

by any right-holder in a State forest regarding a fire which may occur within 20 chains of the boundary of his area or within 20 chains of the route regularly used in the course of his operations, extending to 20 chains outside the State forest. A right-holder must also provide and maintain fire-fighting equipment in places readily accessible for use. A further important provision is that if in the opinion of the Director of Forestry weather conditions present an extreme fire hazard whereby life and property may be endangered by spreading forest fires, the Director may issue, either by radio or otherwise, an order suspending any logging, sawmilling, or other operations.

It is the earnest endeavour of the Forest Service to eliminate all forms of indiscriminate and uncontrolled burning within and near all forests, and the application of the aforementioned regulations will undoubtedly assist to this objective.

SECTION B.—ANIMAL DAMAGE.

47. Appendix VII indicates that the regular campaign that has to be carried on against animal pests is amply justified by results. Although the distribution in districts varies somewhat, and the incidence in species also varies, the total number killed is within two hundred of last year's numbers. With the departure of many of the hunting population to the war, and the decreasing availability of sporting ammunition, it is to be expected that the wild-life population will show an upward trend during the incoming years. The only offsetting factor against this is the rapidly-improving price of rabbit-skins.

From the forestry point of view the most disturbing feature of the present schedule is the increase in the number of opossums killed, for it is to be remembered that this schedule lists only those killed out of season under special Ministerial warrant to kill in such localities as are obviously suffering by the animal's depredations. All recent reports tend to prove the slow migration of this animal northwards. It is now reported well up the Auckland Peninsula and is well established in Central and Southern Auckland. It is not many years since the opossum was almost unknown in that province.

Every year new evidence is received of extension of its dietary preferences, for it seems to be curiously selective in its eating habits, and appears to travel some miles without doing much harm in order to reach a species that it regards as a delicacy. Thus, whilst it leaves many species of young pines untouched, it has shown that it seeks out *P. palustris*, a species which, though still in the trial stage, is doing particularly well in North Auckland. It similarly is showing decided preference for *Alnus rubra* around Reefton, where that useful recent introduction is showing its optimum growth. Altogether there is now enough evidence accumulated to enable it to be stated with certainty that the opossum is decidedly harmful in the regeneration and sapling stage of many exotic forests.

The position regarding deer now that all sporting rifles and ammunition are withdrawn for defence use is one for considerable uneasiness in forest areas.

SECTION C.—DAMAGE FROM INSECTS AND FUNGI.

48. *General Ecology.*—The year has proved favourable to the health of forest trees, and no injury of any consequence from insect, fungal, or climatic agencies has been reported. The dying of large rata trees on the Mamaku Plateau from no apparent cause, and of beech, much of it overmature, due to buprestid and *Armillaria* attack in many parts of the North Island, may be attributed primarily to injury received during the severe westerly gale of January, 1939. Although the actual loss of millable produce is small, it is unfortunate that these dead trees, many of them prominent in various localities, detract muchly from the appearance of the forests. With New Zealand spreadeagled across the "Roaring Forties," abnormal climatic disturbances of this nature must be accepted philosophically, but this ever-present risk makes it imperative that the exotic forests in particular be kept in as healthy a condition as possible by strict observance of silvicultural and management programmes, otherwise the impact of major climatic disturbances may result in the development of ruinous epidemics, from which the Dominion's exotic-forest resource might not recover for several decades. There is also the ever-present danger of the introduction of destructive insects or fungi from other countries; in the