

5.—Forest Fires, by Causes, 1946, with Ten-Year Averages, 1936-45

Cause	Provinces ¹				Yukon and N.W.T. ²	
	Average 1936-45		1946		1946	
	No.	p.c.	No.	p.c.	No.	p.c.
Camp-fires.....	961	17	1,068	18	62	84
Smokers.....	961	17	1,293	22	3	4
Settlers.....	763	14	622	11	Nil	—
Railways.....	368	7	691	12	"	—
Lightning.....	1,025	19	956	16	3	4
Industrial operations.....	155	3	293	5	Nil	—
Incendiary.....	302	5	163	3	1	1
Public works.....	48	1	57	1	1	1
Miscellaneous known.....	467	9	439	7	Nil	—
Unknown.....	463	8	321	5	4	6
Totals.....	5,513	100	5,903	100	74	100

¹ Includes Federal lands within provincial boundaries.

² Reported for the first time.

Subsection 3.—Scientific Forestry

The great forestry problem is the management of Crown forests, first under provisional and later under more intensive working plans, so as to ensure a sustained yield. Forest research activities in this direction are now assuming great importance. The Dominion Forest Service of the Department of Mines and Resources operates five forest experiment stations with a total area of 227 sq. miles.* Here investigations of the underlying principles governing the growth of forests and improvement in the rate of increment are made and practical methods of management tested.

About 600 technically trained foresters are employed by the Dominion, by provincial forest services or by pulp, paper, and lumber companies. A number of foresters are actively engaged in commercial logging operations and, 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.

Through the use of air photographs taken largely by the Royal Canadian Air Force and base maps prepared by the mapping organizations of the Departments of Mines and Resources and National Defence, the Dominion Forest Service has taken a leading part in the development of methods for the interpretation of air photographs for forestry purposes. Provincial forest services and timber holding companies are accelerating their use of air photographs. It is now possible not only to delineate the different forest types, but also to obtain from air photographs information that facilitates the preparation of quantitative timber estimates, and greatly reduces the amount of groundwork required. Aerial photographs drawn to scales suitable for mapping purposes covering upwards of 1,000,000 sq. miles are now available in the National Air Photographic Library of the Department of Mines and Resources, and about 135,000 sq. miles of forest have been mapped and classified from the photographs. Still greater use of air photographs for forestry purposes is expected in future.

* See Table 3, p. 409.