

GENERAL CONSERVATION

The Earth in Transition: Patterns and Processes of Biotic Impoverishment edited by George M. Woodwell (Cambridge University Press, Cambridge, 1991, ISBN 0 521 39137 7, 530 pp., HB £30, \$49.50)

This book, based on a conference at Woods Hole Research Center in October 1986, brings together some 26 papers from leading experts on the impact of change on natural systems.

Past changes on our planet often have been beneficial to life, judging by the diversity of organisms that inhabit earth. But the current tragic loss of species is transforming a highly productive, self-maintaining landscape of great versatility and considerable resilience into a barren landscape of limited potential for supporting life (including people). The irony is that many people see the transformation of highly diverse natural ecosystems into simpler ecosystems as 'development'.

In his introduction to this useful volume, George Woodwell points out that consideration of the climatic changes now threatening us only confirms a fundamental relationship: the human habitat, despite the spread of human influences, remains dominated by natural communities. And, although these communities may not be the richest source of succour for the current human enterprise, they have the advantage that they develop and maintain themselves indefinitely without human effort. This book attempts an objective appraisal of the patterns and processes of biotic impoverishment. With the exception of Robert Reppeto's article on incentives

for sustainable forest management, the book tends to avoid political and economic issues, even though these are recognized as the fundamental causes of change.

Most readers of *Oryx* will not be surprised by the findings presented, which reconfirm that human activities are replacing complex, multi-species systems with much simpler systems dominated by cosmopolitan species.

The book does contain some fresh perspectives. F. Herbert Borman observes that in New England the value of the land is seen to lie not in the life that it supports or in the energy that it could produce, but in mere space. House plots, highways, paved commercial sites and smallholdings of various types are none of them dependent on energy from the land, but rather energy from distant (and unsustainable) sources. He concludes with a plea for maintaining redundancy in forest ecosystems and says it is injudicious and shortsighted to sacrifice ecosystem redundancy for short-term economic objectives.

Ironically, some authors, such as Margaret Davis, suggest that the correction to the human impacts so starkly described in this book are yet more human interventions. Others, such as Michael Oppenheimer, suggest that biotic impoverishment is a threat to economic and political security as serious as war itself. Agreeing with most authors in the volume, he concludes that repairing a troubled world will require fundamental alterations in many aspects of human behaviour. His solution: more research, which seems over-simplified, self-interested, and of borderline relevance to the urgent problems he outlines.

Robert Reppeto holds out hope that the economic gradi-

ents that are so effective in destruction can be adjusted to favour preservation and management for long-term use of forests. The challenge remains to establish both the technical and social need and the political strength to deflect avarice and the government corruption that feeds it. This will not happen automatically and Donella Meadows concludes the book with some helpful suggestions on how to squeeze the system. She points out that scientists need to take much more responsibility for passing their information to the public, simplifying their message if necessary. They need to tell the public that renewable resources must be managed not from their stock level but from their rate of removal; that a single sample does not constitute a trend; and that a sudden visible stress may appear only because of the presence of long-term invisible stress. Scientists also need to debunk some of the myths that guide our consumer society, such as 'economic growth is necessary and good'. She concludes by saying that 'we should never fail in economic discussions to reiterate – without the slightest apology – that nature has its own worth far beyond the feeble calculus of human purposes. Under the spell of economics, society keeps forgetting what is really important. We have to keep remembering'.

Jeffrey A. McNeely

Rebirth of Nature by Roger L. DiSilvestro (John Wiley & Sons, Chichester, 1992, ISBN 0 471 253208 8, 275pp., HB £21.95)

Roger DiSilvestro is an award-winning American author and chief staff writer for the prestigious National Audubon Society television specials, for which this book is the compan-