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Book Review: *Ecology of the Shortgrass Steppe: A Long-Term Perspective* Edited by William Lauenroth and Ingrid C. Burke

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Ecology of the Shortgrass Steppe: A Long-Term Perspective. Edited by William Lauenroth and Ingrid C. Burke. New York: Oxford University Press, 2008. xiii + 522 pages. Illustrations, maps, references, index. \$69.95 cloth.

Ecology of the Shortgrass Steppe represents the newest in a series of books detailing the Long-Term Ecological Research (LTER) sites found throughout the United States. The book's editors, associated with the on-going interdisciplinary research at the Central Plains Experimental Range and nearby Pawnee National Grasslands, bring 40 years of work to understanding this unique ecosystem.

The book proceeds from general overview chapters about the context, climate, soils, and plant community of what the editors call the shortgrass steppe (shortgrass prairie) to more detailed chapter reviews of its disturbance regime, faunal communities, primary production, organic and gas exchanges, grazing, and finally its future.

Large numbers of scientific papers are cited and used by nearly four-dozen researchers, all of whom have published detailed examinations of the shortgrass steppe. These chapters review and, most importantly, synthesize its key ecosystem structures, their function, and change over time and space. This approach gives the reader direct access to ideas that might have taken many papers and dozens of years to elucidate. For example, the intermediate texture hypothesis has been examined and found to hold in this ecosystem; the trophic web of soil microorganisms and their role in nutrient cycling has been detailed (and diagrammed); and an understanding of the importance soil organic matter plays in those areas broken for wheat but abandoned in the 1930s that may never soon return to dominance by blue grama (*Bouteloua gracilis*) has been determined.

Detailed graphs, maps, diagrams, and photos help the reader understand the material being reviewed, though minor flaws do appear. For example, the arcane term *steppe* is never defined or contrasted and compared with the more widely used term *prairie*. Indeed, it is a bit ironic that the dramatic color cover photo has its foreground dominated by Plains soapweed (*Yucca glauca*), but its importance is never discussed or is the species mentioned anywhere in the book. The last chapter, “The Future of the Shortgrass Steppe,” chops through to the book’s conclusion most likely because of the number of its perspectives (land-use change, invasive species, conservation strategies, global change, and disease) and authors (seven), but also because it lacks detailed research upon which to draw.

The next ecological book written on the shortgrass steppe will need to focus on important human-landscape interactions as the urban conflagrations of Cheyenne, Fort Collins, Greeley, Denver, Colorado Springs, and Pueblo continue their spread eastward. In the meantime, this book is a “must-have” operating guide for understanding this ecosystem and should be required reading for any social scientist trying to describe or explain the region’s history, depopulation, land use changes, and other human responses backdropped by the unique shortgrass steppe. **Richard K. Sutton**, *Department of Agronomy and Horticulture and the Program in Landscape Architecture, University of Nebraska–Lincoln*.