

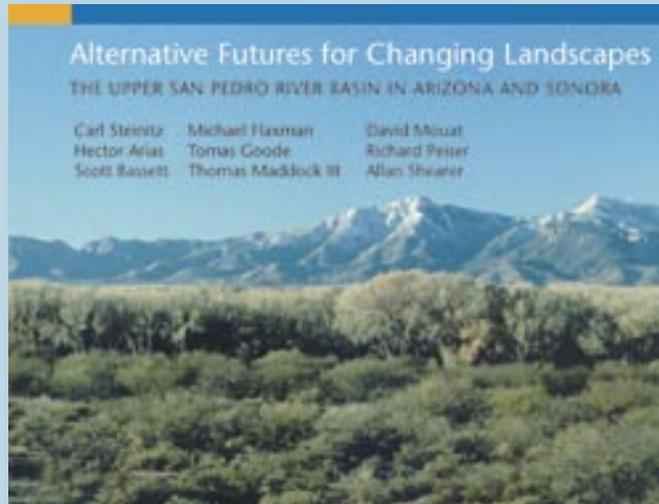
Alternative Futures for Changing Landscapes: The Upper San Pedro River Basin in Arizona and Sonora

by Carl Steinitz, Hector Arias, Scott Bassett, Michael Flaxman, Tomas Goode, Thomas Maddock III, Dave Mouat, Richard Peiser, and Allan Shearer. Island Press, \$60.00 (hbk), \$30.00 (pbk)

Reviewed by **Mary Waterstone, Ph.D.**
– Department of Geography and Regional Development, University of Arizona

In this multi-authored volume, Steinitz and his colleagues from Harvard University Graduate School of Design, the Desert Research Institute, the University of Arizona, Instituto del Medio Ambiente y el Desarrollo Sostenible del Estado de Sonora, the U.S. Army Training and Doctrine Command, and the U.S. Army Engineer Research and Development Center present a case study of a geographic information system (GIS)-based tool, “alternative futures planning,” applied to the upper San Pedro River Basin in Arizona and Sonora. This scenario-generating approach is described as a mechanism to help “local planners predict the consequences of the region’s potential alternative futures, and therefore improve their foresight in choosing among them.”

The volume provides an overview of the alternative futures approach, a description of how the research was organized and data obtained, a brief natural and cultural history of the Upper San Pedro region, an inventory of issues to be investigated through the approach, identification of the three main types of scenarios generated in the research (each with several subtypes), and an assessment of potential future impacts under the various scenarios in terms of land use development, hydrology, vegetation, landscape ecology, species and habitats, and visual preferences. The authors summarize these possible impacts, subject them to several sensitivity analyses, and present their conclusions.



The volume is heavily illustrated with photographs, charts, tables, and various GIS-generated maps and projections. While apparently comprehensive at first glance, on closer inspection the book brings to mind an old advertising slogan: in this case, “looks great, less filling.” The book suffers from two serious problems. First, there is no clear sense of who the intended audience is or should be. The second related issue is that it is difficult to tell what the reader is to make of the materials presented. After nearly 170 pages of scenario generation, data development and analysis, modeling, photograph reproduction, mapping and other activities, the authors conclude that all of the scenarios will have negative effects on the region. They also conclude that the most serious negative effects will take place under the suite of so-called ‘open’ scenarios (those in which economic development is maximized), the least serious effects under ‘constrained’ scenarios (those in which environmental regulation and more stringent development controls are implemented), and effects somewhere in between under ‘plans’ scenarios (in which current trends continue, albeit with some manipulation of population projections). As the authors rightly observe, “the findings in this study are not unexpected.” So an inevitable question for a reader is, Why bother with all this?

One response might be that the book is an illustration of the methodology itself, rather than an elaboration of substantive findings about the San Pedro case. If

this is the intention (and other researchers are the audience), the book is too skimpy on the nitty-gritty details to allow for an effective assessment of the strengths and weaknesses of the approach, such a discussion would be a helpful addition. Another potential answer is that this is simply the first phase in a planning process, and the intended audience comprises decision makers and other “stakeholders” in the region. If so, the authors

should have provided a series of recommended next steps, as well as a set of suggestions regarding the ways in which the scenarios could be made more realistic and relevant. For example, the current conditions in the scenarios are almost entirely binary oppositions rather than the more nuanced trade-offs that typically govern actual decision-making. The most fundamental of these “either/or” conditions is the simplistic opposition of development and environmental quality. Clearly it is possible to have shades of both under proper circumstances, and more useful scenarios would account for this. Also in this regard, the authors omit issues of power and politics from the analysis (covering it up by the use of the banal term “stakeholder,” which flattens out very large differences in power and authority) as well as economics. In fact, as the authors state, “Complex assessment of costs and benefits related to policy decisions is beyond the scope of this study.” Again, this reader is forced to ask why.

Scenario generation can be a powerful tool for framing future choices. In this case, however, the authors seem to have been beguiled by the GIS technologies themselves (as well as the seductive products of these approaches), and let the most important and interesting questions facing this sensitive region slip through their fingers.

Visit www.islandpress.com.