

REVIEW.

The Waikanae Estuary. An Ecological Survey of New Zealand Birds.

By K. A. Wodzicki, Ph.D. (Cracow), Wellington, New Zealand.
(Emu, vol. 46, pp. 3-43, 1946.)

In May, 1941, the Ornithological Society gained as a member Dr. K. A. Wodzicki, who brought to this country wide experience in the biological sciences in Europe. The energy and enthusiasm with which he has made himself familiar with New Zealand bird life have been documented by contributions to this journal. Soon after his arrival Dr. Wodzicki honoured the reviewer by asking for advice on an ornithological project near Wellington. The results of regular bird censuses at Muriwai in 1939-40 prompted the suggestion that a similar study of a Wellington estuary might be fruitful. Waikanae was chosen, and the results of the first year's observations, with A. A. Kirk, were published in "N.Z. Bird Notes," vol. 1, No. 2. The paper under review presents the results of 37 visits to the estuary between July, 1941 and August, 1943. A description of the locality, illustrated with maps and photographs and with meteorological tables, introduces an annotated list of the birds recorded from the Waikanae area during the past 70 years, with a liberal accompaniment of tables and graphs showing the numbers of each species observed during 1941-43. Specimens from the district are noted, although their pertinence to the ecological survey is, in general, not demonstrated. The list of Waikanae birds embraces 61 species, but Buller's shearwater and the short-tailed shearwater recorded by Oliver (1930) may be noted as trivial omissions. The concluding section of the paper includes discussion of the problems of bird associations, of mixed flocking, of the status of the various species (residents, regular and occasional visitors), of migration, and of the yearly cycle of the Waikanae avifauna.

Of the observations recorded, the regular counts and graphs of the numbers of several species appear to the reviewer particularly valuable: it may be many years before bird migration in New Zealand can be adequately studied by ringing, and, in the meantime, accumulation of information of this nature, from different parts of New Zealand, can provide objective data for the deduction of movements of bird populations which ringing results will eventually supplement but never supplant. To quote an instance from Waikanae, the demonstrated virtual absence of white-fronted terns between July and October is highly significant in view of their reported absence from Chatham Islands, and the recent conclusion of Hindwood (Emu, 45, pp. 179-200) that Australian records of this species are migrants from New Zealand. For the banded dotterel, stilts, gulls, Caspian and black-fronted terns, Wodzicki presents similar information on seasonal population changes, and the value of such careful censuses at regular intervals is patent—may we have many more from the length and breadth of the Dominion.

In assessing such a substantial paper, it is inevitable that the critical reader will find points of disagreement, mention of which, in a review, may perhaps be excused provided that such criticism does not distort one's general judgment of the contribution. The Caspian tern is envisaged as arriving at Waikanae "from the nearby nesting grounds at Kapiti," with no authority quoted for this reputed breeding station where Wilkinson (Emu, 26, p. 254) reported the species as occasional, and knew no nesting. The reviewer doubts the wisdom of accepting Buller's identifications of the prions he found on Waikanae Beach in 1878—certainly Buller never identified a bird as *P. salvini*, for that name postdates his death, and although the name "*banksi*" was often applied to the bird we now call *salvini*, it was also used by Buller for the prions breeding at the Brothers (turtur) and at the Auckland Islands (*desolata*).

The sections dealing with ducks will interest those who believe that the factors controlling game bird populations are amenable to scientific analysis as the basis for a positive conservation policy. We know so little of these factors, many and complex as they are admitted to be, that the author's suggestion that increase in numbers of paradise and grey ducks at Waikanae is related to the "closed season" of 1942 must be accepted with caution. Actually, the count of paradise following the shooting season of 1943 (28 on July 3) is much higher than the maximum in the year that followed the closed season of 1942 (6 on June 14). Analysis of Table 5 (grey duck) shows, too, that although the highest count certainly followed the closed season, yet the average counts before and after the closed season scarcely differ. (It may be noted in passing that failure to indicate whether a "dash" signifies "no ducks" or "no observation" hinders interpretation of the tables.) Even the greater difference between the mean count for the year between the 1941 and 1942 breeding seasons and that for the period between the 1942 breeding season and the following shooting season, when the maximum benefit of protection should have been evident, is not of statistical significance. It is not intended to deny that the closed season may have benefited the duck population, but only to point out the difficulty of accumulating convincing evidence of a change in the population of a wild bird.

The sub-title, "An Ecological Survey," deserves some consideration. Ecology is the study of the relation of organisms to their environment, and "the ecologist is concerned with the study of the casual relations respecting the presence of particular species in particular places." (E. J. Salisbury.) The amateur field naturalist may receive such definitions with something of the jubilation of the "bourgeoise gentilhomme" when he realised that he had been speaking "prose" all his life, and it is to some extent true that a schoolboy egg collector, searching for a bird's nest, may become an ecologist in determining its whereabouts, and most articles in "Bird Notes" are contributions to ecology in its broad sense. But, to quote W. H. Thorpe, "there is a good deal of incomplete and casual observation which . . . scarcely deserves to be dignified by the term 'ecology.'" The concept of "an association of plants or animals as forming in some sense an organic whole" (again the words are Thorpe's) is fundamental to ecology, and it is here that Dr. Wodzicki's approach to the analysis of the Waikanae estuary and its bird life, despite some diffuseness, prolixity and irrelevancies, justifies the subtitle of a paper which acknowledges, implicitly, that the understanding of New Zealand's wild life problems will involve an appreciation of the whole environment, dynamic and complex. Ecology, as a science, is still in its childhood: New Zealand abounds in pabulum for its nourishment, and Dr. Wodzicki has offered a substantial meal to the growing child.—C.A.F.

WASHDYKE LAGOON, TIMARU.—On a casual inspection 17/1/46, there were 500-600 black-billed gulls, 400-600 black-backed gulls, c 12 white-fronted terns, c 10 Caspian terns, c 150 ducks (grey, mallard and hybrids), c 65 black swans, c 300 pied stilts, 1 pied oystercatcher, several hundred banded dotterels, etc. This lagoon is worthy of regular study by some person with opportunity for making repeated visits.—J. M. Cunningham, Masterton.

BIRDS AT WHAREAMA, EAST COAST, WAIRARAPA.—Not a good estuary for waders. Total list seen, 14/7/46 c, 20 black-backed gulls, 1 red-billed gull, 1 white-throated shag, 8 black shags, c 3 grey ducks, harriers, magpies not numerous, yellow hammers numerous, flocks c 15 skylarks common.—R. H. D. Stidolph and J. M. Cunningham.