were carried on in a variety of habitats where there is a wide range of variation in water levels. Interpretation of the results provided ideas which were tested on managed marshes with considerable success. It is noteworthy that in some areas the range of tolerance for breeding black ducks and ring-necks was found to be within a six-inch variation in water level. Because of the great variety in natural situations which waterfowl managers may try to improve, they will not be able to apply Mendall's findings directly but they will find in this book a most telling demonstration of the principles of habitat management.

Some of the data which this book contains were gathered during a 20-year period, and intensive field work was carried on for the 12 years between 1943 and 1955. It should not detract from the credit due the author to suggest that his work well points up the need for time and continuity in wildlife research.

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Nature Photography at Night

By Tappan Gregory. Denver, Colorado, Denver Museum of Natural History, 1957. 62 p., illus. (Museum Pictorial No. 14)

Two other issues of these pictorials have dealt with nature photography: M.P. No. 1, "Nature Photography with Miniature Cameras," and M.P. No. 5, "Nature Photography with the High-Speed Flash." The third member of the series deals historically with the fascinating record of Mr. Gregory who pursued the hobby of night photography of wild life for more than fifty years and gained wider experience than any other photographer in that field. Mr. Gregory has traced the evolution of equipment from open charges of magnesium flash powder to magnetic synchronizers and flash bulbs. The first-hand record of interesting experiences in the field is illustrated with 41 of the author's best night flash pictures of wild life.

V. E. F. SOLMAN

The Ecology of Invasions by Animals and Plants

By Charles S. Elton. London, Methuen, 1958. 181 p., illus. \$6.00 (30/-).

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The director of the Bureau of Animal Population at Oxford has presented a stimulating discussion of a problem that has an urgent appeal to nearly all biologists. At the same time the presentation is in simple enough terms to be clear to the layman interested in conservation and agricultural production. Workers in such applied fields as plant quarantine, plant pathology, and forest, agricultural or medical entomology will find data on problems analogous to their own and will find the theoretical discussions stimulating. Workers in such disciplines as ecology, biogeography, population dynamics, evolution and conservation will find a rich assortment of data gathered from many sources, Canadian included.

Slightly over half the book is given over to a discussion of Wallace's Realms and their geological background, to the vast and increasingly serious number of plant and animal invasions into new territories, and the resulting problems in population dynamics. The changing food chains that result from such invasions are then discussed. In a chapter headed "Reasons for Conservation" author presents the view that only by deliberately complicating, rather than trying more and more to simplify, our communities of economic plants and animals can disastrous outbreaks and fluctuations be limited. His thesis, based on mathematical, experimental and observational data, is that the simpler the population structure the more violent are its fluctuations. Somewhat surprisingly voles and lemmings are not mentioned in this connection, but one can scarcely overlook the fantastically violent fluctuations in the populations of these animals in the arctic where prey, predator and plant species are few, in comparison with the much smaller fluctuations that occur in southern Canada where all



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