

2.—Average Annual Forest Depletion During the Period 1936-45—concluded

Item	Usable Wood	Percentages of—	
		Utilization or Wastage	Depletion
	M cu. ft.		
Wastage—			
By forest fires.....	353,547	41.4	10.7
By insects and disease.....	500,000	58.6	15.2
Annual Wastage.....	853,547	100.0	25.9
Annual Depletion.....	3,296,772	—	100.0

**Increment.**—Practically all of the depletion or drain on the forest is concentrated in the 435,000 sq. miles of productive forest which is classed as accessible, and replacement of normal depletion by this area alone requires an average annual growth rate of about 12 cu. ft. per acre. Complete estimates of the rates at which the forests of Canada grow are not yet available. The vast size of the country, the diversity of growing conditions, and the complex character of the forests themselves, place great difficulties in the way of estimating growth. Numerous studies have been made by the Dominion Forest Service which indicate, beyond reasonable doubt, that over considerable tracts annual growth exceeds 25, 30 or even 40 cu. ft. per acre per annum; however, there are other areas classed as productive on which the growth is much less.

Natural reproduction of forest tree species in Canada is fortunately prolific except in a few localities. After an area has been cut over or burned, young growth usually appears within a short time. Thus the re-establishment of some sort of forest growth is a less difficult problem than it is in many other countries. There is, however, no guarantee that the species reproduced will be of the kinds desired by industry. Most of the wood used in Canada is softwood and, in general, softwood reproduction is fairly good; but there are considerable areas in which a combination of overcutting and repeated fires have resulted, not in the permanent destruction of the forest, but in the replacement of valuable stands by new ones of inferior type.

Many stands of 'second growth' that have come up after cutting or fire are now reaching merchantable size and are beginning to attract attention. Anticipating the need for practical guidance in the management of these accessible young forests, the Dominion Forest Service is devoting the major efforts of various forest experiment stations to the improvement of the quality and the acceleration of the growth of young stands that nature has established. Operators, too, are showing more interest in putting their operations on a self-sustaining basis and working plans are being developed with this in view.

There is no room for doubt that the introduction of better methods of forest management, including the provision of more adequate forest protection, can make the forests of Canada more productive than they have ever been. It is true that stocks of very large trees, whose growth required upwards of 300 years, are disappearing and will not be replaced; but, though the forest industries of the future must use smaller logs than did those of the past, good forest management can make possible a considerable expansion of those industries when market conditions warrant.