

About 400 technically trained foresters are employed by the Dominion or provincial forest services or by paper and lumber companies. A considerable number of foresters are actively engaged in commercial logging operations. In addition to administrative work, these men carry on forest surveys either for the estimation of timber-stands and making of maps, or to determine natural growth and reproduction conditions and factors. An outstanding development of recent years has been the extensive use of aerial photography for forest surveys. With the co-operation of the Royal Canadian Air Force and the Topographical Survey, the Dominion Forest Service has taken a leading part in the development of means for the interpretation of the photographs for forestry purposes, but most of the provincial forest services and many of the timber-owning companies make extensive use of aerial photographs. It is now possible not only to map the areas covered by the various forest types but to estimate the volume of standing timber with an accuracy that compares favourably with ground surveys. Over 950,000 square miles have now been photographed in Canada and of this area forest maps have been prepared for 110,000 square miles.

Section 6.—Forest Utilization.

Certain aspects of forest utilization are dealt with in Section 4 appearing at pp. 251-258—"Canadian Forest Resources: Their Relation to the War of 1914-18 and to the Present Effort".

Subsection 1.—Woods Operations.

Differences in forest conditions throughout Canada give rise to differences in logging methods. Generally speaking, throughout Eastern Canada the climate is such that the cutting and hauling of logs can be carried on most economically during the fall and winter months. The trees are felled and the logs hauled to the nearest stream or lake, where they are piled on the ice or sloping banks. The presence of connected systems of lakes and streams makes it possible in most cases to float the logs from the forest to the mill at a minimum cost during the annual spring freshets. The logging industry east of the Rocky Mountains is, therefore, almost entirely seasonal. In many cases lumbermen co-operate in river-driving operations and improvement companies, financed by the logging operators, build river improvements to facilitate the passage of the floating logs, the logs being finally sorted and delivered to their respective owners. In British Columbia the scarcity of drivable streams and the greater average size of the logs give rise to entirely different logging methods. Logs are assembled by cable systems operated by donkey engines and are transported to the mills or to water chiefly by logging railways but in many cases by motor trucks. These operations are more or less independent of frost, snow, or freshet and are carried on in most cases throughout the year.

In Eastern Canada logging operations are usually carried on by the mill owners or licensees of timbered lands, often through the medium of contractors, subcontractors, and jobbers. In the better-settled parts of the country a considerable quantity of lumber is sawn by custom sawmills or small mills purchasing logs from the farmers. Unmanufactured pulpwood, poles, ties, and other forest products have a market value but sawlogs, being as a rule the property of the mill owner, are not generally marketed as such in Eastern Canada. In British Columbia logging is carried on more frequently as a separate enterprise by limit-holders, who cut and sell logs on the market. In many cases mill operators are not limit-holders but buy their entire supplies of raw material from logging concerns.