

At the request of the Civil Defence Division of the Department of National Health and Welfare the Branch is making detailed studies of the industrial, commercial and residential areas of the major Canadian cities in relation to civil defence needs. Several of these studies have been completed.

Much has been accomplished to date in mapping and charting in Canada but the task ahead of the Department of Mines and Technical Surveys of providing the various maps and charts required in the development of Canada's wealth of natural resources is great. This is particularly true of the Canadian north which is receiving increasing attention in recent years. If the greater part of this task is to be accomplished in this generation continued emphasis must be placed on the use of the newer methods of mapping. Need for its accomplishment in the not too distant future is seen in the rapid pace of industrial development in Canada today.

THE FORESTRY BRANCH, DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES*

The application of aerial photography to mapping of forest cover in Canada has been widely developed in recent years by the Forestry Branch of the Federal Department of Northern Affairs and National Resources. Under the terms of the Canada Forestry Act 1949 the Federal Government offers financial support to the provinces to assist them in completing an inventory of their forest resources by aerial photographic methods. It is hoped thereby to prepare a national forest inventory. Data from air photographs are correlated with field work to develop new techniques of timber estimating. Research is being continued in methods for measuring tree images and tree shadows to determine heights, crown widths, canopy density and other data from photographs taken in different seasons of the year under various conditions. The use of large scale photography of sample areas is also being investigated and studies are being made in the identification of species and sub-types. Construction of suitable photogrammetric and other scientific apparatus includes those required by the forestry tri-camera method of air photography, which has been developed to provide maximum forestry information at minimum cost, and the shadow-height calculator, constructed to facilitate the determination of tree heights from shadows in air photographs.

PART II.—LAND RESOURCES AND PUBLIC LANDS

Section 1.—Land Resources

Information at present available regarding Canada's vast land resources is shown in Table 1, where the land area is classified as occupied agricultural, forested and 'other' land, the latter including urban land, road allowances, grass and brush land and all waste land such as open muskegs, swamp, or rock. Soil surveys now under way by the Department of Agriculture will make it possible in the future to estimate the amount of arable land Canada possesses and as provincial inventories are completed more information will be available regarding land now non-forested but not productive in an agricultural sense. The Forestry Branch of the Department of Northern Affairs and National Resources estimates that about 44 p.c. of the land area of Canada is forested and, according to the Census of 1951, less than 8 p.c. is classed as occupied farm land. A great part of the 1,738,986 sq. miles of 'other' land is located in the Yukon and Northwest Territories which together have a land area of 1,458,784 sq. miles. The occupied farm land in these Territories is practically nil and the forested area is estimated at 275,800 sq. miles.

* Contributed by the Forest Inventories Section, Forestry Branch, Department of Northern Affairs and National Resources.