

BOOK REVIEW

D. J. Tongway, J. A. Ludwig: RESTORING DISTURBED LANDSCAPES. PUTTING PRINCIPLES INTO PRACTICE. – Island Press, Washington, Covelo, London, 2011, 189 p., ISBN-978-1-59726-580-5.

„The approach and procedure provided here will help you learn not only how to „read“ almost any terrestrial landscape, in a detailed but highly practical way, but also how to use that skill set for purposes of designing workable solutions to repair damage for your specific case, without getting locked into trying to apply restoration „recipes“ or off-the-shelf approaches that very likely may not work.“ This citation of the James Aronson’s foreword (its author is the editor of *The Science and Practice of Restoration Ecology Series* published by Society for Ecological Restoration International) illustrates very well fuzzy and/or weak boundary between real and useful state in science and applied science or innovative practice (Maděra 2009).

The book brings a five-step, adaptive procedure for restoring landscapes that is supported by proven principles and concepts of ecological science (all this in the sense of entitled credo: „A complex system that works is invariably found to have involved from a simple system that works. John Gall“). The text consists of four basic parts: I - A function-based approach to restoring disturbed landscapes, II – Case studies on restoring landscapes: Mine sites and rangelands, III – Scenarios for restoring landscapes: Mine sites, rangelands, farmlands, and roadsides, and IV – Monitoring indicators. Final items in the books are represented by References, Glossary, Further reading, the text About the authors, and Index.

The opening words of the Part I declare the main idea of the book: Functional landscapes are those that have a high capacity to provide important biophysical and socioeconomic goods and services and landscape functions include (1) maintaining basic processes such as capturing energy, retaining and using water, and nutrient cycling, (2) providing habitats for populations of plants, animals, and microorganisms, and (3) sustaining people by providing their material, cultural, and spiritual needs. Dysfunctional landscapes have impaired capacities for one or more of these functions. Restoring disturbed landscapes essentially means repairing damaged functions.

Part II is complementary to the previous Part I, exploring practical case studies such as bauxite mining in Northern Australia, gold mining in the East Kalimantan (Indonesia), Woodgreen station rangeland or Marra Creek rangeland in Australia. The authors want to emphasise (1) some „universal truths“ in restoration procedure to mine sites related to the landscape function-based approach, with the rule of consequential steps, without respect to differences among landscapes and climate, and (2) putting water-ponding technologies into practice that apply the principle of repairing physical and biological landscape processes.

Part III includes the authors choice of seven types of landscape damage in possible scenarios faced by restoration practitioners (see also Kovář 2011). Mine-site waste-rock dumps, tailings storage facilities, open-cut coal mining, rangeland with an overabundance of shrubs, renewing pastureland with application of tree

belts, farmlands near urban development, and verges after road construction. This set of case studies shows a range of representative examples, fulfilling the goal to illustrate how the proposed procedure is generally applied over a very wide range of climates and types of vegetation and soils.

Part IV arranges monitoring indicators defined previously as easily observed surrogates of difficult-to-measure attributes; a new view is added, that, while there are numerous indicators that can be used to evaluate landscapes, many of these conventional indicators only reflect changes in ecosystem structure and composition, such as the loss of plant species, and do not directly indicate processes. The conclusion for evaluating landscape restoration is that measures of vegetation composition, by themselves, do not provide the information about critical processes that practitioners need to design effective restoration technologies.

Restoring Disturbed Landscapes is a guide explaining the principles behind the adaptive landscape restoration procedure. It presents examples to demonstrate how putting these principles into practise leads to successful landscape restoration. The book is illustrated with photos (mostly black-and-white and, unfortunately, not of high quality) and figures that explain concepts and approaches outlined in the book. Sections of its text differentiate paragraphs designed specifically for restoration practitioners with limited training or experience in the field. It is made obvious where to start, what information is needed, and how to apply described information to the specific situations in the field.

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REFERENCES

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- MADĚRA P. (2009): Hochstetter, S: ENHANCED METHODS FOR ANALYSING LANDSCAPE STRUCTURE.** Landscape metrics for characterising three-dimensional patterns and ecological gradients. Femerkundung and angewandte Geoinformatik, Band 6, TU Dresden Rhombos-Verlag Berlin, 2009, 182 p., ISBN 978-3-941216-13-6. Paperback, 32.8 EUR. - Journal of Landscape Ecology, 2(2): 74-75.

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