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CONSERVATION BIOLOGY

PEGGY L. FIEDLER and SUBODH K. JAIN. (Eds.). 1992. Chapman and Hall Inc., New York. 507 pp., paper.

This book is the latest welcome addition to the growing collection of technical works concerned with the science of preserving biodiversity. Unfortunately, given the present global trends in species extinctions, it is unlikely to be the last. Books like this are important because they give current beleaguered wildlife managers some guidance in making decisions that have often in the past been made with haste and insufficient information. The book will also be extremely useful to university students who are still to this day not receiving the academic training necessary to intelligently respond to the extinction crisis looming in the near future.

The book has eighteen chapters written by various experts in the field. Five of the chapters are non-technical in that they are essays concerned more with the philosophy of nature conservation rather than with its nuts and bolts. Of the thirteen remaining chapters, five deal with plants, one with reptiles, one with fish, one with mammals, and one with invertebrates (a refreshing addition). The other four are concerned with "spaces" issues and genetics rather than with "species" issues.

As a source book for someone entering the field, it has plenty of references covering the entire history of species preservation. Some of the chapters are a little heavy going mathematically but that is to be expected in a book of this sort. The review of forest fragmentation and its

effects on biological diversity by Larry Harris and G. Silva-Lopez is very good and very current. As they paraphrase in their introduction, habitat fragmentation is "the most serious threat to biological diversity, and the primary cause of the present extinction crisis." It makes for very sobering reading, especially when taken in the context of southern Saskatchewan. Furthermore, as pointed out by John Harper in his thought-provoking foreword, most of the efforts devoted to nature conservation to date have been concerned with plants and animals where they currently exist. If the predictions of global warming bear fruit, most of our nature reserves will not be fulfilling the purpose that they were set out to do. Simply put, they will be in the "wrong" place. The science of "restoration ecology" will then become the only way of conserving valuable genetic resources. It will mean moving genetic resources from a place in which they are no longer adapted to one in which they will be.

On the whole, the book is very well written and edited. I could detect no errors. I recommend it to all who are seriously concerned with the impending extinction crisis.

Reviewed by *Paul C. James*, Saskatchewan Museum of Natural History, 2340 Albert Street, Regina, Saskatchewan. S4P 3V7

KNEE HIGH NATURE: SPRING IN ALBERTA

DIANNE HAYLEY and PAT WISHART. Illustrated by JO-EL BERG. 1991. Knee High Nature, Sherwood Park, Alberta. 170 pp., coil bound, soft cover. \$14.95

[Nominated for Alberta Educational Book of the Year in 1991]

When I received this book, I was impressed at its usefulness as a resource for natural history studies with children. As a teacher, I readily saw applications in and out of the classroom. However, the book's usefulness extends beyond the classroom as it is also intended for parents and leaders of young children.

This is the fourth in a series of seasonal resource books. *Winter in Alberta*, *Fall in Alberta* and *Summer in Alberta* are the other books in the series. What is the purpose of the book? The authors write, "The main purpose of this book is to increase awareness and appreciation of the natural world and to encourage adults to share their knowledge with children and children to share their sense of wonder with adults."

The text includes sections on Pond Life including plants and insects; Toads, Frogs and Salamanders; Ladybird Beetles or Ladybugs; Butterflies and Moths; Green and Growing (a section on seeds); Hares and Rabbits and Spring Birds. No section is exhaustive, but each one provides a general, interesting introduction to study in these areas.

Although this book is written for Alberta, it is applicable in Saskatchewan. The species covered can be found in ecosystems in the province, except for some animals described such as the Spotted Frog, Western Toad, Long-toed Salamander and Pika. These descriptions make up only a small portion of the text.

The text is easy to read and is not overly technical. Although the book was written as a resource book for adults, the book could be read easily by most grade six students. The natural history descriptions of the various plants and animals are basic and appropriate for a wide range of children. Activities, songs and poems could be used for primary students, yet much of the information on pond life, amphibians and insects is detailed enough to be appropriate for grade six or seven students.

The line drawings provide good detail showing physical descriptions of various species, habitats, life cycles and food pyramids. Also a page of colour photographs of butterflies and moths is included — a real plus for species identification.

A feature of this book is the variety of activities provided for each topic of study. Each section provides some basic identification theory, some natural history notes, drawings, as well as other activities such as art projects, poems, songs and games. For example, if a unit of study on butterflies and moths were chosen, the book provides identifying characteristics of moths and butterflies, information about the natural history of several common species, information on caterpillar identification, a good selection of children's poems and songs, a creation myth about butterflies and various art activities and games all focussing on butterflies and moths. All the other units of study follow a similar format to incorporate a variety of activities.

Reviewed by *John Pollack*, Box 353, Whitewood, Saskatchewan. S0G 5C0



THE WHEATGRASS MECHANISM: SCIENCE AND IMAGINATION IN THE CANADIAN LANDSCAPE

DON GAYTON. 1990. Fifth House Publishers, Saskatoon. 156 pp. \$14.95

The little book about the role of grasses and grazers in prairie ecosystems is, like Stan Rowe's *Home Place*, a collection of essays, some of which have been published in magazines familiar to readers in Western Canada. *The Wheatgrass Mechanism* is worthwhile reading for any naturalist. It is also well suited to casual readers seeking some understanding of biological systems, natural or cultivated, which owe their survival and sustenance to the sun, soil and waters of the Northern Great Plains.

This book would be particularly useful as supplementary reading for light class study in our school system in the Grades VII to IX range. Schools with these grades should seriously consider purchasing a few copies while it is in print.

Don Gayton's poetic style is pleasant and will fascinate readers. There are a few examples of fractured structures which are probably regarded as a writer's license — such as sentences without verbs. Also, some of Gayton's chemical detail is not precise enough, e. g. the use of the term "dinitrogen gas," and the noting of salinity without mentioning the sodium level. There are a few problems with biological terms and

nomenclature too, e.g. on the first line of page 98 buckbrush is more likely snowberry, *Symphoricarpa* sp. rather than *Crataegus* (hawthorn). To most readers, and particularly those who will read this book, such inexact terminology is a minor problem. There is a solid scientific base for most of the statements and a sweep of reality about the ideas that makes *The Wheatgrass Mechanism* a book that will enlarge the view of many people.

As I noted at the outset, some of the chapters have been published as magazine articles which some of our readers will have already read. Read chapters like "The Grass and the Buffalo," "Analogues and Desire," and "Roy LaMotte's Cows" first. Note statements like, "If these grass species — the fescues, stipas and wheatgrasses — evolved hand in hand with the shaggy buffalo, why are they so fragile? Why do they decline so quickly under modern cattle grazing...." and of Roy LaMotte: "He couldn't be called a gentle man, but he was always considerate of his cattle and horses, in contrast to some of the other district cattlemen. And in his own unschooled way, he was painfully aware of the contradictions of a traditional cattle drive through a modern hippie refuge." Such passages draw the reader to read the book from cover to cover. Try it and expand your view of the grasslands of the Northern Great Plains and those of inter-mountain British Columbia.

Reviewed by *Jim Jowsey*, Box 400, Saltcoats, Saskatchewan. S0A 3R0



A meadow is the story of ecology in a richly bound edition. *Braun & Cavagnara*. 1971. *Living Water*. American West, Palo Alto, CA.