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Review: Ecology and Ecosystem Conservation

By Oswald J. Schmitz

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Schmitz, Oswald J, *Ecology and Ecosystem Conservation*. Washington: Island Press, 2007 166 pp. pbk. ISBN 13 978-1-59726-049-7.

This is a textbook designed and targeted to meet the needs and interests of undergraduate students in environmental studies and/or conservation professionals without a basic education in ecology. Even long experienced conservation professionals would greatly benefit from reading it.

Schmitz writes in a clear and easy-to-read style. Where appropriate, he makes excellent use of diagrams. More importantly, virtually every principle is illustrated with one or more on-ground examples. He also places a small text box on the edge of many pages, each containing a paragraph highlighting a key point from the adjacent text. As an example, the first of these reads:

"Any collapse in ecosystem functions, including collapse due to deforestation and fragmentation, stands to reverberate through the market economy, in turn, affecting human well-being. Therefore, slogans such as "jobs versus the environment" that pit putative economic progress against measures to conserve ecosystem functions may be misguided. Ecosystems ultimately undergird and drive our economic stability" (p.2).

The very complexity of ecological systems and hence the difficulty of establishing cause-and-effect relationship mean that many such contests are determined in the short term because the evidence of probable impacts is not readily available. Many impacts may take decades to become evident, and modern research programs are simply not often geared to long-term assessment. Further, the life cycle of corporate memory is generally even more transitory.

However, the author reasonably does not try to deal with the politics of long-term decision-making, but as an ecologist, retains a tight focus on the nature and meanings of ecological science and evidence. It is left to the conservation professionals to find ways in which we can use that science to try and ensure more effective conservation strategies.

Ecological science must also be called upon to guide the conservation response to the impact of climatic change upon biodiversity - an issue that is rapidly becoming one of central concern. Schmitz points to a problem in the common slogan cited by protected area managers and advocates of "benefits beyond boundaries", normally cited to describe the economic and other practical values which may accrue to communities outside of the park boundaries. In fact, the biodiversity values of protected areas can usually only be fully attained when the protection of the ecosystem also extends outside of the boundary.

A final example of the important insights that ecological understandings may provide is that of habitat restoration strategies. An understanding of what are known as priority effects is vital to maximize restoration by planting or re-introducing species in the appropriate sequence so that we reproduce the natural processes of ecosystem development and growth over time. In short, this is a timely book written with great competence. It should be compulsory reading for natural system managers and decision makers.

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