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THE EVERGLADES HANDBOOK

Review of Lodge, T. E. 2010. *The Everglades Handbook: Understanding the Ecosystem*. 3rd Edition. CRC Press.

Given the astonishing breadth and depth of scientific activities in the Everglades, Tom Lodge once again illustrates his savvy as an articulate science writer in condensing the complex dynamics of this remarkable ecosystem in what can still, even with significant 3rd edition additions, be considered a “handbook.” While additional detail can be found in the numerous pages of larger compendiums on the Everglades, most of these require a fortified bookshelf, whereas this active Everglades researcher is hard-pressed to find much missing from the *Handbook*. As with previous editions, the 3rd accompanies me to my lab, office and sabbatical retreats and is one that I encourage all of my incoming graduate students and ecologically-g geared undergraduates to obtain. The book is used not only as a textbook in undergraduate courses on South Florida ecology and general wetland biology, but also regularly referenced by researchers and policy-makers. Rather than summarizing other voluminous material on the subject it provides a unique window into and insightful analysis of current Everglades science.

The continued practical utility of this book stems to great degree from the scale to which its author, Tom Lodge, is imbedded in the active research and policy-making community in South Florida. This is evidenced in the preface where Dr. Lodge describes dictating the book to Marjorie Stoneman-Douglas in order to receive her feedback. Her introduction provides a rare glimpse of the early days of Everglades discovery and the challenges faced in protecting it from unyielding development. Similarly, Dr. Taylor Alexander’s remembrances of the historical Everglades and personal adventures with notable scientists are at the same time enchanting as informative. Lodge’s authentic inquisitiveness about the Everglades has indeed facilitated friendships and collaborations with scientists and environmental advocates that have enhanced the profundity of his writings.

Topically, the *Handbook* covers disciplines ranging from geology, climatology, hydrology, ecology, anthropology to conservation biology in a conventional order that is easy to follow. These elements are imbedded in historical context that facilitates understanding of the current ecosystem and the ways in which it can be restored. Frequent etymological histories are similarly useful; for instance, the origin of “Everglades” is described from its apparent misreading of “River-glades” written on an early map, which conjures up useful images of the riverine character of the early Everglades. Another helpful thread throughout the habitat portion of the book is the repeated appearance of long-term hydrographs, aiding comprehension of the degree to which water flow is naturally and artificially regulated in this system.

The *Handbook* is a useful reference medium. For explorers of the Everglades, the *Handbook* offers a supplement to a standard field guide, including not only floral and faunal lists but also where, how and when to find particular habitats, organisms and behaviors. For students, the *Handbook* provides a catalogue of important figures, including historical photos, carefully-labeled maps, habitat cross-sections, and color-coded succession and food-web diagrams, all accompanied by descriptive legends that portray a wealth of

information. For researchers, aside from the exhaustive literature review, there are substantive tables, timelines and footnotes throughout that provide worthwhile detail. For all audiences, particularly policy-makers, the 3rd edition includes an excellent overview of human-modifications of the Everglades landscape and a clear summary of the goals of restoration. Particularly valuable is the chronology of anthropogenic changes, the explanation in common language of legal battles ensnaring the restoration process, a condensed and clear section on the urgency of each major restoration project and an exceptionally insightful commentary on the threats to successful restoration imposed by single-species management laws. In addition, Lodge makes the point toward the end of the book that correct ecosystem management can only be attained by understanding the whole interconnected hydroscape. The new section on peripheral ecosystems from Charlotte Harbor to the Biscayne Wetlands serves an important purpose in this regard.

There is an enormous breadth, depth and dynamism in Everglades science admirably reflected in this book. For this reason, it's painful to reveal "weaknesses" as it risks sending any future edition to the fortified Everglades bookshelf. If material were identified for sacrifice, perhaps that space could be replaced by additional discussion of the distinctiveness of the Everglades in the context of other wetland types. The map of "sister" karstic wetlands in the Caribbean is populating in a way that, while challenging the "uniqueness" of the Everglades, provides a wonderful comparative context for a deeper understanding of these unusual habitats. Rapid advances are also being made in the importance of groundwater connectedness in controlling hydrologic processes in this system, the ways in which water quality history are revealed in ecosystem dynamics and the patterning of nutrient sources and sinks (such as tree islands) in the landscape.

In summary, the *Handbook* reviews a vast literature in a condensed format that remains a compelling read. The book is filled with exciting personal experiences and fabulous photographs (mostly taken by the author) that enlighten the senses. The author suggests his motivation in writing this book in the statement: "*the more you know about a habitat the more you love it.*" As an Everglades researcher away from the ecosystem on sabbatical, the book certainly met this mark in enticing me back home and imagine it must be even more alluring for those newly introduced to the wonder of the Everglades.

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