

## SUBSTATIONS

Arrangements have been made for the establishment and staffing of substations at Papatoetoe (vegetables and potatoes), Havelock North (vegetables and peas), and Gore (Brassica crops and oats).

The report on the Grasslands substation at Lincoln appears under Grasslands Division.

## ANIMAL ECOLOGY SECTION

Officer in Charge: Dr. K. WODZICKI

The programme of work approved by the Animal Ecology Research Committee consists of two major investigations: a study of the biology of the rabbit, and a survey of the mammal and bird fauna of New Zealand. Of these, the work on bionomics of the rabbit has priority. The detailed research programme includes studies on the reproduction, feeding habits, population dynamics, behaviour, parasites, and diseases of rabbits and the effects of rabbits on the composition of pasture. The purpose of this investigation is to provide basic information on the biology of the rabbit as a factual basis for improved control measures.

After an inspection of several areas, Gwavas State Forest in Hawke's Bay was selected as the most suitable site for this work. Owing to the shortage of various materials, considerable delay occurred in the fencing of the experimental area and the purchase of essential equipment, transport, and accommodation for research personnel. These difficulties have now been largely overcome, and with the arrival of an experienced ecologist from England research work has now commenced.

Work on methods of assessing rabbit populations was continued, and a preliminary study of the parasites of the rabbit is nearing completion.

A general survey describing the distribution, status, and economic importance of the twenty-eight feral introduced mammals of New Zealand is being published as a departmental bulletin. The gaps in our knowledge revealed by this report are gradually being rectified by local surveys when opportunity offers.

Detailed local surveys of the fauna of Fiordland, White Island, the western shore of Lake Taupo, and of other areas have been completed, and the preliminary results have been made available to various bodies interested in wild-life research or control. Further surveys of bird damage in Wairarapa and Nelson orchards have been carried out, and further blackbird material has been collected and preserved for a study of the ecological status of this species in orchard areas. Although the value of such surveys cannot be expressed in terms of money and this work is necessarily limited by other commitments, there is need for extension of general and local surveys, which are essential for planning the preservation of native species and the control of introduced ones.

## APPLIED MATHEMATICS LABORATORY

Officer in Charge: Mr. I. D. DICK

During the year it became increasingly clear that the statistical activities of the Biometrics Section were being extended beyond the fields of agriculture and biology, and increasing attention was being given to statistical problems arising in other sciences, particularly geophysics. Because of this development it was felt that the former designation of Biometrics Section was not sufficiently wide to cover its work, and the branch was renamed the Applied Mathematics Laboratory. This Laboratory was also instructed to plan facilities for work in mathematical physics, as well as mathematical statistics and large-scale computations.