

almost savours of vandalism. There is simply no denying the fact that destruction of the forest will become progressively greater, and eventually lead to further climatic changes in the province. Denudation—desert.

For years, writers have been endeavouring to awaken the public mind to the dangers of deforestation and its attendant peril, erosion, but the response has not been of the dimen-

sions which the gravity of the situation warrants. In various parts of the world remains of ancient civilisations are to be found. Is it possible that their disappearance followed the destruction of their forests?

Elbert Hubbard wrote: "*Though I were to die to-morrow, yet would I plant a tree to-day.*"

—Article taken from "Eltham Argus."

Importance of Birds to Agriculture and Forestry in New Zealand

By L. W. McCASKILL, M.Agr.Sc.

WHEN trying to assess the economic value of birds and balance the good they do to man against the harm done we are inclined to forget something about birds which cannot be measured in bushels of grain or in pounds, shillings and pence. That something can be summed up in two lines of Emerson:

*"If eyes were made for seeing
Then Beauty is its own excuse for being."*

Birds have been the inspiration of much that is fine in our art, poetry and song and even if they had no economic value whatever they would still deserve our study, encouragement and protection.

Agriculture is unnatural. In primeval times, when man was a nomad, there had developed a balance between the wild plants, the insects which fed on the plants and the birds which fed on both plants and insects. When man first scratched the soil with a stick and sowed wild seed in the furrow he unwittingly embarked on an enterprise contrary to all the rules of nature. As a farmer he concentrated innumerable individuals of the same kind of plant in orderly rows as against nature's method of dividing up the space amongst numerous competing kinds. He provided not merely an opportunity but an open invitation to vegetable feeding animals such as insects. Right through the ages insects have been responsible for more damage to farm and orchard crops than all other known organisms but it has taken man a very long time to learn that this damage would be very much greater if it were not for the insectivorous birds.

There have, of course, been many spectacular examples of birds coming to the rescue of man

when his crops have been attacked by plagues of locusts or caterpillars. The one which received tangible recognition in the seagull monument in Salt Lake City, Utah, is perhaps best known but we are inclined to forget in New Zealand that it was the introduction of English birds in the sixties and seventies to deal with the plagues of caterpillars here which made agriculture possible in this country. But the destruction of suddenly arising insect swarms is not the chief function of birds as far as agriculture is concerned. Their mission is rather to exert a steady pressure on insects as a whole. Unfortunately the harm birds do is more obvious than the good. We always know when birds steal grain, rob poultry, eat fruit and seedlings. We do not find it easy to measure the amount of good they do by eating harmful insects. Our scientific research into this matter is very much behind that of other countries, especially the United States and until we have an organisation set up to give us accurate information, we would be unwise to enter on any campaign of wholesale destruction of allegedly harmful birds. No matter what we may think about certain introduced species such as the sparrow and the blackbird we should realise that the native species found on our farmlands are entirely useful, and with only one or two exceptions are absolutely protected.

As regards birds and forests in New Zealand we have very little room for doubt. WITHOUT OUR FOREST BIRDS OUR FORESTS SIMPLY COULD NOT EXIST. If you make careful observations of these bush birds and study their habits and methods of feeding you will find that their useful work for the forests can be divided into three sections, the checking