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Book Review

Lowman, M.D., T.D. Schowalter, and J.F. Franklin. 2012. *Methods in Forest Canopy Research*. University of California Press, Oakland, California, U.S. 221 pp. ISBN 978-0520-27371-9

Methods in Forest Canopy Research sets out with the stated intention of providing an overview of methods—organized as a recipe book—to provide insight into the development of methods rather than to serve as an authoritative text on the discipline, as with previous texts from the primary author. The book is organized into nine chapters that are meant to be self-standing entry points to the topic for any interested reader. It begins with a brief history and an introduction to the concepts of forest type and structure. Chapter 3 describes several canopy access methods, in an introductory way, before the meat of the book (Chapters 4-7) takes up the logistic and special challenges of conducting research in forests, specifically in the canopy. These chapters look at sampling units in a multi-scale, multi-dimensioned system; canopy conditions and within-canopy ecological processes; and canopyatmosphere and canopy-floor interactions. The background discussions and consideration for research come from an ecological study and ecosystems modeling context rather than a management thrust.

Chapters 4–7 are the strength of the text. While these central chapters certainly provide the reader with admonishments and specific challenges to engage a thoughtful approach and insight into the complications in forest canopy research, the text often falls short of specifics and depth of example to truly accomplish a firm grasp from which to initiate a project plan. Of course, the authors' stated goal is to inform and provide historic frames of reference and reasons for method development; not to provide a basis in executing any particular type of study. The text is certainly assisted by a choice to include multiple case studies as contributed highlights to the primary text. The central chapters and case study insets succeed in lending

flavor to the would-be student of canopy ecology, and illustrate how careful and collaborative the effort must be to make sound inferences in studies where convenient statistical sampling models are an exception to the field-collection reality.

There are clearly multiple voices contributing to specific chapters. A voice of expertise is always present; however, the textbook structure suffers from redundant points in successive chapters and thus iterative self-citations. To be fair, this also reflects the primary author's well deserved acknowledgments toward advancing the topic in the ecological research community. There is a conceit from the research ecologist focus that manifests in small ways of omission, particularly in the discussions of the genesis and advancement of climbing techniques for safe ascent and work in tree canopies.

Chapter 8 turns from methods toward a message on conservation and student recruitment, making an argument to focus on the discipline. Certainly, these are needed messages and do well for introductory students to get turned-on toward a research career direction. The final chapter is a brief five-page set of conclusions that do a fine job of summing up the text. The text, as a whole, is well-cited, and allows the reader to dig deeper into each topic as they occur in the text. I would certainly recommend Methods in Forest Canopy Research be available to students considering this area of study. However, students would not be able to rely on the book to provide as much detail as a bench text or technical document for the development of a strategy. Methods in Forest Canopy Research can be supported by other, more developed texts in the discipline, and thus serves as a light introduction to spark ideas more so than a true handbook of methods.

Reviewed by: Jason C. Grabosky Professor Department of Ecology, Evolution, and Natural Resources Rutgers University New Brunswick, New Jersey, U.S.