

PUBLICATIONS REVIEWED

A paper of unusual merit, and pertinent to the economic field, is Mr. Ben H. Thompson's "History and Present Status of the Breeding Colonies of the White Pelican (*Pelecanus erythrorhynchos*) in the United States" (U. S. Dept. Interior, National Park Service, Contribution of Wild Life Division, Occasional Paper No. 1, pp. 10 + 82 + 4, 3 text ills.; our copy received August 5, 1933). After a scholarly analysis of the evidence in the case, Mr. Thompson concludes that the White Pelican is in a more precarious condition than the number of existing birds would indicate. It needs definite protection (which, for instance, is not now afforded at all in California), if it is long to survive. Bird reservations with controlled water-supply are essential. This bulletin can be had for the asking, as long as the supply lasts, by addressing the Office of National Parks, Buildings and Reservations, Hilgard Hall, University of California, Berkeley.—J. G.

ALDO LEOPOLD ON "GAME MANAGEMENT" (Scribner's, New York, 8vo, pp. xxii+481, 36 illustrations, price \$5.00).—The reviewer has gotten more real satisfaction out of Aldo Leopold's latest book, "Game Management," than out of any other of similar nature he has ever read. It is essentially a finely organized chronicle of the latest ideas in the field of vertebrate natural history. I, personally, find many stimulating suggestions, quite new to my thinking along these lines. There is "good reading" offered also, in a general way, apt and now and then subtly humorous comment, so that the book is anything but dry, or interesting to the professional game breeder only.

The author is not loath to offer speculation, admittedly such; but this is well-considered, for the most part surely helpful. Now and then I find some formulation or even outright statement which rouses a critical reaction; but very quickly the author saves himself, and the reader, against any sin of finality. "*Trying to understand*" the biological community, along with the rules which govern its composition, is one thing and, the author rightly declares, "a worthy calling"; but to resort to conclusiveness of statement at this stage of our understanding would only retard continuing development in this difficult field of investigation.

The book is cleverly illustrated by Allan Brooks; every drawing carries an idea, often a whole lesson in applied ecology.

An enumeration of the chapter headings here would do no more than give an inkling as to the nature of the many vital problems dealt with. I am especially attracted by the ways in which the author deals with "Control of Cover," "Control of Food and Water," and "Properties of Game Populations."

I am struck with the aptness for use in natural history connections, of the term "cruising radius"—referring to the length of forage beat normally possible to an individual animal from its headquarters. This term has a somewhat different meaning from that of "territory," and hence is likely to be adopted in ecological discussions. Save for its application to ships and to airplanes, I do not recall having seen it before. Perhaps Leopold is thus to be credited with the first adoption of a useful term.

The chapter on "Predator Control" is exemplary as a fair treatment of this controversial subject. I can find no fault with its general tenor; the principles of animal ecology as at present understood seem clearly and fairly expressed. This chapter ought to be read, and studied until comprehended, by sportsman, fur-trapper, stockman, and extreme protectionist alike. The author's concluding comments must be read in their entirety, to be given full justice. I venture to quote (from page 252) a phrase or two: "There is only one completely futile attitude on predators: that the issue is merely one of courage to protect one's own interests, and that all doubters and protestants are merely chicken-hearted. ... [The sportsman may well] reserve his 'courage' until he has determined as closely as possible where his own interests [really] lie."

"Game Management" illustrates excellently a way in which materials originally published in widely scattered places (some of it, for example, in the CONDOR) may be brought together into one volume, critically assorted and organized for significance to a given general problem. A worthy book like the one now under review is thus built up of a great number of increments (observations and ideas) initially contributed by a host of persons in many, many places.

Leopold's chapter on "Game Economics and Esthetics" is, in effect, a plea for the

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continuance of hunting, on the ground that hunting is instinctive and cannot quickly be suppressed. He even hints, if I get his meaning correctly, that there is danger of our non-persistence as a species if we refine too much "our manner of exercising the hunting instinct." But hunting to kill wild animals is certainly no more essential to beneficial exercise of this instinct than is battling one another to kill because of our instinct to fight. The latter instinct is now ideally exercised in modified degree, to the general good, as Leopold points out, by the substitution of athletic sports and games. By the same token, no attempt (because probably futile) need be made to suppress totally the hunting instinct; rather may it be directed apart from the point of actual killing. I, personally, have hunted with great zest, to bring down an objective, to bring it into my possession, to kill it. I have also, latterly, hunted with I think equal zest, bringing into play all those recreational values that Leopold stresses, but with the object of making census counts of the animals, of seeing how they behaved under given circumstances, or of seeing what their effects on their surroundings might be; and no individual animal was "brought to bag."

After studying animal natural history (including that of man) somewhat, from an evolutionary standpoint, I have come to have great respect for that perquisite which may be called modifiability. This feature of animals, varying in degree in different kinds to be sure, requires more or less time for its operation; but one observes that substitution or adaptation very frequently comes in, to hasten the rate of modification of a given structure or instinct. Wild-life values for recreation can be realized upon at least as beneficially, I am confident, without any killing at all, by substituting as an ultimate objective, the photograph, the banding record, the notebook record, or that intellectual attainment of *understanding* which some think is the most desirable goal for any human activity.

If and wherever, on government or private lands, game is to be produced as a crop, then game management according to the natural history principles so soundly laid down by Leopold is to be practiced in order to get the best results. But we cannot grant that the production of a maximum number of animals to be shot for sport is the highest pur-

pose to which to put the bulk of the uncultivated lands that belong to the public. There is a large and, I think, increasing group of persons who do not shoot, part of them because they do not want to, part of them because they are not economically situated so they can.

Someone, possibly Leopold himself (and no one now has proven himself as well qualified by knowledge of animal behavior and human attributes, together, than he), should now write a treatise upon *wild-life administration* (by means of proper treatment of the environment) from the broadest point of view, with all the human, long-time interests fully heeded.—J. GRINNELL.

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MEETINGS

NORTHERN DIVISION

MAY.—The regular monthly meeting of the Northern Division of the Cooper Ornithological Club was held at 8:00 p.m., Thursday, May 25, 1933, in Room 2003, Life Sciences Building, Berkeley, with about fifty members and guests present and President Pickwell in the Chair. Minutes of the Southern Division for April were read. Proposals for membership were as follows: Roland Herrick Alden, 427 Embarcadero Road, Palo Alto, California, and Miss Alice Stewart Mulford, 1637 Spruce St., Berkeley, California, by E. L. Sumner, Sr., through the Western Bird-banding Association; Henry Sheldon Fitch, Museum of Vertebrate Zoology, Berkeley, California, by Jean M. Linsdale. A letter was read from Mr. A. C. Bent of Taunton, Massachusetts, expressing his appreciation of the action of the Cooper Club in electing him to Honorary Membership.

President Pickwell reviewed briefly the seasonal status of the bird-life in the vicinity of San Jose: the late lingering of Band-tailed Pigeons and Cedar Waxwings, the presence of a large number of migrating Western Tanagers, and the waning of the songs of many resident birds, some of which have already completed the nesting cycle.

Mr. E. L. Sumner, Sr., asked if other banders had found the Golden-crowned Sparrows staying later than usual, as he had. He gave as the latest record that of a bird trapped by Mrs. Edwin Blake on May 18, six days later than previous records show. Mrs. Lindsey answered