



Winter 2002

The Basin of Mexico: Critical Environmental Issues and Sustainability, by Exequiel Ezcurra, Marisa Mazari-Hiriart, Irene Pisanty, and Adrian Guillermo Aguilar

Robert G. Varady

Recommended Citation

Robert G. Varady, *The Basin of Mexico: Critical Environmental Issues and Sustainability*, by Exequiel Ezcurra, Marisa Mazari-Hiriart, Irene Pisanty, and Adrian Guillermo Aguilar, 42 Nat. Resources J. (2002). Available at: <https://digitalrepository.unm.edu/nrj/vol42/iss1/12>

This Book Review is brought to you for free and open access by the Law Journals at UNM Digital Repository. It has been accepted for inclusion in Natural Resources Journal by an authorized editor of UNM Digital Repository. For more information, please contact amywinter@unm.edu, lsloane@salud.unm.edu, sahrk@unm.edu.

are needed to allow movement between the protected areas. Empirical data from this study suggests that protected zones should be at least as large as the San Andres Mountains chain, about 3,000 km sq.

The full details of this study add greatly to the richness and fabric of human understanding of an illusive predator, the desert puma. Hopefully this information will be heard. Scientists Logan and Sweanor give us all the elements of an extraordinary adventure story as well. It deserves the wide popular readership enjoyed by the best of the genre of popular animal stories. All that is needed is an old-fashioned storyteller.

Bret Snyder

MS, Stanford University and DVM, Colorado State University
Head Veterinarian, Albuquerque Biological Park, 1977–2000
Continued affiliation with the Biological Park as a consultant

The Basin of Mexico: Critical Environmental Issues and Sustainability. By Exequiel Ezcurra, Marisa Mazari-Hiriart, Irene Pisanty, & Adrián Guillermo Aguilar, United Nations University Studies on Critical Environmental Regions. New York: United Nations University Press, 1999. Pp. 216. \$25.95 soft cover.

When I was growing up in New York City in the late 1950s, I lived in the world's most populous metropolitan area. But though New York still ranks high, it was overtaken long ago by Tokyo, Sao Paulo, and Mexico City—cities that unlike New York have grown enormously over the past decades. While the number of people living in greater New York has remained steady at about 16 million, the other three cities now have six times as many inhabitants as in 1960. Those cities illustrate what the authors of this volume on Mexico City term "metropolitanization" and "hyperurbanization," important trends among nonwestern cities of explosive growth in population and area. Mexico City embodies this phenomenon and for that reason provides an excellent case for evaluating the relationships of such megacities to their environments.

The Basin of Mexico: Critical Environmental Issues and Sustainability, by Exequiel Ezcurra, Marisa Mazari-Hiriart, Irene Pisanty, and Adrián Guillermo Aguilar, is one of a family of recent and forthcoming books on critical environmental regions of the world published by the United Nations University Press. The region in question, the large water basin that includes Mexico City, is the only urban zone among nine areas of the globe targeted for study by the editors of the series: Jeanne X. Kasperson, Roger E. Kasperson, and B. L. Turner II. It would be difficult to find a metropolis with better *bona-fides* than Mexico City, where 20 percent of the nation's residents live on just 0.03 percent of the real estate. It would

be as difficult to find more appropriate authors for such a work. All four are Mexican nationals with strong associations to Mexico City and thorough familiarity with the region's environment and key issues. Ezcurra, since his work on this volume, has become the head of his nation's national ecological institute, INE.

To evaluate the effects on the environment of this massive infusion of humans, the authors employ an approach they term "state-pressure-response" (put another way: environmental conditions, drivers of change, and impacts and adaptations). The chief aim of their investigations is to gauge the sustainability of the basin's water supply, but Ezcurra and his coauthors also address stress-related degradation of the entire ecosystem. They observe in the process that Mexico City's nearly limitless growth has threatened not only its own environment but nature and resources elsewhere in the country as well. Is it possible, they ask, to sustain such growth in the name of efficiency (the main benefit of urbanization) without sacrificing the environment?

The authors assess first (in Chapter 2) the physical state of the basin—from geological times through the era of early human settlements, the establishment of indigenous civilizations, the advent of European colonization, and the beginnings of the present, modern city in the late nineteenth century. This chapter offers an authoritative inventory of pre-colonial vegetation and fauna, and a short discussion of the impacts of tectonic forces, agriculture, and early urbanization on species diversity and water availability. In the course of this discussion, the authors reject the common myth that indigenous peoples necessarily employ sustainable modes of resource exploitation.

In Chapter 3, once more adopting historical methods, the authors look at socioeconomic developments, this time limiting their review to the last century, when the most significant changes occurred. They look deeply at settlement trends by examining patterns neighborhood by neighborhood and find that the metropolitanization of Mexico City has featured very selective expansion. Not all parts of the city have grown; in fact, over the past decades growth has been concentrated in new areas—that is, recently-incorporated land parcels. Since 1960, Mexico City's area has grown by 163 percent, with much of the expansion encroaching on previously vegetated, sometimes forested, zones. Moreover, the authors' examination of the city's human and spatial growth yields a counterintuitive revelation: in spite of the supposition that aggregating populations in cities is economically efficient, Mexico City's population growth rate has vastly outpaced the city's percentage contribution to the national economy. And without an overarching economic rationale, environmental costs are even harder to justify.

The next three chapters (4, 5, and 6) are the heart of the book. In the first of these chapters, the authors study the major changes in the

basin caused by urbanization—to the vegetation, water resources, and air quality, and with regard to the rising amount of waste that is being generated. Chapter 5 identifies the principal driving forces of those changes: demographics, government policies, technological capacity, and economic development. In Chapter 6, the authors place the past century's turbulence in the context of the basin's vulnerability. Most notable among these characteristics are Mexico City's severely limited groundwater supply (the basin's natural capacity can provide water for only 8.5 million people), its concomitant struggle to maintain water quality, its notorious air-pollution problems, its loss of open space, and the insufficiency of its waste-treatment infrastructure.

In what is the book's punchline, Chapter 7 gauges the system's responses to the related assaults of population growth, economic expansion, and overexploitation of resources, especially water. The authors begin by dutifully recounting the various government measures to deal with Mexico City's numerous environmental challenges. But led by Ezcurra, long a proponent of harnessing scientific inquiry and nongovernmental (NGO) involvement to promote conservation, the authors write forcefully about the influence of the informal sector on environmental decision making. In Mexico, they note, the 1992 Earth Summit ushered in a period of enhanced awareness, invigorated networks, and rising activism. In view of the advent of NGOs and citizen-driven efforts—even in the face of daunting and worsening problems—the authors allow a tentatively optimistic note to seep through their final assessment.

The Basin of Mexico is the result of the confluence of four happy ingredients: a significant topic in search of analysis, an ideally-suited team of investigators, a tailored methodological approach, and careful attention to detail and perspective. The result, unsurprisingly, is a highly successful volume that at once serves not only the stated audience of the series—scholars of the world's critical regions—but as well experts on Mexico City, students of modern urban processes, those interested in the environmental impacts of intense population growth and industrialization, and anyone with a fascination for the world's great cities.

Robert G. Varady
Udall Center for Studies in Public Policy
The University of Arizona