Monitoring Bird Populations Using Mist Nets: Studies in Avian Biology #29

Edited by C. John Ralph and Erica H. Dunn. 2004. Cooper Ornithological Society, c/o western Foundation of Vertebrate Zoology, 439 Calle San Pablo, Camarillo, California 93012-8506 USA. 211 pages. U.S.$39.95.

A workshop was held in California in October 1993. Forty experts (six from Europe, five from Canada, including one of the two editors, and the remainder from the United States and Puerto Rico) evaluated the strength and weaknesses of mist-netting as a method of monitoring bird populations. Six additional individuals contributed to the papers, incorporating new data and updated analyses prior to final editing – which occurred only after a remarkable delay of ten years.

As stated by the editors in their Introduction, the advantages of mist nets include ease of standardized sampling, low observer bias, ability to detect species that are often missed (sometimes including rarities unlikely to have been spotted by routine observation), and the opportunity to examine birds in the hand. Mist net studies, as do other visual and aural methods, provide indices of abundance rather than total counts of populations.

Three programs with some variation in methodologies, but using mist-nets in a standardized fashion, are the MAPS (Monitoring Avian Productivity and Survivorship) Program pioneered in California by David DeSante and now spreading across the continent, the British Trust for Ornithology's Constant Effort Sites Program, and the MRI Program in continental Europe (named from the first letter of the three initial sites, since expanded to seven). All three methods have the potential to detect long-term temporal trends. Sampling only at weekends should be avoided.

Two major papers deal with 18 years of data collected at Long Point Bird Observatory in Ontario. At Beaverhill Bird Observatory in Alberta, six participants in an informal banding training program failed to attain fully satisfactory performances. Summary recommendations, to produce as much information as possible with the lowest bird mortality, include training of all participants, checking the nets every 15 to 30 minutes, and use of 30- and 36-mm-mesh nets that are 12 m long.

This volume is a must for anyone using mist nets, and for Bird Observatory libraries.

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Portraits of the Bison: An Illustrated Guide to Bison Society

By Wes Olson. 2005. The University of Alberta Press, Edmonton. 108 pages. ISBN 0-88864-432-9. Paperback. $39.95.

Bison are the iconic animal of the Canadian prairies. If you live in western Canada, then pictures of bison – being hunted, as piles of skulls by train tracks, as a provincial symbol – are woven into your consciousness. Yet, most people know little about them. It is this deficiency that Wes Olson has set out to remedy with this full-colour guide. Olson has worked as a park warden at Elk Island National Park, located just east of Edmonton, for many years. Despite its name, the Park is probably best known as the home of two bison herds, one of plains bison and the other of wood bison. Olson's experience in working with these herds has given him unique insight into the social structure and biology of the animals. At the same time, his interactions with park visitors have made him aware, as he explains in the introduction, that most people do not treat bison with the respect they deserve and thus sometimes get themselves into dangerous situations. These are the two incentives that encouraged him to compile this volume. Wes Olsen is a talented artist and the book is abundantly illustrated with his drawings of bison, providing vivid evidence of keen observation and long study. His wife, Johane Janelle, contributed many outstanding colour photographs, capturing bison in different moods and surroundings.

The book is arranged in four chapters. Olson provides a short introduction to bison and notes the occurrence and ranges of the two main modern forms, plains and wood bison. Interestingly, he describes the capture and establishment of the wood bison herd, but does not go into the history of the plains bison recovery in any detail. I found this omission curious, given that the rest of the volume concentrates on plains bison, especially since saving the bison from the brink of extinction is a classic conservation story. The second chapter focuses on safety and awareness for hikers and others who might run into bison in the field. Olson describes the stages of a bison's reaction to an encounter with a human. He emphasizes that bison have a very large "personal space" and should be given an extremely wide berth. Olson identifies three zones within "bison space" – the awareness zone, the escape zone, and the fight zone – and indicates what a bison's behaviour may be when a human impinges on each of these zones.

The next two chapters comprise the heart of the book. The first is focused on the seasonal cycle and structure of bison herds. This makes it clear that bison have a complex social structure, related to biological events, such as calving and the rut, and the life-stages of the animals. The next chapter provides more detail on the life-stages of a male and a female plains bison. This is the longest chapter (34 pages) and is richly illustrated with page by page pictures of bison, usually acutely-detailed profile drawings with the salient identifying features indicated. Olson comments that distinguishing male and female bison is not as straightforward as one might think, especially when the bison

are seen at a distance or in a large group. For example, although males are usually larger than females, this size difference is not as marked in younger animals. Olson distinguishes seven life-stages for bison: calves, yearlings, two-year-olds, young adults, mature adults, dominant males, and aged bison. He points out that for wildlife biologists, knowing the age structure and composition of a bison herd is important for making management decisions. However, recognizing different generations of bison can also add interest to a hike or nature ramble. Just as birders recognize birds by plumage and songs, bison watchers must learn to distinguish different pelage stages, body structure, and horn shapes.

The book continues with four appendices, focusing on age and sex determination from the skull, a list of public bison herds in North America, a summary reiterating the main features of male and female life stages, and a blank data sheet for recording observations on bison herd structure. The age and sex determination focuses on a few critical plains bison skull measurements and tooth eruption and wear patterns in the lower jaw or mandible. Olson mentions one criterion for distinguishing bison from cattle skulls. I found this section a bit brief. Within a national park or a wildlife refuge with a bison herd one can assume that skulls are mostly going to be from bison. However, this is not the case across the prairies at large, where people often find skulls, or more usually parts of skulls, that they think may be bison. I felt that more information on distinguishing bison from other faunal remains would have made this section more generally useful. The volume concludes with a helpful reference list, comprising many general and scholarly works on bison behaviour and biology. The book is large-format (27.5 cm wide by 25.5 cm high), giving plenty of space for the photographs and drawings, and is printed on high-quality glossy paper. The images are well laid-out and, for the most part, crisply rendered.

This is an unusual book. I certainly have not come across anything quite like it before. It is not really a field guide, since the format does not lend itself well to being stuffed in a pocket. It is not really a text book, because the emphasis is on identification, observation, and field work. This book will certainly be relevant to anyone who works with bison in the field or has an interest in bison population studies, wildlife biology, or ecology. However, I think it has much broader appeal and will also intrigue anyone who simply likes watching bison and wants to learn more about them. The book can also be enjoyed on a purely aesthetic level, because the photographs and drawings are in themselves so attractive and fascinating. Those of us fortunate enough to live near Elk Island National Park can see bison in the flesh, large lumbering presences moving through aspen groves, or dozing in summer sunlight. Armed with information from this book, bison spotting can have another dimension, as you try to work out who's who in the herd.

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The Buffalo Wolf, Predators, Prey and the Politics of Nature

By Lu Carbyn. 2003. Smithsonian Books, Washington, D.C. USA. 248 pages. U.S.$24.95. Cloth.

"It might be said that the wolf was one of the last natural resources to be included in the great modern movement toward conservation." This statement appeared in the late 1960s in one of the most impressive and enjoyable books about wolves that has ever been written (Rutter and Pimlott 1968). Conservation has come a long way, both generally and specifically with regard to the wolf. People who have led the way are few in number. Lu Carbyn is one of them. His devotion to conservation and wilderness is evident in this book which centres on wolves and bison in the Peace-Athabasca delta region of Wood Buffalo National Park.

The first chapter contains some very graphic descriptions of wolves attacking and killing bison. This is disturbing, but the reader is challenged to accept that the health of the ecosystem lies in the survival of the predators. In contrast, the second chapter sets the stage, describing Wood Buffalo Park and providing some biological background. The real story begins with the third chapter. It presents observations made during the early days of the research in Wood Buffalo Park. The social structure of the pack as it relates to the interactions with bison is described in some depth. The fourth chapter outlines some of the fascinating results of aerial surveys. Chapters 5, 6, 7 and 8 mostly have to do with field studies that followed the termination of the Canadian Wildlife Service program in 1984. Adventures with film crews are a major feature.

Chapter 9 includes some experiences during later solo visits to the delta. The debate over whether or not to eradicate the Wood Buffalo bison herd is the main focus of the last three chapters. This debate had its origin in the introduction and "contamination" of the park's wood bison with plains bison stock from Wainright. Not only were the park bison impure, they carried diseases that also infect cattle. On the other hand there may always have been hybrids and maybe it is unlikely that herds can be protected indefinitely from some or all diseases so better to let nature take its course. Alleged declining numbers of bison in the park fanned the fire of eradication, but "how much management is too much?" After years of first hand study Carbyn believed that the wolves were the main factor in the fluctuating numbers of bison but he pointed out that parts of the big picture are still not avail-