

Wolves and bison

Wolves, bison and the dynamics related to the Peace-Athabasca delta in Canada's Wood Buffalo National Park. L. N. Carbyn, S. M. Oosenbrug and D. W. Anions, eds. Circumpolar Research Series No 4, Canadian Circumpolar Institute, University of Alberta, Edmonton, 1993, 270 pp. ISBN 0-919058-83-3.

It is especially valuable, in time of rapid environmental degradation, to document and gather excessive body of information on surviving fragments of primeval ecosystems. The authors have succeeded in producing an important overview of a predator-prey system that once dominated central part of the North American continent.

The Wood Buffalo National Park (Canada) protects the largest free-roaming bison *Bison bison* herd and is inhabited by abundant population of wolves which have been extensively studied since the late 1970s. Due to the fact that extensive historical information exists on numerical changes of bison population in that area, the authors have managed to reconstruct the status and management of bison since the late 1700s. After this more historical part, readers are given authoritative description of contemporary scientific achievements concerning co-existence of bison and wolf. Authors keep special, scientific paper-like structure of the book: each section of the book contains introduction, methods and results and discussion parts.

In a part dealing with bison only, authors described the importance of physical factors and habitat changes to bison range and the influence of winter conditions (snow depth, temperature, wind) for bison foraging behaviour. Basic parameters of bison population are given: numbers and population trends, concentration pattern, migration and movements, herd-size dynamics, and mortality factors (disease, poaching).

As L. N. Carbyn is a well-known wolf biologist, a valid part of the book focuses on wolves and their relationship with prey species (mainly bison). He discussed details of wolf population trends, pack size dynamics, and space utilization. Importance of human influence on wolves in the Wood Buffalo National Park are underlined.

The relationship between bison and wolves was investigated both by radio-tracking wolves (1978-1981) and naturalistic studies (1985-1991). Authors documented 143 wolf/bison interactions. Among several detailed subjects authors described the importance of winter conditions for activity pattern of wolf pack, wolf hunting strategy, bison responses to attacking wolves, predation rates, prey utilization and selection. Finally, the impact of wolf predation on bison population dynamics is discussed.

The study of bison and wolves in the Wood Buffalo National Park describes local situation and because of specific ecological conditions the authors' conclusions can not be applied to other ecosystems where conditions are different. However, depth of this study could be followed by other researchers in other situations.

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