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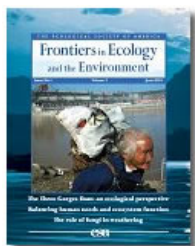
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Reviews

Land-use choices: balancing human needs and ecosystem function

Ruth S. DeFries^{1,2}, Jonathan A. Foley³, and Gregory P. Asner^{4,5}

¹Department of Geography, University of Maryland, College Park, MD (E-mail: rdefries@geog.umd.edu)

²Earth System Science Interdisciplinary Center, University of Maryland, College Park, MD

³Center for Sustainability and the Global Environment, Gaylord Nelson Institute for Environmental Studies, University of Wisconsin-Madison, Madison, WI

⁴Department of Global Ecology, Carnegie Institution, Stanford University, Stanford, CA

⁵Department of Geological and Environmental Sciences, Stanford University, Stanford, CA

Conversion of land to grow crops, raise animals, obtain timber, and build cities is one of the foundations of human civilization. While land use provides these essential ecosystem goods, it alters a range of other ecosystem functions, such as the provisioning of freshwater, regulation of climate and biogeochemical cycles, and maintenance of soil fertility. It also alters habitat for biological diversity. Balancing the inherent trade-offs between satisfying immediate human needs and maintaining other ecosystem functions requires quantitative knowledge about ecosystem responses to land use. These responses vary according to the type of land-use change and the ecological setting, and have local, short-term as well as global, long-term effects. Land-use decisions ultimately weigh the need to satisfy human demands and the unintended ecosystem responses based on societal values, but ecological knowledge can provide a basis for assessing the trade-offs.

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