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**A SHORT MANUAL
OF
FOREST MANAGEMENT**

CAMBRIDGE UNIVERSITY PRESS

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**A SHORT MANUAL
OF
FOREST MANAGEMENT**

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PREFACE

THE object of the present manual is to present a brief and simplified text-book on Forest Management, based on a purely practical foundation. The standard works on this subject sometimes present—for the student, and especially for the public—a rather formidable appearance, and contain an exposition of high theory a part of which at the present time is seldom, if ever, capable of practical application to the forest conditions of our own country, or of our possessions in other parts of the world. An attempt is made therefore to produce a simplified practical review of this subject from which are eliminated all reference to advanced theories which are not at present susceptible of practical application, and all other matters of purely academic interest. Some confusion has resulted, it is thought, in the past, from attempting to embrace in one study such diverse conditions as obtain in the most intensively worked continental forests which have been highly organised for generations, in the vast forests of India which are still generally in their natural state of the utmost irregularity, and thirdly in the small estate woodlands and plantations of our own country. An attempt is therefore made now to discriminate between such different types of forest with a view to elucidate and facilitate the preparation of suitable working-plans for each type.

Use has been made of the following standard works on Forest Management: *Manual of Forestry*, vol. III. Sir Wm. Schlich; *The Forester*, J. Nisbet; *The Practice of Forestry*, P. T. Maw; *British Estate Forestry*, A. C. Forbes; *Forest Working Plans in India*, W. E. D'Arcy.

H. JACKSON.

Jan. 1921

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DEFINITIONS

Block is a large natural subdivision of a forest, either formed by a detached group of woodland, or else a section of a main forest area determined by its situation, with natural boundaries, and often with a local name. It may be of any size and shape, and has nothing to do with the method of treatment.

Periodic block is a subdivision of a felling-series under the Uniform method: it contains a succession of age-classes generally extending over about twenty or thirty years, set apart to be regenerated during the corresponding period of the same duration. The whole felling-series or working-circle is divided into as many periodic blocks as the rotation is divided into periods.

Compartment is a permanent topographical subdivision of the block and forms the unit of area. Its boundaries are natural, or are formed by roads or lines.

Sub-compartment is an area in which the condition of the crop, its composition and age, and the soil and situation, are sufficiently homogeneous for each such unit of the crop to be capable of being described in one statement.

Coupe is an annual felling-area under the provision of the working-plan.

Normal forest is a forest which, in addition to being fully stocked, and yielding the maximum possible production of wood per acre per annum up to the limit imposed by the local conditions of soil and climate, is constituted of a complete and regular succession of age-classes, from one year old up to the age chosen as the rotation, with each age-class occupying an equal area.

In other words, the normal growing stock results from a normal succession of age-classes, with a normal increment. It is the ideal state of perfection in forest organisation; it is not absolute, but is relative to a given rotation and a given silvicultural method of treatment.

Constitution of a crop refers to the existence of a regular succession of age-classes in it.

Composition of a crop refers to the species that compose it.

Exploitability is the condition of a tree or crop that has reached the age or size at which it yields the kind of produce most useful to its owner, under the declared object of management.

Possibility is the maximum quantity of material, which may, for the time being, be annually removed from a forest, consistently with such treatment as shall tend to bring the forest as near as possible to the normal state, and with maintaining a constant yield.

DEFINITIONS

Increment is the increase, due to growth, in the volume of material of a tree or crop, in a given time.

Working-circle is an area of the forest worked under one and the same method of treatment, with the same rotation, and the same set of prescriptions under one and the same working-plan.

Felling-series is an area of forest forming an entire working-circle, or else a section of a working-circle, containing a complete separate series of age-classes, thereby forming a miniature forest, and a unit of management complete in itself.

Cutting-series is a subdivision of a felling-series comprising a number of age-gradations differing in age by a constant number of years. The object is to break up the succession of coupes in order to reduce the danger of injury from wind. Instead therefore of a single succession of crops on the ground from one year old up to a hundred, the first cutting-series would contain—if there were five of them—crops aged 1, 6, 11, and so on up to 96, the second cutting-series 2, 7, 12... up to 97, and so on.

Felling-cycle is the time elapsing between two successive principal fellings in the same area, worked by the Selection method.

Rotation is the time elapsing between the creation of a crop and its removal; or in other words, the age at which the crop attains exploitability under the stated object of management.

Thinning is a cultural operation which consists in removing from out of a growing tree crop the stems becoming superfluous, so that, while realising these latter, each tree left standing may have sufficient space to attain that state of development which is required for it to satisfy the objects of management.

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