Fear of change is the second common denominator of the volume. Most predictions spell doom for the tropical forest. According to the speculation of several authors, climate change will lead to species extinctions, reduction in biodiversity, violations to the integrity of ecosystems, death of mature forest plant species, dysfunctional ecosystems, losses in ecosystem services, an overall degradation of the tropical landscape, and greater invasions of alien species in Hawaii. This exclusively negative scenario is difficult to fathom. Certainly complex tropical forest ecosystems must have resilience and some capacity to adjust to climate change, as they have done over the past 30,000 years.

Authors were not willing to speculate on the positive side of the climate change equation or the role of surprise as complex tropical ecosystems interact with the natural and anthropogenic forces of change. Other subjects deserve attention: (i) the development of new types of ecosystems with new combinations of species; (ii) the mechanism of self-design as a factor in the development of these new ecosystems, and (iii) the potential positive role of alien species in pre-adapting certain landscapes to climate change.

Nevertheless, speculation is speculation, and will remain so until more research is conducted on large and long-term scales in the tropics. The development of a research agenda was a second objective of this volume, and it is clear from the text that there is a lot of uncertainty and ample room for ecological research in the tropics.—ARIEL E. LUGO, International Institute of Tropical Forestry, USDA Forest Service, P.O. Box 25000, Rio Piedras, PR 00928-5000 (a_lugo@upr1.upr.clu.edu).

Ecology and Management of Central Hardwood Forests


In the Preface of this book, Professor Hicks observes that The Central Hardwood Region is the most extensive concentration of hardwood forests in the world, covering an area of more than 235,000 square miles extending from New York to Georgia and Virginia to Missouri. Nearly half the area is forested, and more than 80% of the land is privately owned. He further notes that “...the central hardwood forest is a unique and significant resource that is approaching several thresholds simultaneously. The maturing central hardwood forest has tremendous value and diversity. Such value and versatility can lead to exploitation, but at the same time they can provide economic incentives to achieve the goal of sound forest management. My hope is that this book will be instrumental in achieving the latter.”

The book is divided into seven chapters. Chapter 1, “The Central Hardwood Region,” characterizes the region, first describing its geographic extent, composition and diversity, most of the forests of any value in the region and the period of regrowth from 1930 to 1980. The forests regrew and matured and the positive side of the central hardwoods and provides many significant terms and concepts. However, the chapter provides an excellent overview of the region, deserves rereading, and provides a foundation for the application of the silvicultural practices described in Chapter 5.

Chapter 4, “Silvicultural Characteristics of Central Hardwood Species,” defines silvicultural characteristics that define a particular species’ response to management, including shade tolerance, growth rate, site index, regeneration strategies, and injurious agents. This chapter discusses these characteristics and presents a description of the silvicultural characteristics of each species in the Central Hardwood Region. Each species includes general comments about its distribution and associates, ecological tools, such as tree planting, will need to be pursued by the reader.

Chapter 5 alone is worth the price of the book. Chapter 5 is, however, a clear, concise, and careful discussion of intermediate and regeneration cutting strategies, and injurious agents. This information is intended to provide a foundation for the application of the silvicultural practices described in Chapter 5.

The focus of Chapter 5, “Silviculture of the Central Hardwoods,” is almost entirely on the manipulation of existing ecosystems, using intermediate and regeneration cuttings, and injurious agents. This chapter provides excellent examples of their application in central hardwood forests. It is filled with good practical advice and is obviously based not only on a thorough review of the literature, but also on extensive experience by the authors. All forest land management professionals working with nonindustrial private landowners should understand the logic and philosophy of adaptive silviculture as presented by Professor Hicks. Chapter 5 alone is worth the price of the book.

Chapter 6, “Management of Central Hardwoods,” describes the processes and challenges involved in developing management plans for central hardwood forests. Important ecological terms, concepts, and principles are presented, those relevant to later discussions of the silviculture of central hardwoods. Emphasis is placed on the importance of understanding the processes and principles underlying the development of a forest management plan.