

At Lake Taupo the death-rate was greater, but again was not serious. It was found that the *Mollusc isadora* died in thousands and washed up on the shores. During the past year, with the exception of fish taken from Rotoehu and certain parts of Waikaremoana, the nematode worm was seldom seen in trout.

Statistical Records.—Much valuable information was gained from the monthly records compiled by the Rangers in connection with temperature of lakes and rivers, meteorology, biology, and trout-foods.

Culling.—Systematic culling was not carried out, owing to the good condition of the trout in all the lakes. The only work of this nature was done in connection with stripping operations, and 170 males and 173 females were destroyed.

Facilities for Anglers.—Booking of the huts at the Hatchery Camp site has again been heavy. Roads and tracks to many fishing-places were kept in order by the Rangers.

Tagging of Trout.—No tags were returned, and although inspections of the fish at the Waingaha Barrier were frequent, none were found bearing tags.

Opossums.—An open season for the trapping of opossums was declared again in the district during July and August. Nine permits and 101 licenses were issued. Royalty was paid on 12,004 skins stamped in this district.

Pheasants.—During the year, 626 birds were liberated throughout the district.

Deer.—The destruction of deer was carried out throughout the whole district, and eighty-seven permits were issued to destroy these animals in the Waikaremoana Sanctuary. Seven thousand rounds of ammunition to be used for the killing of deer was sold from the Rotorua office.

Ranging.—The Department has paid Rangers at Rotorua, Whakatane, Taupo, Tokaanu, and Frasertown. As the result of their activities a number of prosecutions under the Rotorua and Taupo Fishing Regulations and the Animals Protection and Game Act, 1921–22, were taken. The fines amounted to £71 10s.

DEER.

Departmental Party Operations.

As the result of departmental party operations, 8,207 deer, 28 goats, and 6 wapiti were killed. Deer-skins to the number of 3,221 were recovered. The exceedingly rough nature of the country in some areas and difficulties of transport precluded the possibility of recovering a larger proportion of skins, this being particularly so in the Tararuas, Lake Wakatipu area, and considerable portions of the Lakes Hauroko, Monowai, and Manapouri regions. Details follow of the operations in the various localities:—

Wellington (Tararua Ranges).—Operations were commenced at about the middle of January, and were continued throughout the summer and autumn.

A total of 1,011 deer were killed and 55 skins saved. An analysis of the figures shows that the average strength of the party was six men over a period of $18\frac{1}{2}$ weeks, and that they killed an average of 54.3 deer per week.

These figures appear low when compared with those obtained in the worst infested areas of the South Island, but this area proved to be the most difficult so far undertaken.

Over the whole of this area there is a great preponderance of bush-clad country, and the small proportion of open country above the “timber-line” is so frequently enveloped in dense fog that it is seldom that shooting can be conducted there. The owner of a block of freehold country would not permit the party to continue to operate, and the men were withdrawn.

The party was subjected to a great deal of interference by stalkers who, while shooting few deer, disturb all animals in the area, and thus render the task more difficult and less successful. The weather was, generally, very bad, especially during the “roaring” season and subsequent few weeks. Communications and transport were attended by many difficulties; but, in spite of all this, the operations were very successful, and there can be no doubt that they will result in an immediate improvement in the condition of the forest, and prove a decisive factor in bringing the deer in this area under control.

The deer-infestation situation in the Tararua Ranges is singular in that, while deer are excessively numerous in some localities, they are scarce in others, but the latter are comparatively small, and are widely separated. The whole area can, therefore, be regarded as having been pretty generally infested, and in places the concentrations of deer were, prior to these operations, so large that very serious damage has been done to the bush. It so happens that some of the worst damage has been done in localities where it is likely to prove the most harmful, as they are in the steep-sided valleys of the Hutt, Tauherenikau, Waiohine, Waingawa, Ruamahanga, and Mangahao Rivers, near their sources. In some of these localities the damage to the forest and the forest-floor is exceedingly serious, and is equal to that which has been sustained by forests in heavily infested areas of the South Island. In such places all the forest-floor covering of ferns has been killed (the dead stumps remain to indicate their previous existence), the ground has been trampled bare of mosses and grasses and is torn up to an extent which resembles a stock-yard, roots are laid bare, small slips and water-channels are already appearing; all undergrowth has been killed by the eating of bark or rubbing of antlers; all seedlings of the major species of trees, which effect regeneration, have been killed (the dead stumps and trunks of *Nothofagus* (beech), *nothopanax*, *coprosma*, &c., are evidence of this) and nothing remains but the adult trees of the beech, and these have but a precarious hold of the earth.

In these localities it was noted for the first time that the deer have eaten the bark of even the konini or native fuchsia (*Fuchsia excorticata*), and thereby killed many trees. The fact that in all examinations of deer-infested forests conducted throughout both Islands the eating of the bark of this species by deer had not previously been encountered indicates the stage depredations have reached in the Tararuas, as this bark is definitely not attacked while other food is available, and the species is usually regarded as being immune.