

## BOOK REVIEW

### *Second Growth: The Promise of Tropical Rain Forest Regeneration in the Age of Deforestation*

Robin L. Chazdon (2014) University of Chicago Press, Chicago, IL, U.S.A., 472 pages, \$125.00 (cloth), \$45.00 (paper), ISBN 9780226118079 (paper). Also available as E-book.

In *Second Growth*, Robin Chazdon conveys the message that tropical forests are “malleable” and should be helped to achieve their maximum potential for regeneration wherever possible, for the benefit of both humans and biodiversity. With the extent of secondary or regrowth forests now exceeding that of old-growth forests, in all tropical regions except South America, and the UN Climate Summit calling for restoration of more than 350 million hectares of degraded forest land worldwide, effective management of secondary forests has never been more important and Chazdon’s text could not be more timely.

The author examines secondary forests from every angle: historical, sociological, and ecological. Chapter 1 clarifies the terms used throughout the book, such as distinguishing between “selectively logged forests” and “second-growth forests on cleared land”—two very different states that are often confounded as “secondary forest.” Chapters 2

and 3 focus on lessons learnt from tropical forest history, presenting a complex picture of forests constantly changing over the last 10,000 years, due to climate and land use, with no fixed pre-human “starting point.”

Chapters 4–12 form the book’s core, exploring tropical forests’ responses to disturbance in intricate detail. Chapters 4 and 5 provide an overview of disturbance regimes and successional pathways. Then chapters 6–9 concentrate on specific types of disturbance. Chapters 10–12 take a more mechanistic view, examining functional traits, recovery of ecosystem functions, and the role of plant–animal interactions in regenerating forests. The book then looks ahead to future prospects for regenerating tropical forests, discussing reforestation and restoration in chapter 13, and exploring the socioecological aspects of regenerating forests in a human-dominated landscape in chapter 14. Chapter 15 concludes with a synthesis of the previous chapters and encourages readers to harness the power of forest regeneration. The book is punctuated with excellent Boxes, which explore projects and terminology in greater detail. These are deeply informative and always well-related to the adjacent text.

The result is a thoroughly researched, authoritative, and comprehensive volume, drawing on hundreds of cited publications—the References section occupies a quarter of the whole book; it is a resource of enormous value to any researcher

starting projects in tropical forestry and needing an entry point to the literature. The style is that of an annotated bibliography rather than an essay—perfect if you want to be guided toward a deeper exploration of a particular aspect of secondary forests, but perhaps a challenge for those who want to quickly grasp the basics. This exhaustive review style can sometimes make the densely written text appear a little confusing, contradictory, and repetitive. However, this may reflect the complexity of the subject matter and the stochastic nature of the real world.

This is an upbeat tour de force, which relentlessly drives home the message that “tropical forests are dynamic and resilient.” It takes a glass-half-full perspective that urges us to see partially disturbed forests not as “degraded,” but as “regenerating.” It should be on the book shelf of anyone starting out or already working on forest dynamics and restoration ecology in the tropics—graduate students designing thesis projects, their supervisors, the planners and implementers of REDD++ projects, managers of protected areas, etc. All in all, an original and powerful work, that is likely to remain the definitive textbook in its field for many years to come. An empty niche has been filled.

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