, Jr. Canadian Wildlife Service, Ottawa. Report Series No. 38. 69 pp., illus. Paper \$3.25 in Canada, \$3.90 elsewhere.

† **Bird hazards to aircraft.** 1976. By H. Blokpoel. Clarke Irwin, Toronto. xiv + 236 pp., illus. \$9.50.

Bird sounds. 1976. By Gerhard A. Thielcke. Translated from German edition (1970). University of Michigan Press, Ann Arbor. viii + 190 pp., illus. Cloth \$6.95; paper \$2.95.

† **The birds of New Brunswick.** 1976. By W. Austin Squires. 2nd edition. New Brunswick Museum, Saint John. Monographic Series No. 7. v + 220 pp., illus.

Checklist of the world's birds. A complete list of species, with names, authorities and areas of distribution. 1976. By Edward S. Gruson. Quadrangle (New York Times), New York. xii + 212 pp. \$10.95.

* **Environmental toxicity of aquatic radionuclides.** Models and mechanisms. 1976. Edited by M. W. Miller and J. N. Stannard. Ann Arbor Science, Ann Arbor. xv + 333 pp. \$26.50.

Field guide to Pacific fish. 1976. By David Somerton and Craig Murray. Douglas, Vancouver. 96 pp., illus. \$4.95.

* **Fishes of the world.** 1976. By Joseph S. Nelson. Wiley, New York. 416 pp., illus. \$24.

Physiology of the Amphibia. 1976. By Brian Lofts. Academic, New York. Volume 3. 520 pp. \$58.50.

† **Policy for Canada's commercial fisheries.** 1976. By anonymous. Environment Canada, Fisheries and Marine Service, Ottawa. 70 pp. + appendices. Free.

Botany

† **Illustrated flora of Illinois.** Sedges: *Cyperus* to *Scleria*. 1976. By Robert H. Mohlenbrock. Southern Illinois University Press, Carbondale. xii + 192 pp., illus. \$15.

Vascular plants of British Columbia. A descriptive resource inventory. 1977. By Roy L. Taylor and Bruce MacBryde. University of British Columbia Press, Vancouver. 772 pp. Paper approx. \$28.

Flora Europaea. Volume 4. Plantaginaceae to Compositae (and Rubiaceae). 1976. Edited by T. G. Tutin, V. H. Heywood, N. A. Burges, D. M. Moore, D. H. Valentine, S. M. Walters, and D. A. Webb. Cambridge University Press, Cambridge.

* **The chemotaxonomy of plants.** 1976. By Philip M. Smith. Edward Arnold, London (Canadian distributor Macmillan, Toronto).



Erskine, D. S. 1977. "Environmental change in the Maritimes, eds. J. G. Ogden III and M. J. Harvey [Review]." *The Canadian field-naturalist* 91(1), 111–112.
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