

the Government consider the question of spending some part of any money set apart for unemployment relief in this essential work of thinning.

A certain limited market exists for this class of product in the main centres of population, as larch for scaffolding-poles, and Austrian and Corsican pines for firewood and fencing, which are the main species contained; but the great distances from the market will probably make the transport charges prohibitive. Even if it was proposed to pulp this product, unless a pulping plant could be established within reasonable reach of the plantations, transport charges would constitute a considerable barrier to economic operation.

A possible alternative method of utilization is distillization. This is at present practised on a commercial basis in Germany, but we have not sufficient information at our disposal to enable us to form an opinion as to its practicability in this country and in connection with the existing plantations and forests.

In view of the urgent need for some method or methods of effective utilization of sawmilling waste and light timber from the indigenous forests and from the existing and future plantations, we recommend that special investigation be made into this subject.

If this problem can be solved the present forests can be made a very considerable source of employment and revenue, and large-scale afforestation can be entered upon with confidence. It should be noted that New Zealand possesses unique resources in water and water-power, two of the prime requisites for wood-pulp manufacture.

Two considerable adjuncts to the question of afforestation are—(1) Sand-dune reclamation, (2) fur industry.

SAND-DUNE RECLAMATION.

The encroachment of sand-dunes on both sides of the North Auckland coast is reported to be deteriorating large areas of land, both directly and also indirectly by the damming of watercourses. This is, in our opinion, a matter of national importance. The experience gained by the Rangitikei Experimental Stations shows that this menace can be arrested. (See periodical report, State Forest Service, 1928.) The necessary work is such that it will employ a proportion of unskilled labour. We recommend that steps be taken immediately to cope with the matter, as a safeguard to the occupied lands and as a means of affording productive employment.

FUR INDUSTRY.

A further possible step in providing profitable winter employment in this country is by the development of a fur industry in connection with the indigenous State forests. The introduction some years ago of the opossum and the results obtained up to the present are such that we recommend that serious consideration be given to this question.

It appears that a very considerable extension might be made in this field, resulting in the establishment of a valuable industry employing a large number of men during the slack period in the primary industries. As an example: In the Wellington, Taranaki, and Hawke's Bay Districts 136,000 acres of State forests are stocked with opossums out of a total area in those districts of 728,900 acres. Last season 313 trappers operated under license in this area. They secured 28,750 skins, of a market value of £19,000. If the remaining four-fifths of this area had been stocked the fur yield and the number of trappers would probably have been proportionately increased.

The total value of opossum-skins taken last year in the Dominion was £157,000. The trapped skins ranged in various blocks from one skin to each 2,000 acres up to as high as five skins per acre, with an average for all stocked areas of about one skin to each 5 acres, while by far the greater part of the indigenous State forests is unstocked.

It has been proved that the opossum is capable of successful acclimatization in every district of both Islands. That being so, we are of opinion that the present fur-bearing area could be extended greatly. If this were done, and average results obtained at all comparable with those obtained up to the present, a very valuable industry might be established. It is probable that improvements might be made and an even better average result obtained by proper control of types introduced with a definite view to fur-production. The present stock has been introduced by a number of acclimatization societies, and several varieties have been brought in and liberated somewhat indiscriminately. This has resulted in a hybrid type of comparatively low skin-value tending to develop. With divided control and independent action this is inevitable, but if the introduction of stock and the control of establishment were placed in the hands of a central controlling authority with a sufficient appropriation to cover the operation it seems probable that within a few years' time an industry, growing all the time and entirely self-supporting, would result.

Some apprehension exists as to the safety of a wide extension of opossum-breeding being a danger to (1) the fruit industry, (2) young forest growth and regeneration. With regard to damage to the fruit industry, although all orchardists in opossum areas have unrestricted rights to destroy these animals, last year, of the total skins taken, between one and two hundred thousand in all, only 658 were taken by orchardists. It is probable that the value of the skins more than recouped them for any damage done.

With respect to possible damage to the forests by the destruction of bird-life or of young timber stock, Professor Kirk, as a result of years of observation, states that at no time has he detected any sign of the former. Mr. D. Hope, curator to the North Canterbury Acclimatization Society, has recently (*New Zealand Herald*, 6th July, 1929) emphatically confirmed this opinion.

Concerning possible destruction of young timber stock, the observations of the State Forest Service field staff go to show conclusively that in the indigenous forests the opossum lives exclusively on the succulent secondary growth which is so marked a feature of the New Zealand bush, and does no damage whatever to the milling-tree species.