

fire which comes under his notice, and shall forthwith arrange for the nearest forest officer to be notified. These provisions, which are self-explanatory, are not unduly onerous, and strict adherence to them would go far in removing the menace of fire to our forests, particularly in less-frequented localities. It will be appreciated that supervision of the extensive and widely spread State forests present a formidable task to the normal Forest Service staff, and the co-operation of the public and of users of the forest in the observance of the regulations is imperative if our forests are to receive the maximum possible protection.

During February an extremely high fire hazard was experienced in the central North Island and the use of steam haulers and locomotives was prohibited for a short period by notice under the provisions of Regulation 7 of the regulations.

47. *Animal Damage*.—Damage continues from deer, opossums, goats, rabbits, and other animals. Although rabbits are still the main problem, opossums are becoming more abundant in many places, particularly in Nelson, Westland, and Southland. Opossums frequently eat soft bark of several exotic pines, especially ponderosa pine, and, by breakage of tree crowns, damage poplars and other soft-wooded broad-leaved trees.

48. *Animals destroyed*.—The following are the recorded numbers of animals killed in State forests during the year: rabbits and hares, 34,532 (30,500); deer (all species), 1,534 (923); pigs, 1,538 (1,367); goats, 238 (266); opossums, 4,329 (15,528).

49. *Insect Damage*.—The past year does not appear to have been favourable for insect development and no significant damage to exotic or indigenous forests has been reported. So far New Zealand has been singularly fortunate in escaping any serious insect epidemic, but provision must be made to deal with any emergency in this connection that may arise. At present it would not be possible, owing to shortage of equipment and trained staff, to institute counter-measures without some delay, which could allow sufficient time for insects to become acclimatized and spread. With the concentration of all pathological work at the Rotorua Forest Experiment Station, it is intended that staff and equipment shall be brought up to suitable strength to meet any emergency that may develop.

Of insects attacking forest products, *Pachycotes peregrinus* (syn. *P. ventralis*) caused damage to peeled pulpwood of insignis pine intended for shipment to Australia, necessitating the treatment of some thirty cords. *Callidium violaceum* introduced from Sweden in packing-cases has been recovered at Whakarewarewa and Conical Hill Forests, indicating that another insect has become established.

*Hylastes ater* has continued to spread and is now found south of Dunedin and at Conical Hill Forest. The occupation of this new territory means that the insect is now found throughout the Dominion.

Inspection of imported timber was continued, particular care being taken to prevent the introduction of termites in Australian hardwoods.

50. *Damage by Fungi*.—There was no serious outbreak of fungous disease in any forest during the year.

Investigation of *Poria xantha*, previously known only from kauri at Waipoua, revealed that it was the cause of serious decay in kauri ships at Auckland. The fungus was also found on larch, Douglas fir, and toatoa in the Rotorua district. A characteristic brown cubical rot is caused by this fungus, which very quickly renders the timber useless.

A start was made on the programme for the investigation of all fungi associated with each tree species, and silver beech was selected for initial study. The recognition of over forty fungi, many not hitherto recorded in New Zealand and of which at least two are undescribed, marks the beginning of a new and very worth-while phase in forest mycology as related to silviculture. The parasite *Cyttaria gunnii* was studied, together with two new and undescribed species of *Cyttaria*. Twelve species of the genera *Fomes*, *Polyporus*, and *Poria* were found to cause heart rot in living silver beech. Numerous