

these areas under the administration of the Dominion Government. This latter action would be fully justified by the importance of the area in question, as a portion of the watershed of the Trent canal, which is an enterprise of the Dominion Government.

An incidental advantage attaching to transfer to the Dominion Government, with administration by the Forestry Branch, Department of the Interior, would be the probable establishment of a forest experiment station. Such action would have for its object the securing of information calculated to furnish a solid scientific basis for the silvicultural handling of existing forests, as well as for the establishment of new forests, in order to secure the most economic use of the timber and forest products. A more exact knowledge of the indirect benefits of the forest, such as the influence of forest cover upon stream-flow, might result from the establishment of a forest experiment station. There is great need for the prosecution of such investigations, under Canadian conditions.

#### INTRODUCTION

That trees of relatively inferior value, such as birch and poplar, follow fires on areas previously occupied by pine, is a matter of common observation, but the amount of this material and its potential value are not so well known. It is also well known that repeated fires on former pine lands greatly retard, or completely exclude, the re-establishment of pine trees thereon, but the rate of this retardation in relation to the number of fires is not so well known. The financial losses involved in the replacement of valuable pine destroyed by fires, by the less valuable poplar, have been estimated in certain cases, but these estimates have been based upon relatively few actual measurements.

Three aspects of the problem of the burned pineries present themselves for solution, namely: (1) An estimate of the amount of young pine and poplar now present in relation to the number of times the area has been burned; (2) an inquiry as to whether the amount of the pine and poplar restocking the burned areas has sufficient present or potential value to justify care and protection; (3) an estimate of the financial losses, if any, incurred by allowing fires to replace pine forests with poplar or other inferior forests.

#### Area Under Investigation

The area examined in 1913, and covered by this report, comprises some 85,000 acres; and includes all of the township of Methuen and that portion of the township of Burleigh which lies east of Eels brook, both being situated in