

The Bluebird. How can you help its fight for survival

By L. Zeleny. 1976. Indiana University Press, Bloomington. 170 pp., illus. \$7.95.

When I first bought this book, in the fall of 1976, I was disappointed with it. The sketches were attractive but the color plates seemed to lack the brilliant hues of our most colorful thrush.

Now, in January 1978, I have come to like this work. Most of what I have learned along my nest-line of 500 boxes is confirmed herein. I have never raised young bluebirds but the author has, and the story is valuable.

Sialia sialis does not overwinter in my area, so I do not know what food to supply to keep them alive in cold weather. It appears that the imported starling eats all of the soft berries from the shrubs before the bluebird has arrived from the northern parts of its range. This is a solid reason to shoot starlings or

otherwise kill them.

I had 31 townships covered by bluebird nesting boxes but I was driven out of 21 townships by sparrows, or by sparrows plus vandalism. Another reason for naturalists to use guns or some type of humane trap or some chemical that repels the foreign birds.

We learn, in the book, how tobacco-curing kilns killed two million bluebirds and how diligent citizens wrapped steel mesh around the chimneys to prevent more deaths.

Altogether, this is a fine work but I do hope that future editions will contain some really sparkling color plates.

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The African Buffalo. A study of resource limitation of populations

By A. R. E. Sinclair. 1977. Wildlife Behavior and Ecology Series, University of Chicago Press, Chicago and London. 355 pp., illus. \$20 U.S.

This first-rate book by Sinclair, who now teaches at the University of British Columbia, tells the reader not only all he wants to know about the African buffalo, but a great deal about the ecology of central East Africa as well. The text zeros leisurely in toward its main subject via the evolution of various members of the Bovini tribe, the ecology of the areas where the study took place (primarily Serengeti National Park, Lake Manyara Park, and Arusha Park), and the resource requirements of the buffalo. The daily activity, social behavior, reproduction, and growth of the buffalo are then considered in detail before the author broadens his scope again to consider the basic problem of whether such a herbivorous population can regulate its own numbers, and if so, how. Indeed this book could serve as a text for students of population ecology because of its breadth of vision.

The modern approach to studying wildlife species, via their ecology in the widest sense, is an excellent one which contrasts markedly with earlier studies in which an enthusiastic observer watched and recorded what the members of "his" species were doing for a few months or a year, then wrote up his notes with little thought for the broad principles that lay behind his observations. Sinclair's approach required both time (six years of field work) and immense resources. He

acknowledges financial aid from five different sources, and immediate practical help from a variety of behaviorists, pathologists, veterinarians, botanists, and chemists. His work included radio-telemetry studies on buffalo, taking a number of censuses by airplane, and even visiting Australia to work on wild buffalo there. It was obviously a tremendous undertaking.

It is impossible in a short review to discuss Sinclair's work in depth, but a mention of some of his findings will give an idea of the range of his research.

1. Old buffalo, which chew more slowly than young ones, are unable to compensate for the poor grinding efficiency of their teeth by increasing the amount or rate of chewing.
2. Buffalo tolerate hot weather to some extent by increasing their body temperature diurnally, but the increase is less than in some ungulates such as the camel.
3. Herd animals move daily two or three times the distance covered by bachelor males, and thereby use up 4-7 percent more energy, but herd animals suffer less predation.
4. Lions, the only important predator of buffalo, account for only 30 percent of the total number of buffalo deaths.
5. Buffalo are hosts to at least 57 species of endoparasites and 17 species of ectoparasites.
6. The crude density of buffalo was positively

correlated with rainfall, and hence food supply, which indicates that the populations were regulated.

7. A lack of food (primary factor) leads to under-nutrition and impaired immunity to disease in buffalo. Diseases may then become pathogenic (secondary factor) and cause a host's death.

The format of this book is good, with the main findings of each chapter summarized succinctly. The many figures are included in the text, which is as it should be, but unfortunately the tables are all grouped in an appendix. The black-and-white photos too are not included in pertinent places in the text where one

would like to see them, but clumped in one place. An appendix lists the common and scientific names of the animals mentioned in the book, but little effort is made to take advantage of this feature because both names are also usually given in the text itself. A list of scientific names of plants is given, but their common names are omitted.

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Proceedings of the 1975 Predator Symposium

Edited by R. L. Phillips and C. Jonkel. 1977. Montana Forest and Conservation Experiment Station, University of Montana, Missoula. 286 pp. \$4.00.

As part of the 55th Annual Meeting of the American Society of Mammalogists, a Predator Symposium was held. This text contains 18 of the 19 papers presented at that symposium, along with one other paper that the editors felt was appropriate to the topic.

The papers cover predator-prey relationships, predator management, behavior and interspecific relationships of predators, and predator biology. "Some papers deal with the general biology of predators while others discuss the complications of predator management in today's society." The papers all follow the format of the *Journal of Wildlife Management* and most are worthy of publication therein.

The papers "deal with a wide variety of species, ranging from anteaters in central America to wolves in Alaska." Some of the predators considered are dogs, Mountain Lion, Mink, Fisher, Red Fox, Black Bear, Spotted Hyena, Coyote, and Polar Bear. The symposium was not dominated by consideration of any one predator species at the cost of all others.

A paper by Gipson and Sealander, *The ecological relationships of White-Tailed Deer and dogs in Arkansas*, points out that "dogs appeared to be relatively inefficient predators as compared with wolves, cougars, and possibly coyotes and coyote hybrids." Their study was designed to examine the effects of repeated harassment by dogs on deer.

Eberhardt and Sargeant's paper, *Mink predation on prairie marshes during the waterfowl breeding season*, attempted to define the impact Mink can have

on waterfowl production. In their study area, it appears that 78 percent of the vertebrates consumed by Mink were birds, with most of these being waterfowl.

Mech's paper, *Population trend and winter deer consumption in a Minnesota wolf pack*, attempts to analyze "the numbers, net productivity, winter activity, territory size and winter predation rate of a wolf pack in the west-central Superior Forest." This excellent paper alone is well worth the purchase price of the book.

The papers of this symposium suggest that a general shift in wildlife management attitude has taken place. Wildlife managers are no longer attempting to eradicate predator species; rather they are attempting to control predators. This attitude is most clearly seen in Pils' paper, *A case against Red Fox reduction in Wisconsin*.

One of the hardest tasks facing wildlife managers today is that of public education. The tradition of aversion to predators has been well entrenched in the public mind. To the hunting public, predators are seen as competitive on the natural resource. To the farming-ranching public, predators are seen as a capital risk factor which directly reduces their operational capital.

Generally speaking, the text contains an excellent collection of papers. It is unfortunate that the proceedings release date must follow the symposium by approximately two years, a delay period of greater than that of most journals.

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