

The Blue Jay Bookshelf

MOOSE AND DEER BEHAVIOUR IN SNOW. 1971. By John P. Kelsall and William Prescott. Canadian Wildlife Service Report Series No. 15, Information Canada, Ottawa. 28 pp. \$1.00.

Ecologists and wildlife managers agree that a most important and yet often overlooked or under-investigated phase of vertebrate ecological study is that concerning the relationship of a species with its biotic and abiotic environment during winter. Wildlife literature abounds with references to the importance of the winter period and the winter range to, for example, wild ungulate survival. However, there are few published studies which, in detail, measure and describe such basic topics of concern as the intra- and inter-specific relationships of ungulates in winter relative to the depth, quality, and distribution of snow on contracted wintering ranges.

This gap in our knowledge has been reduced as a result of recent studies such as the one under review. Kelsall and Prescott have presented a well-documented account of their study on the influence of winter snow conditions on moose and white-tailed deer distribution in Fundy National Park, N.B., over a three-winter period.

A noteworthy feature of this publication is the obvious planning and experimental design input that preceded methodical quantitative and qualitative data accumulation on snow and animal numbers. The authors' opening statement (p.10) pertaining to the study objectives states that the study was conceived and developed "... to examine the morphology of snow in Fundy National Park ... to learn if altitudinal differences in depth and structure might account for an observed separation of the winter ranges of moose (*Alces alces*) and white-tailed deer (*Odocoileus virginianus*)."

Unfortunately, this objective was not attained, *per se*, even though much data on differences in moose

and deer distribution, snow-level tolerance, etc., were gathered. This cannot be considered a deficiency of the study, but rather the declaration of an open-ended objective that could not be proved by the methods employed. Having shown that snow differences in quantity and quality are related to the presence and absence of moose and deer altitudinally, the authors ask, "How do differences in snow depth account for the observed differences in cervid distribution?" They contend that deep snows curtail deer use of high elevation ranges in winter and that deer are restricted in winter to lower elevation regions, but there are no data to indicate why moose, on the other hand, do not co-inhabit these lower, less rigorous ranges with deer. The suggestion is made (p.24) that competition for food between moose and deer, and the presence of "moose sickness" might account for the absence of moose on deer winter ranges. However, such a consideration implies that moose are less capable of meeting their winter nutritional requirements when co-inhabiting lower elevation ranges with deer (a function of deer vs. moose numbers? palatability of forage?), or that moose in some way have learned to "avoid" deer ranges because of the prevalence of the parasitic nematode (*Pneumostromylus tenuis*) causing moose sickness, a disease which is harboured by deer on these lower elevation ranges.

The authors' citation of two major U.S.S.R. studies on snow ecology and the inclusion of a Russian language abstract in the report give an international importance to the New Brunswick study. As such, a figure showing the relative geographic position of New Brunswick and Fundy National Park would have improved the orientation of the readers. These same readers who are conditioned to expect figure captions to appear immediately below each figure may find the placement of all captions at

the top of the page in this report somewhat inconvenient especially when, on pages with two vertically arranged figures, the appropriate captions appear horizontally-arranged and above both figures. The reader will also have some difficulty interpreting the meaning of the words "range" and "ranges". These words appear 15 times on page 19, for example, and refer to "areas of occupation" in ten instances, and to a "spread in values or readings" in the remaining five instances.

The naturalist and biologist, particularly those concerned with snow quality and quantity and their effects on winter survival, ecology, and behaviour of ungulates at relatively high latitudes, will gain from reading this informative report. — *George J. Mitchell, Regina.*

INTO THE WOODS BEYOND. 1971.

By Cy Hampson. MacMillan Co. of Canada, Ltd., 70 Bond Street, Toronto 2. 118 pp. Price \$5.95.

How can we experience some depth of feeling for wild animals, particularly the ones which most of us consider dangerous? If we could acquire this depth of sensitivity, perhaps we would kill less and tolerate killing less easily. Perhaps, too, our lives would be further enriched by the contact we have with the lives of these wild animals. Cy Hampson's new book on some of his encounters with native mammals can bring some of this depth of feeling to us.

The book begins with the adventures of Cy and Mary Hampson and a porcupine. Although the porcupine lived with them for nearly three years, there is no suggestion that their hold on the animal had permanence or restriction, nor that such an association is without hazard. "Porky" lived with the Hampsons without unnecessary confinement, and finally left, with their help, to return to his life in the wild. He had lived because of them, had lived as their guest, and they counted this their good fortune.

Anger, even when it is justified, is out of fashion in our "over-regulated civilization", but Dr. Hampson's attitude comes out in his description of his son's justified anger and the action he takes against the cruising "hunter" who shoots and kills their pet coyote, "Yipper". Some of the incidents in the book are not described in complete detail, but the book is not intended to be an exhaustive, well-documented scientific report. Dr. Hampson can write scientific reports, too, and does, as a university teacher in Zoology and education. But in this book he is writing to everyone from the primary grade student to the devoted naturalist and speaks to those shut off from animals by their own lives, or by restriction of the animals' habitat.

Here are a few excerpts from some of the eight chapters of this delightful excursion into our natural world:

"My first encounter with the most highly-perfumed member of the weasel family reaches back to a second-hand encounter in the depths of the hungry thirties. The stench was terrific, and although it gradually died away it was still very pronounced three years later whenever it rained."

"Our meter man stood transfixed, his expression an indescribable blend of fascination and horror, as he watched Mary and an enormous timber wolf romping together in the big pen behind our home." In a more thoughtful mood, still on the subject of wolves, the author "supposes it is understandable that man should wish to be rid of those wolves which are killing his domestic animals. However, the length to which he has gone in his attempts to wipe the wolf from the face of the earth makes very little sense." On his favorite subject, flying squirrels: "Before taking off, flying squirrels bob their heads up and down, probably to judge the distance to the spot where they wish to land. Then they inch their hind feet forward to a position under the chin. . . ."

In winter flying squirrels have an interesting method of coping with severe winter conditions involving low temperatures, . . . a dozen or more use the same hole for sleeping . . . total surface area is reduced so that each squirrel loses heat more slowly to the surroundings."

Dr. Hampson's photographs intensify the contact with the animals we meet in his book. They bring us the eye-to-eye contact with animals without removing the animal's freedom or the reader's feeling of their "essential wildness". This is true from the sight of the porcupine on the front dust jacket to the picture of the author gazing through his camera lens on the back. He is probably looking past his "outdoor laboratory", over the mixed wood forest and upland glades "into the woods beyond". — *James Jowsey*, 2635 Nineteenth Avenue, Regina.

WHY WILDERNESS. A Report on Mismanagement in Lake Superior Provincial Park. 1971. Edited by Bruce M. Littelljohn and Douglas H. Pimlott for the Algonquin Wildlands League. New Press, Toronto. 108 pp. \$2.50.

"Preserved by one generation, destroyed by the next," sums up a great deal of the content of this book on the vanishing natural parks of Ontario, and particularly Lake Superior Provincial Park.

Formed in 1968, the Algonquin Wildlands League recognizes the importance of undisturbed wildlife communities, and, in 1970, made a study of what was happening to the natural parks of Ontario. They found that 95% of Lake Superior Park is in Crown timber licenses held by U.S. based companies, and that commercial uses had vastly deteriorated Algonquin, Killarney, Quetico and Lake Superior Parks. Pimlott gives his opinion that the system of timber licenses is an anachronism that should

be dispensed with in parks. The supposed wilderness canoe route in Lake Superior Park, which should give a feeling of remoteness, is actually bordered by a logging road used by huge trucks.

Littlejohn, in his chapters, reminds us of the impact made by the wilderness on many Canadian writers and painters, adding that we do not allow the government to sell Canadian paintings from the National Gallery to the highest bidder. Why then, he asks, do we allow it to sell the environment of our parks to the highest bidder?

There is a chapter by the naturalist, Fred Bodsworth, wherein he states that wild nature is a sensitive thing, its qualities easily destroyed by concentrated numbers of people. Three million square miles of boreal spruce and arctic tundra are no consolation to people who seek the thrill of hiking under towering pines, or paddling a wilderness waterway within one day's drive of home.

The J. Bruce Falls chapter states that governments have a moral responsibility. Indeed they do, but how often citizens find that various Government Departments "express interest" — but nothing really happens. Dr. Falls, a noted ecologist, thinks that Canada should try to preserve as much wilderness as possible everywhere.

Pimlott writes of that branch of 19th century thought which considered nature only as something that must be conquered because it stood in the way of (so-called) progress. He sums up the recommendations made to the Government by the Wildlands League — recommendations to preserve historical and natural aspects. He also sets forth eight excellent suggestions for individuals (like ourselves) who care, eight guidelines that we would do well to read and keep in mind.

If we do not persevere, more and more we shall feel as Pimlott does, "disappointed, frustrated and saddened". — *Christine Pike*, Waseca.

ECOLOGICAL EFFECTS OF THE BENNETT DAM

EVALUATION OF ECOLOGICAL EFFECTS OF RECENT LOW WATER LEVELS IN THE PEACE-ATHABASCA DELTA. 1972. By Herman J. Dirschl. Can. Wildlife Service Occasional Paper, No. 13. Information Canada, Ottawa. Illus. 28 pp. PEACE-ATHABASCA DELTA. THE PROBLEMS, PROPOSALS AND ACTION TAKEN. December, 1971. By D. M. Hornby, Project Director, and others. An interim report of findings and recommendations of the Peace-Athabasca Delta Project task force. Illus. 36 color photos. 24 pp.

In a letter in the June, 1971 *Blue Jay* R. D. Symons expresses concern for the Delta marsh at Lake Athabasca because of the control of the flow of water in the Peace River by the Bennett Dam. In a letter in the September, 1971 issue of the *Blue Jay* Mrs. D. H. Calverley explains that the Peace-Athabasca Delta has sometimes been dry before the building of the Bennett Dam and that because the Peace River joins Rocher River to form the Slave River some miles below Lake Athabasca, it is only when the water in the Peace River is exceptionally high that the delta will be filled with water.

The two papers listed above report the findings of the Canadian Wildlife Service and of the Peace-Athabasca Delta Project (a joint project of the federal government and the Provinces of Alberta and Saskatchewan) and predict that the peak level of Lake Athabasca will continue to remain three-four feet below the mean peak present in the Lake before the completion of the Bennett Dam. The level in Lake Athabasca will not now be able to reach a peak (e.g. 688 feet) sufficient to flood the delta unless artificial controls are built to hold back some of the outflow each spring.

The task force, which includes many experts in widely different fields, must make an ecological appraisal of the area and determine the environmental consequences of continued low

water levels in the Peace-Athabasca Delta.

The delta is a 1,700-square-mile area in northeastern Alberta at the western end of Lake Athabasca. It is important as bison habitat (currently about 10,000 animals) and as a waterfowl breeding, moulting and fall staging area. Fishing and muskrat trapping have provided the main livelihood of some 1,500 Cree, Chipewyan and Metis residents at Fort Chipewyan. The flat terrain in the area has allowed extensive flooding in the area as the water levels fluctuated. Control of the Peace River has caused a decrease of the nine largest delta lakes by 28 per cent. If the present water level continues, the productive shallow marsh and wet meadow environments will become relatively unproductive willow thicket or phragmites or reedgrass meadows.

The Canadian Wildlife Service began a study of the area in 1968 and the Peace-Athabasca Delta Project began its three-year study early in 1971. Because of the size and the low relief of the delta and the rapidity of vegetational changes taking place, the ground studies have been supplemented with an air photo study which has been strictly supervised at every step. Contour maps are being developed from the vegetation zonations. The normal vegetation which is adapted to the seasonal inundation is being rapidly replaced by plants which tolerate drier conditions. Nine lakes in the area (each larger than three square miles) with a total size of 638 square miles have been reduced to 465 square miles, a reduction of 28 per cent. An additional 25 lakes, between 1.0 and 3.0 square miles in size, have now completely dried up. The task force will have to assess all the interrelated resource aspects and then decide what remedial actions should be taken.

We are pleased to see these two interim studies which seem to consider the multiplicity of values of the

Peace-Athabasca Delta. The present-day national and continental significance of the delta is recognized by the decision to build a temporary rock-fill dam (to be finished in December, 1971) in the west arm of the Chenal des Quatre Fourches to impound water from the Birch River

and raise water levels in some 60 per cent of the Delta area. The formation of a management advisory board which would coordinate the activities of the many agencies interested in the resources of the area and give an adequate voice to local people is suggested.—*G. F. Ledingham, Regina.*

Letters and Notes

ALBINO YELLOW-HEADED BLACKBIRD

At noon on May 22, 1971 I discovered an albino Yellow-headed Blackbird at a roadside slough about a mile east of Moosomin, Saskatchewan. The bird attracted our attention as we were driving by, its startling white plumage making my wife think at first that it was a piece of facial tissue caught on a reed.

There were no other Yellowheads at this shallow marshy place, but a number of Red-winged Blackbirds were nesting nearby. Since I always carry a camera loaded with colour film, I at once proceeded to stalk the bird. Although I was able to approach to within 15 or 20 feet, I regret to say that I was unable to get a photo. Nevertheless, I had a good look at it and made notes of its appearance before leaving the scene.

I contacted Manitoba government wildlife personnel three days after seeing the bird and gave them details of the sighting. Recently I have been urged to make a further record of the observation. The bird, which appeared to be an adult male, lacked the normal black plumage. Except for the usual yellow head and breast it was all white with the exception of a small black spot on the right wing. I was close enough to note that its bill and feet were yellowish in colour instead of black, though of a darker shade of yellow than the head. The head plumage was lighter than that usually observed in this species (a canary-yellow colour). Unfortunately, I was unable to determine the eye colour.

When it flew away, I again noticed that it was white all over except for its yellow head.

I have been informed by R. W. Nero that this bird was probably close to a "total albino", that is, almost totally lacking in melanic (black) pigment in its plumage and fleshy parts. (Albinism, it is interesting to note, does not directly affect red or yellow pigments.) It was also suggested that my close approach may have resulted from poor vision in the bird—if it lacked pigment in its eyes. I understand that although albinism is fairly common in members of the blackbird family, there appear to be few reports of albinism in Yellow-headed Blackbirds.—*James W. Demianyk, 36 Parkville Drive, Winnipeg, Manitoba.*

IMPORTANCE OF OCEANS

The November, 1971 newsletter of the Council of Resource and Environment Ministers explains why the marine environment must be protected. "Photosynthesis within the ocean produces two-thirds of the oxygen consumed by man. Phytoplankton, a major oceanic photosynthesizer, is increasingly threatened and destroyed by pollutants entering waters, principally from dumping. Without phytoplankton there would be no life at sea, and man would suffocate from lack of oxygen and excess of carbon dioxide." According to the Swiss oceanographer, Jacques Piccard, continuation of present levels of ocean dumping could decimate the world's population within the next 50 years. Laws must be introduced to forbid ocean dumping.