

ECOLOGICAL SILVICULTURAL SYSTEMS

Exemplary Models for
Sustainable Forest Management

Edited by

Brian J. Palik • Anthony W. D'Amato



WILEY

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Preface

In a nutshell, ecological silviculture is the toolbox to manage forests as ecosystems, based on emulation of natural models of disturbance and development. It follows that an ecological silvicultural system is the long-term sequence of treatments for managing composition and structure of a forest, as informed by natural disturbance and development. One could say that ecological silviculture is guilty of putting the forest first, rather than focusing one or a few tree species of commercial value, which can be the focus of timber-focused silviculture. This is not to say that ecological silviculture does not include an objective of managing for timber and commodity output. It does and, in fact, it could not be considered for wide application if there was not a path for profitable forest management as an objective. The distinction, from timber-focused silviculture, is that sustainability of non-commodity goods and services is given high priority as an objective. Moreover, the conceptual framework for devising ecological silvicultural systems is that *nature knows best*, rather than building on agronomic models like classic silviculture. The former involves understanding natural disturbance dynamics for a forest and how that forest develops over time to become a structurally complex and often species rich ecosystem, with a goal of reducing, as much as feasible, the disparity between a natural ecosystem and its managed counterpart. As you will learn, this attempt to better emulate natural forest development is important even in the face of unprecedented global changes, including climate change and invasive pests.

You will learn that not all contributors to this book have the same interpretation of a natural model for forests, nor are their formulations of ecological silvicultural systems the same. In fact, the silviculture presented in this text reflects highly diverse views about how forests work naturally and how silviculture can be used to better emulate natural processes. The diversity reflects geography, with contributors working in forests across the United States, in eastern, central, and western Canada; in Chile and Australia; and several forests in Europe. It also reflects differing views about the degree to which a natural model can be used in silviculture. Embrace this diversity, as it captures the most innovative thinking on the topic of ecological silviculture from the world's most innovative thinkers in the field. Importantly, all contributors do share one central goal, that of presenting silvicultural systems for forests that better sustain ecosystems broadly, so as to provide the full array of services people expect from forests.

Brian J. Palik and Anthony W. D'Amato

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