

Section 4.—Forest Depletion and Increment

The purpose of this Section is to present a general account of depletion and increment. Details of the scientific control of those influences that account for wastage, viz., forest fires and insect pests, are dealt with in the section on Forest Administration at pp. 465-466 and 469. A special article on Noxious Forest Insects and Their Control appears at pp. 389-400 of the 1947 Year Book.

Depletion.—The average annual rate of depletion of reserves of merchantable timber during the ten years 1937-46, by cause, is given in Table 2. Of the total depletion, 76 p.c. was utilized and 24 p.c. was destroyed by fire, insects and disease. The utilization of 2,510,556,000 cu. ft. comprised 38 p.c. as logs and bolts, 29 p.c. as pulpwood, 29 p.c. as fuelwood, and the remaining 4 p.c. as miscellaneous products. Approximately 7 p.c. of the utilization was exported in unmanufactured form.

One factor that indirectly affects forest depletion is the more efficient utilization of timber that has been cut. There is little doubt that in the past too high a percentage of the sawn logs has been discarded. Changes of great significance are taking place in the uses of wood that permit of the utilization of sizes and qualities that are unmerchantable as sawn lumber. The development of the cellulose industry in the manufacture of rayon, cellophane and numerous other products, is rapidly extending the use of wood. Plastic-wood products, fibre board and laminated wood will undoubtedly provide an increasing demand for the so-called inferior classes of wood so that more complete utilization of the forest resources through the elimination of much of the waste that now occurs can be expected. (See Sect. 6, Forest Utilization, pp. 470-479.)

2.—Average Annual Forest Depletion During the Period 1937-46

Item	Usable Wood M cu. ft.	Percentages of—	
		Utilization or Wastage	Depletion
Products Utilized—			
Logs and Bolts—			
Domestic use.....	929,598	37.0	28.1
Export.....	33,612	1.3	1.0
Pulpwood—			
Domestic use.....	590,875	23.5	17.9
Export.....	144,150	5.8	4.4
Fuelwood.....	718,964	28.6	21.8
Hewn railway ties.....	12,650	0.5	0.4
Pit props.....	14,394	0.6	0.4
Poles, posts, rails.....	33,957	1.4	1.0
Miscellaneous products.....	32,356	1.3	1.0
Annual Utilization.....	2,510,556	100.0	76.0
Wastage—			
By forest fires.....	292,583	36.9	8.9
By insects and diseases.....	500,000	63.1	15.1
Annual Wastage.....	792,583	100.0	24.0
Annual Depletion.....	3,303,139	...	100.0

Increment.—Practically all the depletion or drain on the forest is concentrated in the 435,000 sq. miles of productive forest 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