The following reviews express the opinions of the individual author(s) regarding the value of the book’s content for Journal of Wildlife Diseases readers. The reviews are subjective assessments and do not necessarily reflect the opinions of the editors, nor do they establish any official policy of the Wildlife Disease Association.


Review by Thomas M. Yuill

Linking biodiversity change and human health presents a formidable challenge that this book attempts to address. Integration of multiple disciplines in the social and natural sciences is involved. The task is complicated by the newness of the attempts to accomplish that linkage, with limited published literature upon which to draw. The job is further complicated by the decision by the symposium organizers to adopt the World Health Organization’s definition of human health, one that encompasses human physical factors, overall well-being, and quality of life—a very broad net to cast. The book grew out of a week-long workshop in 2005 on biodiversity, health, and the environment. The result is that many themes covered in the book address health, broadly defined, and the environment, with only a tenuous connection to biodiversity per se in several chapters. The term biodiversity is not defined until Chapter 8, halfway through the book, so one wonders what the authors of several of the previous chapters meant when they referred to biodiversity. Thus, titling the book Biodiversity, Health, and the Environment would have more accurately reflected its content.

The book is divided into an introductory chapter and five parts. The introductory chapter points out the impacts of impoverished biodiversity on ecosystem structure and function, affecting human well-being. The authors posit that many health-biodiversity linkages are subtle, and that few rigorous scientific studies explicitly address biodiversity and human health. The thematic stage is set for the book’s content with four areas termed “human health functions”: ecosystem services (clean air, water, and soil), biological control of diseases, genetic medicinal resources, and quality of life (including maintenance of mental health).

Part I is called “Biodiversity and Human Health: Synergisms, Trade-offs and Road Map for the Future.” Chapter 2, with 12 authors, is entitled “Biodiversity, Food Provision and Human Health,” and begins with data on inequitable food availability around the world and the relation of abundant Western diets to disease. The authors explore direct and indirect connections between biodiversity, food provision, and human health, from the perspective of ecosystem functioning, food production, and their effects on human health. The role of harvesting wild populations, grazing animal systems, aquaculture, terrestrial crop production, and intensified animal production systems in food production are discussed from an ecosystem vantage point. They conclude by pointing out that meeting human food requirements in the future will require sustainable production systems. Chapter 3, with 8 authors, is entitled “The Impact of Anthropogenic Stress at Global and Regional Scales on Biodiversity and Human Health.” The examples given therein illustrate the complexity of the relationship between anthropogenic stress of ecosystems and the loss or gain of biodiversity that may directly improve or adversely affect human health. Several infectious disease examples are provided. There is a brief section on noninfectious contaminants and pollution, with good examples of biodiversity and health effects that could have been considerably expanded. Chapter 4, with 8 authors, is entitled “Biodiversity and Human Health: The Decision-Making Process.” The authors make the case for the need to incorporate long-term health considerations into decisions that result in biodiversity change. They stress the importance of decision-making models that employ a variety of scenarios—that not only make use of economic techniques, but also take into account social, psychological, and biological criteria. They point out the institutional barriers to implementation of actions that preserve biodiversity and provide two case studies to illustrate the problem. The difficulty of assessing quality of life, given the variability