

# The Blue Jay Bookshelf

**A STUDY OF SEX DIFFERENTIAL IN THE SURVIVAL OF WAPITI.** 1970. By Donald R. Flook, Canadian Wildlife Service Report Series, No. 11. The Queen's Printer, Ottawa.

To the average reader the title of this work may seem somewhat formidable. It is, in fact, a very detailed analytical study which Mr. Flook has presented to the University of Alberta in partial fulfilment of the requirements for the degree of Doctor of Philosophy. As such, it is presented in a systematic, carefully organized way. Various claims or hypotheses made by the author must be substantiated with very precise technical data. This necessarily reduces the popular appeal of the book, but such is the case with the report of any scientific research project.

Briefly, the study was made to help us understand the problem of expansion of wapiti (*Cervus canadensis*) populations at the expense of other members of the plant-animal community such as the mule deer, moose and bighorn sheep. It seeks the causes of an apparent unbalanced sex ratio favouring females and the effect of this on survival of the wapiti population. The name wapiti is preferred by the author because the word elk properly refers to the European elk, a moose-like animal quite different from the wapiti.

Once a victim of overhunting, wapiti have since increased under protection and now occur in both forests and grasslands in many wildland areas of the four western provinces and of the western United States. In several National Parks controlled slaughters have prevented a depletion of winter forage crops and have regulated wapiti populations within the carrying capacity. During periods of high wapiti density an uneven sex ratio favouring females actually does not lower the rate of increase in a population. Since

wapiti are polygamous, a reduction in the number of males could, where food is limited, contribute to sustaining high reproduction rates and female survival. According to Flook, this contributes to the ability of the wapiti to increase their abundance and distribution at quite a high rate.

This study, then, examines population dynamics and studies, from specimens collected, some physical and physiological factors affecting the welfare of the wapiti to learn how these factors are phased with the seasons of the year and how they affect animals of different sex and age. Factors studied include tooth wear, growth, reproductive cycle, fat reserves and adrenal activity. It should also be of interest that the two main wapiti predators, wolves and cougars, have little or no effect on the composition of the wapiti population.

Specific methods for each phase of the study are discussed in the appropriate section. Graphs and charts are used to great advantage and contribute to conciseness and clearness. Statistical analysis is used to a considerable extent, in linear regression lines, confidence intervals for means, and fat indices, etc. To read the report, therefore, requires a certain amount of knowledge in related fields. Photographs and photomicrographs are interesting although not numerous.

The results and conclusions are left to the reader's curiosity, as are further questions and hypotheses. To the student of ethology or ecology of large mammals they are interesting and motivating. To the junior naturalist they will seem complex but intriguing. To the man in the street they mean much less. But to all readers, such problems represent a challenge, for wild animals will be the first to become extinct if public apathy continues with regard to world population and the preservation of our ecosystem.—*Paul Hart, Regina.*

**BIRDS OF THE CHURCHILL REGION, MANITOBA. 1970.** By Joseph R. Jehl, Jr. and Blanche A. Smith. Special Publication No. 1, Manitoba Museum of Man and Nature, Winnipeg, Man. 87 pp. Price \$2.50.

This is the first Special Publication of the Manitoba Museum of Man and Nature, beginning a series that should play a role equivalent to that of our own SNHS Special Publications in Saskatchewan.

The senior author, Dr. Joseph R. Jehl, Jr., now of the Natural History Museum in San Diego, spent four summers from 1964 to 1967 near Churchill, studying shorebirds. He found nests of many species and incidentally carried out an important study of the Smith's Longspur. Less information is given concerning Mrs. Blanche A. Smith, who resides in Churchill.

Churchill is strategically situated at the "treeline", the transition between boreal forest and open tundra. Hence it marks the northern and southern limits of the breeding ranges of many boreal and arctic species, respectively, as is evident from perusal of the range maps in Godfrey's *Birds of Canada*. Since the Hudson Bay Railroad was completed in 1930, making this the most accessible area of tundra on this continent, the observations of a large number of competent ornithologists are available.

The Species Accounts include discussion of 209 species. Ten of these are hypothetical and about 31 are casual or accidental. Definite breeding evidence is given for 79 species. Data for nests found by other observers are sometimes vague or incomplete (e.g. Barn Swallow) or one must refer to another publication for details (e.g. White-winged Scoter and Myrtle Warbler). A Killdeer nest with seven eggs, if not a typographical error, is sufficiently unusual — Bent gives a maximum of five eggs — to warrant mention of the observer and further details. Only for a few species are historical records cited and changes in status over the years assessed.

The major strength of the publication is the information concerning 855 completed clutches of 47 species. The range of nesting dates is included in each species account and the number of eggs in each nest tabulated in an appendix. This is an exemplary and valuable collection of breeding information, representing a great many hours of skilled fieldwork.

Significant northward extensions of range, beyond those mapped by Godfrey, are given for the Blue-winged Teal, American Coot, Hermit Thrush, Myrtle Warbler — and perhaps the Palm Warbler, if the "broods" seen annually were sometimes flightless or nearly so. There is a minor extension for the Pine Grosbeak and a southward extension of the American Golden Plover's breeding range. More detailed assessment of a published 1939 extralimital nesting record of the Loggerhead Shrike would have been welcome.

A color photo by Mrs. Smith graces the front and back covers and the booklet contains four habitat photos and photo portraits of nine species by Jehl. There are three maps (which fail to show the Fox Islands, the Rocket Range and McLeod Lake) and two sketches by James A. Carson. A foreword by Robert W. Nero and succinct sections headed Introduction, Description of Area, Previous Ornithology, Changes in the Environment, and Birding at Churchill, are all useful and interesting.

**SUMMARY:** This is an up-to-date, well-written, authoritative account of the birds of an important, thoroughly-studied area, with extensive nesting data. Anyone interested in the distribution of birds in Western Canada and anyone contemplating an excursion to Churchill, will find it invaluable. *C. Stuart Houston, Saskatoon.*

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