

reports of wildlife field officers. Observation and deduction during this period have been aided by evidence derived from the adjacent Haurangi State Forest which had been eaten out many years before.

Population and Control

From experience with deer and deer country, it is possible for a fairly sound estimate to be made of the number of deer which can be shot in one year on any large land area, but an accurate estimate of deer population, according to present indications, is impossible in New Zealand. Under most forest conditions, restriction of visibility, and deer movement make estimates unreliable, but probably the greatest source of error is caused by deer not being readily seen until population density has reached saturation point.

During the early days of organised deer control in New Zealand, a deer district would be shot intensively until numbers were reduced to an apparently low level, and then spelled while work was carried out in another area of high population. Rapid increase of deer again in the first area was thought to be due mostly to immigration from inaccessible

back country. Some immigration certainly occurred, because numbers dropped on some unshot country, but it is the writer's belief that repopulation was due largely to the natural increase of a large hidden population. In other words, shooting considerably reduced the visible surplus, but it had much less effect upon actual population numbers. This phenomenon of sudden concealment is only the reverse of the deer irruption process previously described.

Some natural control of deer can occur in beech forest if adjacent grassland becomes covered with snow deep enough to inhibit movement, for winter deaths of deer of all classes are reported, but survivors again flourish with change of season. Except in mineral-deficient country, which is rare, malnutrition of deer seems hard to substantiate, and deer in eaten-out country seem to be able to maintain good condition on scanty diets of withered herbs, fallen leaves, adventitious shoots and a little grass and sedge; the persistence of numbers of deer in eaten-out areas is regarded as evidence that food is seldom a limiting factor, and that topography, cover, and altitude weigh more heavily in the constitution of a good deer area.

The Harrier Hawk under Investigation

THE Animal Ecology Section of the Department of Scientific and Industrial Research in conjunction with the Ornithological Society of N.Z. is carrying out an investigation of the harrier hawk by marking the birds with metal bands on their legs. Harrier hawks have been ringed by research workers, and the public is asked to co-operate in the investigations now taking place.

The bird is of considerable interest as a predator of both game birds and rabbits, yet very little is known about its behaviour and habits. Marking these birds should provide much information not only about their movements but also give some indication of how effective is the bounty system that is worked in some districts to control their numbers.

Already some results have been achieved from this study, and a hawk which was marked in Hawkes Bay in April this year was found near Lake Waitaki, North Otago, over 500 miles away, a month later.

The Department is asking that anyone finding a marked bird will send the ring to the Dominion Museum.

The Society has always been doubtful as to whether these birds' service as predators of vermin is outweighed by their destructive tendencies which has caused them in many districts to have a bounty placed on their heads. This doubt the Society has expressed from time to time in print. This investigation should be valuable if it can in any way settle this point, and members are asked to co-operate in any way they can.

McPherson's Bush, Turakina Valley

IN our previous issue we published a report of the transfer of this Bush from the Rangitikei Scenery Preservation and Tree Planting Society to our Society to be held in Trust for the use of the public as a scenic reserve.

Owing to circumstances which have since arisen

our Society has agreed to a modification of the terms of the Trust so as to provide that the two Societies be co-Trustees. In effect, this will make little difference. The Bush will still be preserved as a scenic reserve, and the Rangitikei Society will be responsible for its maintenance in the meantime.