

AN INTRODUCTION
TO
AMERICAN FORESTRY



BY
SHIRLEY WALTER ALLEN
*Professor of Forestry, School of Natural
Resources, University of Michigan*

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PREFACE TO THE SECOND EDITION

Closing down of the nation's greatest emergency public works program and participation in the most extensive war in history, with its demands on natural resources, might well have suggested a complete rewriting of this text after ten years of circulation. The original effort, however, included much historical material and placed enough emphasis on well-established principles so that less radical revision has been made. The order of the text and the background material which appeared to be most useful to teachers of forestry have been retained generally. The treatment of changing techniques and policies—particularly significant in the fast-moving fields of private and state forestry activities—has been brought up to date. Some of the voluminous data that first appeared in the appendices has been incorporated in appropriate chapters or discarded because of its rapidly changing character and its greater availability now in other sources.

Over the last decade the author has kept careful notes on conversations and correspondence with users of the text and with representatives of the forest industries and the forestry profession. While those who have helped him are too numerous to list here, he extends warm thanks to each. Special acknowledgment is made to the American Forestry Association, publishers of *American Forests*—by far the most complete running record of general forestry progress in this country—for lending numerous photographs and furnishing so complete a picture of advancing forestry; to the U.S. Forest Service for permission to reproduce certain charts and for answering innumerable inquiries; to the Society of American Foresters for making available the files of their *Journal of Forestry* and for permission to reproduce one important drawing on page 128; to Mrs. Joseph R. Bailey for a number of well-executed drawings; to each of his colleagues at the School of Natural Resources at the University of Michigan for encouragement and frankness of criticism not commonly available; to his students, who perhaps get tired of being

asked to refer to "the world's greatest book on forestry" but who never take it lightly; and to Mrs. Robert S. Houston, whose painstaking and accurate typing of corrections and additions has been indispensable.

The author cherishes the hope that others besides forestry students, teachers, and practicing foresters may read and use this book and that it will thus promote a better understanding of our forest resources and of the importance of managing them with skill and wisdom.

SHIRLEY WALTER ALLEN

ANN ARBOR, MICH.
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PREFACE TO THE FIRST EDITION

Much has been written about forestry in general, and certain excellent forestry textbooks have long been available for beginning students.* He who would add another book must be sure that its approach will be new and that he will not be guilty of mere duplication. It may hardly be said today, however, that forestry needs no introduction in America. It is relatively young, it has grown almost beyond recognition in the past decade, and it is something of a stranger to college students as well as to the great majority of other Americans. The author has been hard put to answer the numerous intelligent and varied questions about forestry that have been asked him by people in all walks of life during a score of years. The chapter headings indicate that he has had these questions in mind in preparing this text and he has cherished the hope that it may be useful outside as well as inside the classroom.

The art of forestry languishes without the science of forestry. The business of forestry cannot prosper and continue without employing the art, nor without encouragement, guidance, and a measure of regulation through public policy. These interrelationships have therefore been emphasized in attempting to present a view of the whole picture, which the student should have as preparation for his technical study.

Encouragement and helpful criticism on the part of many colleagues are gratefully acknowledged. Particular thanks are due the following: Dean S. T. Dana for reading the chapters dealing with public policy and administration and for offering helpful suggestions; Henry H. Tryon for critical reading of Chap. V; Ovid M. Butler for reading Chap. II and for authorizing the use of numerous and valuable illustrations from the pages of *American Forests*; Professor D. M. Matthews for suggestions on Chaps. VII and XI; Professor S. A. Graham for critical reading of Chap. IX; Professor Dow V. Baxter for similar assistance on Chap. X; John B. Woods for reading and constructive comments

on Chap. XIX; Henry E. Clepper for helpful checking of many statements in Chap. XX and Appendix F; Professor W. F. Ramsdell for reading Chap. XXI; the U.S. Forest Service for furnishing a large number of the photographs reproduced and for several maps and drawings; the various state foresters and other state officials who have checked information used in Chap. XVIII and in Appendix C and for certain photographs. Others, too numerous to mention by name, have been generous and helpful. These include officials of trade associations and of industrial corporations, editors of trade journals, officials in federal bureaus, and forestry students. To all these the author extends his thanks. However, he asks the reader to hold him alone responsible for any errors of fact or interpretation.

The conservation movement is in need of information that will produce thinkers. Forestry is in need of a wider circle of acquaintances. If this introduction can serve these two needs in some measure, its purpose will be fulfilled.

SHIRLEY WALTER ALLEN

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CHAPTER I
MAN AND THE FOREST

The chance for man to survive over a reasonable lifetime has been largely a matter of his quest for nourishment, protection from the elements and other damaging factors of environment, and progressive development of equipment and skill for capturing from nature these things which represent his fundamental needs. Before he learned his full lesson, he had to depend upon crops that he had not cultivated, that were widely distributed, and that were ready to use. The virgin forest filled these specifications admirably, and its exploitation still furnishes much toward his unchanging needs. It is well to consider the things that the forest provides.

Food from the Forest.—As a breeding place and home of wild animals the forest has been a rich hunting ground. It has thus contributed generously, if indirectly, to the food supply of primitive peoples and pioneer communities. Moreover, nuts, berries and larger fruits, buds, roots, and wood sugars from forests were quickly available, and it required little effort to harvest or to prepare them for use. They were direct products of the forest, less subject to failure than domestic crops, and for that reason they stood frequently between life and starvation for forest-dwelling peoples.

Scriptural references to "locusts and wild honey" are said to refer to "locusts" as the fruit of one of the carob trees rather than to insects, and it is likely that John the Baptist lived off the forest during his days in the wilderness, even though that forest was a scant one.

Acorns that are thought to have been buried more than 1,500 years ago were found in the Ozark Mountains in 1923 by an expedition from the Museum of the American Indian (Heye Foundation) (1). The storage pit was lined with grass, and the acorns were contained in a bag of twisted wild hemp. Acorns are, of course, a familiar article of food to some tribes of Ameri-