

vertebrate survival and persistence in human-altered landscapes than is forest fragmentation and connectivity.

The book is stated to be aimed at helping "... resource managers, planners and scientists ...". With the broad scale changes taking place throughout the world as a result of habitat loss and inevitable fragmentation, *Forest Fragmentation: Wildlife*

and *Management Implications* is also a useful reference text as well as a case study text for advanced students of environmental management and advanced ecology. Although the text is centred on processes present in the Pacific Northwest, fragmentation, and the consequences of fragmentation are similar throughout the world, thus the content and concepts of the text are applicable and valuable throughout other regions, including Australia and the Pacific.

Nature's Services: Societal Dependence on Natural Ecosystems

Gretchen C. Daily, 1997.
Island Press, Washington, DC.
ISBN 1-55963-476-6.
Pp. xx and 392, 12 Chapters.
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UNPRECEDENTED growth and global expansion of human populations over the last 100 years has resulted in the widespread degradation of natural ecosystems. Of equal concern is the basic failure of people to appreciate the ecological, economic and social values of the services natural ecosystems provide and the ultimate impacts of their loss.

Nature's Services was initiated by ecologists following a dinner discussion regarding this lack of public concern. The decision was made to assemble a group of natural and social scientists to combine their knowledge of ecosystem services and their value to society, and to report this information to an educated audience. The resulting text consists of contributions by 32 scientists including Paul Ehrlich, Gretchen Daily and Norman Myers. Although from diverse backgrounds, the authors were united in their approach, all believing "... while civilization is presently careening along on a dangerous course, its fate is not sealed", that "... society is poorly equipped to deal with environmental tradeoffs," and although much is known about the importance and value of ecosystem services "... the information has neither been synthesized nor effectively conveyed to decision makers or to the general public."

The book is divided into five sections. An introduction briefly describes what natural services are, the impacts humans have had on them, and what may happen if we continue to abuse global ecosystems. Part One provides a detailed account of how ecological services and goods are valued and outlines some of the difficulties that arise when valuing "free" goods. Parts Two and Three describe the services provided by different components of the natural environment, evaluating each from social and economic perspectives and providing ideas of the costs and complexities of replacing these services with manufactured equivalents. Case studies in Part Four outline our dependence on natural services and the day to day interactions between humanity and the environment. The concluding section presents an overview of major findings and discusses the need

to identify, value, monitor and ultimately safeguard ecosystem services. Each section has a concise introduction and most chapters present a conclusion and extensive reference list. An eighteen-page index and use of clear headings and sub-headings make navigation of the wealth of information presented in *Nature's Services* quick and simple.

The ecological information presented in *Nature's Services* is simple, clear and easy to understand, even without an environmental background. The authors cover a wide variety of environmental services, many of which may surprise some people. Some, such as those provided by pollinators and soil microbes, are described in great detail, the text also covers general functions of large biomes such as oceans and forests.

The chief aim of the book was to "... characterize the ways in which earth's natural ecosystems confer benefits on humanity ...". To do this *Nature's Services* addresses the long-held belief that environmental goods are free and the resulting dilemma that society does not protect that which has no economic value. Environmental economics is a major focus of *Nature's Services*. The chapters presented in Part One are therefore invaluable as they introduce a range of issues pertinent to the valuation of environmental services. However, the text in this section is often quite technical, weighed down by extensive use of numbers, percentages and monetary values and may confuse readers with little or no economic background. A comprehensive glossary of economic (and environmental) terms would enhance the effectiveness of these chapters.

In presenting works by economists, social scientists and ecologists the reader is made to consider all value issues as parts of a whole rather than in isolation. Through this, the book succeeds in dispelling the "free good" myth, illustrating not only that ecosystems are invaluable in supporting world economies but, also provide the most basic needs of society.

Although social values were considered, *Nature's Services* focuses heavily on economic issues. It is a sad indictment of society when the people most aware of the need to preserve ecosystems feel they can most effectively argue their case through economics. Natural things and places have intrinsic values that cannot be bought or sold. Have people forgotten this? We hope not.

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