

for instance. Rivers flooded in winter and low in summer are bad for trout. Grossman, in his pamphlet, "Evils of Deforestation," has a valuable chapter with some striking illustrations of the mischief caused by floods in New Zealand.

The protests that have been raised on every side against the ruin of the beautiful forest scenery of New Zealand have resulted in the formation of scenic reserves, which to be of much use would have to be large, and thus extremely costly by keeping so large an area of forest unproductive. As it is, those of them that may be considered permanent are small, and are but imperfectly protected against fires and cattle. There is no guarantee that, left as they now are, any of them will last. It is reported that during 1915 as much as 638 acres was revoked, as the forest had been destroyed. Up to that year a total of £80,751 had been spent on scenic reserves, chiefly in land purchase and surveys. There is a systematic inspection of the scenic reserves, which is excellent as far as it goes. But the inspecting officer has no executive authority: that lies practically with the Commissioners of Crown Lands, who may or may not take an interest in forestry. In any case they are not foresters, and their lands staff has other duties to attend to.

It is useless attempting to evade the main issue—national forestry. If we want to preserve forest (such as that on most of the scenic reserves) in contact with civilization, the usual machinery of a Forest Department must be employed. Either all the civilized world is wrong in this respect and New Zealand and England right, or *vice versa*. With an efficient system of national forestry there would be no difficulty in preserving absolutely untouched, and keeping in a state of nature, those forests that it was intended to preserve as "nature" reserves. This is done in parts of the suburban forests of Brussels, of Paris, in the Alps, and elsewhere in Europe, and on a much larger scale in America. With the usual machinery of forest-conservancy the protection of "nature" reserves becomes automatic, and their formation as easy as putting an extra train on a State railway.

Lastly, one of the great lessons of the present war is that a country cannot defend itself without a liberal supply of brushwood and timber. Guns have to be screened from observation, and trench-construction takes more timber than mining. The average for ordinary trenches along the French lines has been rather more than a cubic foot of cordwood per foot run of trench. An ordinary battery of guns takes about £240 worth of wood and timber to screen it, or in some places £100 worth for a single gun. Great quantities of wood and charcoal are required for camp cooking and heating.