

**Charles Perrings**

**The economic value of healthy ecosystems: 'optimizing' biodiversity conservation**

There are many reasons for being interested in the health of ecosystems, but for many of us the most compelling is that it pays us to do so. All ecosystems have been impacted by people to some degree, and many have been completely reconstructed to make them more valuable to people. Few rangelands, forests, farmlands or cities bear any resemblance to the ecosystems they have replaced. But they are still ecosystems, and their capacity to deliver the services people want depends on their ability to function effectively over a range of environmental conditions. Conserving the species that make this possible is critical to the supply of all ecosystem services—from the production of commodities, to the maintenance of landscapes valued by people for ethical, religious or aesthetic reasons, and to the protection of the environmental conditions required for human, animal and plant health. Markets have signaled the importance of some valuable ecosystem services (e.g. foods, fuels, fibers, pharmaceuticals, freshwater) leading people to conserve the species needed for their production. But there are no markets for other equally valuable services (e.g. environmental public goods such as pollution buffering, climatic regulation or the control of invasive pests and pathogens damaging to human, animal or plant health). Where there are no markets or other signals for valuable ecosystem services, people have no incentive to conserve the species needed for their production. If such services are produced on private lands, the role of government is to provide appropriate incentives, whether through the tax system or through well-designed systems of payments for ecosystem services. If such services are produced on public lands, the role of government is to secure their provision through conservation so as to best meet the interests of society.

## BIO

**Charles Perrings** is a Professor of Environmental Economics at Arizona State University, where he directs the Ecoservices Group—a research (and research training) group that focuses on ecosystem services. Previous appointments include Professor of Environmental Economics and Environmental Management at the University of York; Professor of Economics at the University of California, Riverside; and Director of the Biodiversity Program of the Beijer Institute, Royal Swedish Academy of Sciences, Stockholm, where he is a Fellow. He was the founding editor of the Cambridge University Press journal, *Environment and Development Economics*, and he remains on the editorial board of this and several other journals in environmental, resource and ecological economics, and in conservation ecology. He is Past President of the International Society for Ecological Economics, a society formed to bring together the insights of the ecological and economic sciences to aid understanding and management of environmental problem, and has published 12 books and edited volumes and around 150 scientific papers in this field. Most recently, he served on the PCAST Working Group on biodiversity and ecosystem services whose report to President, *Sustaining Environmental Capital: Protecting Society and the Economy*, was released in July.