blowdown was practically complete in some areas. The capacity of kamahi to survive when only a small proportion of its root-plate is adhering to the ground has been remarked previously, so too has the development of epicormic branches. It is interesting to note that silver beech has also survived and produced epicormic branches in a few instances ; elsewhere some trees continue to live in the prostrate position. However, the most interesting feature of the association is the abundant stocking of silver beech seedlings especially on exposed mineral soil. A small stocking of red beech (*Nothofagus fusca*) seedlings is surprising, as the altitudinal range of the species is characteristically lower in this part of the ranges. In the new forest it appears that kamahi will fulfil a lesser role than it did in the forest prior to the blowdown.

In the mixed broadleaf-podocarp forest association at lower altitudes on the Field Track ridge, blowdown was less complete, but most of the top storey rata and rimu were destroyed. *Suttonia salicina*, hinau (*Elaeocarpus dentatus*), *Wintera axillaris* and tawa (*Beilschmiedia tawa*) have regenerated vigorously, and a heavy stocking of miro (*Podocarpus ferrugineus*) has resulted, in part from the stimulus given to seedlings existing at the time of the blowdown by improved light, and in part from abundant seedlings on exposed mineral soil. It is not clear yet what part rimu (*Dacrydium cupressinum*) will play in the new forest ; young trees are not much in evidence in the completely blown-down areas but are very abundant under the rather sparse canopy of kamahi at slightly higher altitudes. Under the last-mentioned conditions miro and totara (*Podocarpus totara*) are also numerous. J. S. REID.

DAMAGE BY KAKA IN RIMU FORESTS OF WESTERN SOUTHLAND

During the course of Forest Survey work in the coastal pole rimu (*Dacrydium cupressinum*) forests in the Waitutu and Hakapoua Survey Districts of Western Southland, many green rimu were noted unusually scarred. These scars, which have been observed on trees of all size classes from six inches in diameter upwards, are usually long horizontally and narrow. The width varies from half to three inches with a length from two to twenty inches, so that smaller trees may be almost completely girdled. A single tree might bear twenty or thirty such scars. The bark is cut off cleanly exposing the wood but the latter is not torn to any extent.

The scars are in every way comparable with those found on partially decayed silver beech (*Nothofagus menziesii*) and known to be caused by kaka (*Nestor occidentalis*) in searching for grubs and larvae.

Kaka are very numerous in these areas and the conclusion that they are responsible for the damage is inescapable. Although many trees have been examined no trace of any wood boring or tunnelling grubs or larvae was noted. The exposed wood remains sound with rapid healing of the scar and on no occasion were trees observed to have been killed. The timber of such trees is, however, seriously degraded and as an extremely conservative estimate, several hundred thousand board feet reduced in value in this manner.

Comparable damage has not been observed on sound trees of any other species, although any partially decayed trees of any species are sought out. It is thought most unlikely that the birds tear the rimu bark in search of insects. It appears more probable that bark or sapwood exudates provide the attraction.

J. T. HOLLOWAY.

TOTARA PLANTATION OF KNOWN AGE

In 1908 Mr. H. P. Kay made two small plantations of totara (*Podocarpus totara*) on his Prior Park property on the Wharerangi Road some 10 miles north-west of Napier. The site is a fertile valley bottom about 200 feet above sea level, the soil a fairly compact grey brown sandy loam, and the rainfall about 35 inches per annum. This is lower and heavier land than the typical totara country of Hawke's Bay.

Trees were obtained from the Rotorua Nursery of the Forestry Branch of the Department of Lands and Survey. The larger of the two plantations covers about half an acre, the original spacing varying from 7 to 9 feet. A good strike was obtained and, after 40 years, there has been little mortality in a completely closed stand. Interior dominants are 45-50 feet high and 8-10 inches in d.b.h., with an occasional tree up to 12 inches. The green level is 25-30 feet; below this brittle dead branches are persistent. Generally the branches are rather heavy and there is a considerable proportion of multiple leaders. Many marginal trees were bearing fruit during the 1948-49 summer.

G. H. HOCKING.