

BOOK REVIEWS

Environmental Planning, Second Edition

BY PAUL SELMAN

xii + 308 pp., 23.0 × 15.4 × 1.8 cm, ISBN 0 7619 6460 6
paperback, GB£ 17.99, London, UK: Sage Publications Ltd, 2000

The first edition of *Environmental Planning* was a valuable book. This much-extended and improved edition is an impressive book. It provides an informed and informative overview of the broad field of environmental planning in the United Kingdom. While essentially a text for environmental studies, geography, town and country planning and other students concerned with land management, it will be dipped into by practising professionals anxious to remind themselves what, for example, nitrate-sensitive areas are.

Paul Selman interprets environmental planning very broadly; he goes well beyond the limits of the statutory town and country planning system and even beyond the powers of persuasion of most practising town planners. Unfortunately, he does not address sufficiently an important recurring debate, now couched in sustainability terms, namely the limits of the use of town and country planning powers to control environmental impacts such as air pollution. Nevertheless, the chapters on planning and managing the natural-resource base (which includes agricultural, forestry, conservation and mineral planning), on landscape ecological planning (including, for example, water catchment planning) and on urban ecological planning (from urban growth management to recycling land) include explanations of the very limited town and country planning powers available.

The book opens with a useful discussion of the nature of environmental planning and the necessity to strike a balance in making decisions which affect the environment. There follows a valuable chapter summarizing the scientific and social-scientific perspectives on environmental planning, which ends with an appropriate appeal for an ethical treatment of resources. There is a helpful chapter outlining the legal and administrative framework of environmental planning. Following the resource, landscape and urban chapters, the last chapter of the book deals with environmental information and decision-making, mainly in relation to environmental impact assessment.

The great strength of this book is the set of readable, accurate, succinct and well-presented accounts of a wide range of topics, often accompanied by tables, boxes or illustrations, for example on the UK system of protected natural areas. While much of the text relies heavily on the publications of others, Paul Selman is prepared to nail his own colours to the mast; for example, he advocates the reorganization of the town and country planning system to deliver real improvements in environmental quality.

The quality of editing and referencing is high, which further increases confidence in what the Author has to say. Ironically, given the breadth of the book, it is the omissions which grate. Planning controls over hazardous substances (a statutory duty) are ignored, those over noise pollution (which are universally accepted as essential), and indeed those over other forms of pollution, are treated almost dismissively. It is admittedly hard to strike the right balance in referencing such a vast area, but a greater range of relevant sources could have been provided.

It is eight years since the first edition of this book, which I have firmly recommended to my own students, was published. Given the rate of change in this vitally important field, I hope that Paul Selman is already planning a third edition.

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Sustainable Technology Development

BY PAUL WEAVER, LEO JANSEN, GEERT VAN SPIEGEL,
EGBERT VAN SPIEGEL AND PHILIP VERGRAGT

256 pp., 24.0 × 16.0 × 2.0 cm, ISBN 1 874719 09 8 hardback,
GB£ 35.00, Sheffield, UK: Greenleaf Publishing, 2000

There is no uncontested operational definition for sustainability and sustainable development. While this book acknowledges this, it provides a series of case studies that attempt to show a way forward for sustainable technology development. This is done by outlining the conduct of the first 10 years of a 50-year sustainable technology development programme (the STD Programme) initiated by the Dutch Government, the Dutch National Programme for Sustainable Technology Development.

The Sustainable Technology Development Programme is based on the assumption that the biosphere offers global society a finite means of support in the form of stocks of natural resources, supplies of services, and resilience to depletion, pollution and encroachment. It attempts to anticipate scales of impact if the status quo remains. It defines three dimensions of environmental impact as (1) depletion, (2) pollution and (3) encroachment.

The Authors' basic premise for writing the book was that they recognized that not all current innovation processes and practices are unlikely to lead to a sustainable future. The usual processes are an environmental-protection approach, which has clean-up as a focus, and a time frame of 0–5 years. Environmental technology development, which is process oriented, has a time frame of 5–20 years. Sustainable technology development on the other hand, which forms the basis of the book and has renewal as a focus, has a time frame of 20–50 years.

The book is clearly written and challenges many assumptions in the way in which scientists, technologists and industry are currently approaching sustainable technology development. The book is well organized. It does provide practical examples of where sustainable technology development concepts have actually been incorporated into research and development (R&D) and for this reason alone, the book provides unique value. It will be worthwhile for any industrial R&D group and especially for R&D funding organizations that now need to start implementing programmes that are holistic, involving all stakeholders and the linkages between them and society. The Authors highlight the iterative nature of sustainable technology

development and the importance of integrating culture, structure and technology, and suggest that problem definition forms the essence of the Sustainable Technology Development Programme. I think this is going to be a vital requirement for sustainable technology development. The book recognizes that measuring performance of the sustainable technology development programmes presented has been limited.

The book provides good coverage of the key literature and the theory relating to sustainable technology development, although it is biased towards work conducted in Europe and especially the Netherlands.

The first part of the book provides definitions that I think may be useful. These are:

- (1) Problem definition: harnessing social networks to explore the challenges to technological developments posed by sustainability. Social networks are key elements both in the stabilization of present technologies, that are achieving sustainability, and potentially in the creation of new ones. Creativity is stimulated by proposing challenging eco-efficiency targets. Social networks, i.e. communities of purchasers, can also drastically change and even eliminate existing unsustainable processes and products.
- (2) Backcasting: an attempt to envision an acceptable future state, which takes into account as many important defining constraints and criteria as possible, including the requirements to meet the needs of the present generation. This is used as a reference and for tracing pathways back to the present, for placing milestones along those pathways, and for identifying short-term challenges and obstacles that will have to be overcome on the way. Progress depends on co-evolution of non-technological challenges too. It is a mechanism for establishing a shared vision.
- (3) Eco-structuring: amount and structure of resource use and waste production within boundaries described by critical ecological capacities and by human capacities to cope with environmental change and acceptance. It attempts to incorporate cultural and social changes.
- (4) Dematerialization: the large scale reduction (i.e. 10–50 fold) in material use required. The reduction can be attained through influencing R&D strategies, extension and technology-transfer strategies, and eco-efficiency.
- (5) Sustainable prosperity: the co-development of culture, society and technologies. It recognizes that each on its own does not provide a panacea. It recognizes the problems of technologists working on their own and not interacting with other stakeholders within a society.
- (6) Technology clusters: relationships between related technologies, which depending on the mix, can lead to major shifts in economic and technological paradigms. Such major shifts are required for sustainable development. Sustainable technologies may never be cost-competitive under prevailing policies and distorted markets but need fundamental reform in cultural, structural and economic conditions.

The majority of the book details progress made with the specific elements of the Sustainable Technology Development Programme. These were in the following key areas:

- (1) Nutrition: such as in novel protein development as a means of reducing the inefficiencies of classical meat production.
- (2) Transportation: development of new modes of transportation focusing on the hydrogen fuel cell.
- (3) Buildings and urban space: this part of the programme examined how more efficient use could be made of existing sunlight and urban areas.

(4) Water services: including development of more efficient laundry services.

(5) Services provided by materials and chemicals: including development of replacements for the chemicals industry such as use of bio-fuel. The conclusion is that R&D efforts ought to be directed more at upstream activities in the chemical industry rather than downstream processes.

I am looking forward to the next publication, perhaps the next edition, describing further advances in the Dutch National Programme for Sustainable Technology Development.

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From Here to Sustainability – Politics in the Real World

BY IAN CHRISTIE AND DIANE WARBURTON

xvi + 223 pp., 8 figs., 1 table, 14 panels, 24 witness boxes, 21.5 × 13.5 × 1.8 cm, ISBN 1 85383 735 0 paperback, GB£ 8.95, London, UK: Earthscan Publications, 2001

This is the second major publication of the Real World Coalition (RWC), which comprises over 25 leading UK campaigning organizations. The RWC's mission is 'to lay the foundations for change by raising and maintaining understanding in UK public and political debate of the causal links between, and therefore the solutions to achieving: environmental sustainability, social justice, eradication of poverty, peace and security, democratic renewal.' This second RWC report is 'intended to help shape the agenda for change to which all sectors and all parts of society can and must contribute.'

The introductory chapter reiterates the major 'gaps' between politics and people and present policy and future needs, identified in the first report, namely quality of life, environmental poverty, development, democracy, and security gaps. The following chapters of the book focus on each of these gaps. The introduction argues that 'we need to see modernization through the prism of sustainable development if we are to have a coherent strategy for reform that meets the challenges and opportunities facing us.' An overview of the politics of sustainable development today is provided in Chapter 2. Global and local environmental issues are identified in Chapter 3. Poverty and social exclusion in Britain and overseas is discussed in Chapter 4. Strategies for fair and sustainable global economic development are laid out in Chapter 5. The renewal of democracy in the UK and beyond is debated in Chapter 6. International peace and security are treated in Chapter 7. Key issues for government, business and civil society are identified in the final Chapter 8, in preparation for the UN Earth Summit 2002. Specific topics (e.g. 'sustainable development') are elucidated in 14 informative 'panels' throughout the book. The goals and contributions of the organizations cooperating in the RWC are outlined in 24 'witness boxes'. Additional useful information is provided in a number of figures and tables. Numerous references back up the arguments.

As the title suggests, this book is a guidebook 'from here to sustainability'. It clearly states where humankind stands now, what is going wrong, what has to be done, and who in government, industry and civil society will have to take responsible action. It therefore addresses a wide audience from the individual citizen to corporate officers and politicians. The book provides a detailed agenda for all who care about

the future of a particular region on the one hand (in this case, the UK), and the globe on the other. Much of the material is specific to the UK, but readers from 'overseas' will find much that sounds familiar, and that may help them in their own struggle for sustainable development. The book demonstrates, once more, that a coherent universal view has emerged in recent years of what sustainability implies, and how it can and must be achieved in the next few decades.

The book is well organized and well written. The authors present essential facts, argue convincingly, and provide, especially in the 'long-term programme for a sustainable world' in the last chapter, very concrete conclusions of what has to be done. The book will be a valuable reference for all who want to do their part in tackling society's most urgent problem, that of attaining sustainability while that is still possible.

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Stinging Trees and Wait-a-whiles. Confessions of a Rainforest Biologist

BY WILLIAM LAURANCE

x + 193 pp., 53 figs., 23.5 × 15.7 × 1.5 cm, ISBN 0 226 46896 8
hardcover, US\$ 25.00 /GB£ 16.00, Chicago, USA: The University of Chicago Press, 2000

This book is more a personal journal and adventure story than a scientific treatise. It is a book you will pick up one evening, get absorbed by, and finish in one or two sittings. In a warm, open, narrative style, Laurance describes the mixed frustrations and celebrations of a year spent in tropical Australia conducting his graduate research on how fragmentation of tropical rain forest affects the diversity of forest-dwelling mammals. He warns in the preface that his book 'is not a typical account about scientific research – at least I hope not, for my colleagues' sake.' Readers whose past includes field expeditions of any length will feel a touch of familiarity with many of the situations Laurance describes, however, and a likely response is 'Oh, yeah, I've got a story like that.' When inexperienced, but adventurous students ask about what it is like to be a field biologist, dreaming of travelling to far away places, working with exotic animals, meeting interesting people, and doing something meaningful to protect biodiversity, I think I will refer them to this book for a reality check.

The account may not be typical, but the types of problems Laurance had to face are not all rare, either. Included are lessons that field work often consists of mundane repetitive hard work conducted under rough conditions, illustrated by photos of mud-covered field crews. Laurance describes the travails of operating on a tight budget, organizing enthusiastic, but occasionally unruly crews of untrained volunteers, and maintaining quality control and scientific rigour without becoming authoritative or oppressive. Bits of interesting natural history are scattered among the chapters, although these often seem to be about blood-sucking parasites, poisonous snakes, misanthropic vegetation, and other colourful nemeses of the field biologist. I could have skipped descriptions of leeches in private places.

Importantly, Laurance accurately conveys the message that the graduate experience of many field biologists is not an easy apprenticeship or tutelage. Rather, you might be cast upon unfamiliar shores, connected to your major professor by a monthly phone call. You will need to learn on your feet, be adaptive, respond to crises (always new) as they arise, all while the clock and the money are running down. Sometimes a story emphasizes the value of perseverance or fortitude, as when facing severe weather or a vehicle breaking down in the middle of nowhere. But parts of the book also raise more philosophical issues that a prospective field biologist should consider. How much should you mix advocacy for a cause you strongly believe in with scientific detachment? How would you react if confronted with intransigence, hostility, or racism? These are lessons not typically learned in classes or seminars. Laurance may not come through every predicament with elegance and grace, but shows that intelligence, a big heart, and a stubborn streak can take you far.

I would have liked more discussion of the creative scientific process. Some chapters include anecdotes that describe interesting side projects or 'mysteries', or summarize the main findings of the study. A map of the study sites and controls is provided, but the research is generally described in broad strokes. It would have been informative, particularly for graduate students, to delve deeper into how the project was developed, how the study sites were chosen, the logic of the design, the need for replication, and the overall genesis of the project.

One of the most interesting aspects of the book is that it chronicles the early environmental movement in tropical Queensland, particularly the controversy associated with nomination of parts of the region for World Heritage status. Not only are national politics reviewed, first-hand accounts of local reactions are described as well. Laurance shows how research can motivate conservation, and how a scientist can act both as a generator of data and an advocate for change. Equally important are the lessons that enlightenment from an enthusiastic stranger is not always welcome, consideration and honesty should be standard protocol, and the most dangerous and unpredictable animal in the woods walks upright.

I think this book will provide an excellent introduction to the daily grind and sociology of conservation research for a prospective field biologist. It is also an engaging story about politics, science, and personal growth, related with spunk and humour. As conservation research continues to place field biologists in the middle of potential conflicts between opposing environmental perspectives with increasing frequency, the scenes in this book will become less atypical and more exemplary. The amazing thing is, after all Laurance struggled through, he finished his dissertation and went back for more.

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World Water Vision. Making Water Everybody's Business

BY WILLIAM J. COSGROVE AND FRANK R. RIJSBERMAN
xxvii + 108 pp., 29.5 × 21.0 × 1.0 cm, ISBN 1 85383 730 X
paperback, GB£ 12.95/US\$ 19.95, London, UK: Earthscan Publications Ltd, 2000

This book was produced for the World Water Council (WWC) under the responsibility of the two Authors, Directors of the Vision

Management Unit of the WWC. Various thematic panels of the World Commission on Water for the 21st Century under co-sponsorship of all United Nations agencies working on water and development contributed substantial input to the book. The objective of the book seems rather simple, namely, that a vision should be produced specifying the world water conditions in the year 2025. Since visions are not clearly-defined scientific statements, but rather subject to considerable uncertainty, not one vision was produced but three different global scenarios: (1) business as usual, namely a continuation of current policies and extrapolation of trends, (2) technology, economics and private sector, where the private sector initiates research and development and globalization drives economic growth, but the poorest countries are left behind, and (3) values and lifestyles, where there is sustainable development, with an emphasis on research and development in the poorest countries. The main forces affecting the global water scenarios are population growth, economic growth, demographic change, technological change, social trends and environmental quality. At the beginning of the book the reader finds the statement of the WWC: 'We start the new century with a water crisis on all accounts. A concerted effort and extraordinary measures are needed to face the challengers head on'. A further statement 'water crisis is a crisis of managing water so badly that billions of people and the environment suffer badly' forms the basic philosophy of the book, namely that the problem may be solved if mankind learns to manage water in a fashion that is completely different from what is going on today. This includes increasing cooperation in international basins, valuing ecosystem functions and mobilizing financial resources. The vision then is formulated in the sense, that, after successful implementation of the actions suggested in the book we can expect in the year 2025 a situation where the loss of ecosystem functions and biodiversity has been reversed, water resources are being rehabilitated, the world population stands at 7.5 billion, but every one has access to safe water supplies. Agriculture produces enough food so that no one needs to go hungry. Most solid and liquid wastes are treated before their controlled release into environment. We have less disease, better nutrition, wiser management, more powerful communities and higher farm yields (more crop per drop). That sounds beautiful, maybe too beautiful, but the vision provides clear ideas, as to how this beautiful vision may be achieved. Five key actions are mentioned, namely (1) involve all stakeholders in integrated management, (2) move towards full-cost pricing of all water services, (3) increase public funding for research and innovation in the public interest, (4) increase cooperation in international water basins and (5) massively increase investments in water. The message is to launch a movement to move from vision to action by making water everybody's business.

A tremendous amount of information on the present situation and the scenarios of potential futures are presented in the form of text, tables and graphics. Particularly interesting are world maps showing the predicted water stress situation in the year 2025 under the three different scenarios as well as maps on future water scarcity and cereal deficits (or surpluses), again for the three different scenarios. Although scenarios 1 and 2 may be more profitable for certain groups or countries, the third scenario (values and lifestyles) leads to a solution which improves the situation in low-income countries that face economic water scarcity, thus limiting water and food scarcity. A two-page table gives detailed information on the activities necessary to implement the vision strategy and another two-page table gives detailed information on the drivers for the three world water vision scenarios (1995–2025). Here it can be seen

that under the third scenario the situation will improve considerably, since it is expected that absolute poverty will be eradicated and economic inequality gradually reduced, and water-related diseases will exist only in 'small pockets', salinization will be stopped, exhaustion and pollution of surface and ground water will be stopped and water withdrawals reduced to sustainable levels, ecosystems will recover rapidly, market dominance will be universal but regulated, and the power structure will be much more pluralistic. Again this sounds almost utopic, but the prominence and the competence of the groups involved in the development of the vision and the sincerity of the presentation give some hope.

The layout of the book is unusual, but attractive. The text is often interrupted by large scale graphs, maps, tables and information boxes. On top of each page a few lines in bold print give statements on the contents of the page or some catchy statements like 'water quality may be the biggest emerging water problem in the industrial world', 'water provided free of charge does not get used wisely, or conserved and recycled', 'till 2025 the global average annual per capita availability of renewable water resources is projected to fall from 6600 m³ to 4800 m³', 'the rate of expansion of irrigated land is the most important determinant of water stress', and 'people came to realize that they didn't inherit the earth from their parents – but borrowed it from their children'. In the annex are found terms of reference, chairmen and members, vision management, partner organizations, meetings and consultations and background documents. In the back cover is a CD-ROM giving further information, particularly on the various scenarios, the models used and many links to internet-sites, which can be called directly by working with the CD-ROM. Further contacts being of interest in the context of the book are given with addresses and e-mail.

Reading the book is a pleasure; it is very informative, presented in an attractive way, and it gives information of potential future developments, leading to either hope or concern. It also specifies what has to be done by every stakeholder in the water game worldwide in order to achieve a good and healthy situation as far as water and the environment are concerned

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Environmental Stewardship in the Judeo-Christian Tradition: Jewish, Catholic, and Protestant Wisdom on the Environment

EDITED BY MICHAEL B. BARKEY

xv + 124 pp., 14.0 × 21.5 × 1.0 cm, ISBN 1 880595 15 X
paperback, US\$ 10.00, Grand Rapids, MI, USA: Acton Institute for the Study of Religion and Liberty, 2000

The stated *raison d'être* for this compendium is to offer a sound approach to the responsibility of man (the text's terminology) for environmental stewardship. It does so in order to counteract the perceived damaging misconceptions of this responsibility now

prevalent in the world, especially within the industrialized countries, and even more especially throughout the USA. The book is a product of the Acton Institute for the Study of Religion and Liberty (Grand Rapids, MI, USA, 1990—), having been additionally sponsored by the apparently short-lived Interfaith Council for Environmental Stewardship (Washington, DC, USA, 1999?–2000?). The book consists of four statements: (1) an interfaith declaration of five pages by an unidentified group of 25 theologians, economists, environmental scientists and political scientists; (2) a Jewish (clearly Orthodox Jewish) statement of 23 pages by five named theologians; (3) a Roman Catholic statement of 43 pages by six named theologians, speaking as representatives of Christ's Mystical Body; and (4) a 'biblical' (clearly Evangelical Protestant) statement of 50 pages by six named theologians and economists.

The opening interfaith declaration is unencumbered by citations. The Orthodox Jewish statement is based essentially on the first five books of the Old Testament (the *Pentateuch* or *Torah*), in part as interpreted by the *Talmud*, although without the benefit of specific citations. The Roman Catholic statement leans primarily upon specific passages from both the Old and New Testaments and also often from the Roman Catholic Catechism, and the Evangelical Protestant statement is bolstered by numerous citations to both the Old and New Testaments as to a wide array of technical secular publications. The three independent background statements were commissioned *post facto* to provide background, elaboration, and religious and scholarly justification for the previously-promulgated interfaith declaration. The entire effort is presented as being based upon a combination of sound theology, honest science, and rigorous economics.

Despite their independent preparation and the separate faiths represented, the four statements have much in common. Thus, the existence of God is simply taken for granted, and all four have as their starting point and fundamental premise that man has God-given dominion over the world and all that it contains, in each case there is an unambiguous and unwavering pervasive expression of anthropocentrism. All three of the denominational statements vigorously dismiss the notion that the world is burdened by human overpopulation, and in the same breath firmly denounce abortion and other means of population control. All more or less directly ridicule the notion of anthropogenic global warming, and deny rampant species loss, and all represent thoroughly conservative and fundamentalist approaches to their theology; this is a philosophy that, in fact, carries over part and parcel to their expressed political and other social views as well.

The Orthodox Jewish statement seems to have been written as if addressed only to Jews, specifying in no uncertain terms what it takes to be an acceptable observant (religious) Jew, at the same time making clear what to make of the status of the global environment. In short, the only real environmental problem, as recognized here, is the misguided belief that there exists a problem, such belief in turn being a threat to the Jewish soul. We humans have been granted use of the world and all it contains. Jews must be fruitful, multiply, and conquer the earth, that is, conquer a harsh and unforgiving nature. A number of further lessons from this statement are offered here to provide a fuller flavour of its content and thrust. Thus, any efforts to promote a population-control ethic are improper and would, moreover, exacerbate the problem, if there were one. Here again, what we are faced with is not a human population problem, but merely a misguided perception of one. The animal rights movement is a secular attempt to undo the Book of Genesis. A woman wearing a fur coat is offensive only if she is

nothing more than an animal herself, whatever that means. A religious Jew is enjoined from being a vegetarian. Industrial development tends toward the spiritual. Judaism is prouder of man's skyscrapers than of God's swamps, and of man's factories than of God's forests. Certain problems, for example, worldwide air pollution, are deemed to be simply too large for mere mortals to solve, and must thus be dismissed by Jews as God's problems. As gratuitous asides, the statement castigates feminism and homosexuality. This litany could continue, but can be succinctly concluded with the revelation pointed out here that, since the first five books of the Old Testament contain no explicit mention of 'nature', God must clearly have had no interest in (or even spurned) that concept; there is thus no theological justification, and therefore no justification, for governments to impose restrictions on biospheric despoliation.

The Roman Catholic statement is, we learn, informed by divine revelation and suggested to be universal in its scope. It is meant to counter the 'neo-paganism' of both secular and non-Roman Catholic religious environmentalism. Basic to everything in the statement is that man is the summit of the Creator's work. Nonetheless, to Saint Francis is attributed the inspiration to contemplate creation and to praise God in all creatures and from all creatures. Man's dominion over creation must serve the good of human beings and of all creation as well. Humans should thus be acutely aware of the particular goodness, vulnerability, and interdependence of all creatures, and our very contact with nature is noted to have a deep restorative power. Nonetheless (and here very much echoing the Orthodox Jewish sentiment), nowhere does revelation suggest that creation, undisturbed by human intervention is the final order God intended, the bottom line always being to do what is best for man, that human need must always be given priority. A few more lessons from the Roman Catholic statement follow: Man is exhorted to refrain from consuming more than needed or to coarsen himself by the endless pursuit of luxuries. While recognizing some level of worldwide environmental problems, it is suggested that if other countries in the world would only imitate USA ingenuity and efficiency, we would not see an exhaustion and despoliation of the world's natural resources. Although private property is supported as a right (as was also suggested in the Orthodox Jewish statement), it is not to be considered an absolute right, since God intended the goods of the Earth for the benefit of all. For example, to the credit of the authors, they support and urge that land be set aside for wildlife habitat and overall environmental conservation. Roman Catholics are not opposed to state power. No basis for human overpopulation can be found in revelation: to the contrary, man was placed on Earth by God, and was then commanded to be fertile and multiply, to fill the Earth and subdue it. Finally, democracy and a free market economy are the most effective social embodiments of our God-given intelligence, being, it is concluded, the best mechanisms for the responsible handling of the environment; that is to say, ecology and economy must go hand in hand.

The Evangelical Protestant statement sets forth in substantially greater detail than found in the other two denominational statements a vision for wise environmental stewardship that is biblically, scientifically, and economically grounded to the authors' satisfaction; it is one meant to counter not only mainstream environmentalism, but also such philosophical movements as 'deep ecology'. Anthropocentrism must not be replaced by biocentrism, but rather by theocentrism. Here we also learn that a quest for the humane treatment of beasts leads only to the beastly treatment of humans. As in the case of the Roman Catholic statement,

environmental stewardship, while it seeks to harmonize the needs of all creatures, must put human needs above non-human needs. Once again, it is stressed that private-property rights and the price system of a free economy are essential prerequisites to environmental stewardship. Based on the analyses of Julian L. Simon and colleagues plus an equally idiosyncratic selection of statistical sources for measuring the pulse of the planet, the authors are able to display a thoroughly Panglossian view of world economic, social, and environmental conditions and of unabated continued progress. Similarly, based on such questionable authorities as Sherwin B. Idso and F. Fred Singer, the authors are able to explain away anthropocentric global warming, any problems that might be associated with it, and thus any need for fossil fuel restrictions; thus they come down hard on the 1997 Kyoto Protocol. Indeed, the net effects of any conceivable global warming must be expected to be beneficial. The unwary reader will be reassured that there is no species extinction problem (and, as an aside here, the authors trash the USA's landmark 1973 Endangered Species Act). The notion of rights of future generations is dismissed. On the other hand, the statement does recognize the environmental 'tragedy of the commons' and (unlike the Orthodox Jewish solution of leaving its mitigation to God), offers some very sensible biblically-based approaches to this very real problem, with God evidently having left it to man to work out the details. To sum up the Evangelical Protestant position, people should not be looked upon as consumers and polluters, but rather as having been created in God's image, in order to be creative and productive in their given role of restoring the Earth from the effects of God's curse because of human sin arising from the original Fall.

The interfaith declaration, although a chronological precursor to the three sectarian statements, serves well as a summation of their positions. To recapitulate in part, it is stressed in this opening declaration that widespread misconceptions about nature and science, coupled with equally widespread erroneous theological and anthropological positions, impede the attainment of a sound environmental ethic. The romanticism which afflicts many can lead to their deification of nature and an opposition to human dominion over creation. The widespread concerns over man-made global warming, over-population, and flagrant species loss are unfounded. A person should aspire to a world in which personal liberty is preferred over government-initiated management of the environment, and in which economic freedom and virtually total private land ownership, integral to private market economies, would make sound ecological stewardship widely available.

In short, this text represents a travesty of environmental conservation, of economics and political science, and of faith and religion. Among other insults to humankind, it ignores alternate approaches to achieving peace with your God and the environment. In doing so it dismisses the spiritual integrity, and the environmental wisdom flowing from that, of the world's 1 billion Muslims, 800 million Hindus, 300 million Buddhists, further millions of assorted Orthodox Catholics, Bahais, Jains, Confucians, mainstream Protestants, Reformed Jews, and so on and so forth (to say nothing of the additional millions of non-believers or atheists who also aspire in their own way to a suitable environmental ethic). Moreover, despite the many references upon which the authors of this text have leaned, they have egregiously overlooked the pioneering efforts of the World Wide Fund for Nature (WWF), which had elicited seminal statements from five of the world's major religions as these pertain to the environmental dilemma of today (WWF 1986); as well as the admirable follow-up by the United Nations Environment

Programme, which has recently garnered the most authoritative current statements, this time from nine of the world's major religions (O'Brien *et al.* 1999).

Finally, as other work shows, by and large, it is the prevailing cultural norms or values of any particular society that shape its mainstream religious norms or values, environmental ones included. Thus, any support that can be drummed up on behalf of the beleaguered global biosphere is most commendable. But laypersons who are seeking spiritual guidance regarding the environment, as well as clerics seeking grist for environmentally supportive sermons, had better steer clear of this book.

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A Vision for the US Forest Service: Goals for Its Next Century

EDITED BY ROGER A. SEDJO

xi + 273 pp., 24.0 × 16.0 × 3.0 cm, ISBN 1 891853 02 3 hardback, US\$ 39.95, Washington, DC, USA: Resources For the Future Press, 2000

Roger Sedjo has produced this book in memory of Marion Clawson, and I believe Marion would be proud to have this book offered in recognition of his career and his long-standing examination of the USDA Forest Service. He was an astute observer and often a critic of this agency and his thoughts and ideas have been a part of our view of it for a long time.

This edited volume offers a lively discussion of the present controversial state of the Forest Service and some ideas for how it might emerge as we enter the 21st century. There is little uniformity of thought from this collection of well-known observers of the Forest Service, except that all conclude that the agency will be different if it continues to exist. It must be different to move beyond current controversies and to continue providing benefits to people.

In the various chapters and discussion of them we are led to believe that the Forest Service is in great trouble and that, according to some observers, there is a high probability that it will not survive to its 100th birthday. Still, most of the authors offer suggestions for how it might be modified so that it will continue as a viable organization. Explicit proclamation (by Congress) of a new mission, a review and overhaul of the USA's natural resource and environmental laws, implementation of trust principles, more realistic planning, a Forest Service policy commission to guide the agency, increased funding and budget reformation, greater local control in decision making, true application of science, advocacy of a

consumption ethic to match our land ethic, and building a consensus of purpose, are all advocated. Some of these ideas are conflicting and some are highly compatible. That some are conflicting is not a surprise, since even though many of the authors review Forest Service history for us, they do not agree on that history and how it has shaped the agency. This in itself makes for a fairly lively examination of the agency, as varying perspectives lead to different conclusions.

Today's Forest Service, a highly acclaimed institution in the past, is not perfect in today's world. Change is both necessary and inevitable. The ideas in this book need to be discussed and debated and some of them ought to be implemented. This is an agency that has been changing throughout its 95-year history and it must continue to evolve. But, I believe that Al Sample is on target in his observation that '... Americans as a whole seem more satisfied with the national forests than the critics would suggest.' (p. 211). The role of critics is to cajole and challenge, maybe even to alarm, and they usually see things far more drastically than most of us. How else would they be critics? But, that does not make them more astute than the body of national forest users.

This book does not offer a clear vision of the future Forest Service; it offers ideas that might become a part of the future. Some of these ideas surely must be a part of the discussion as the Forest Service is transformed into an agency for the early 21st century. Thus, this book is a must-read for students of the Forest Service, for those interested in natural resource policy, and, more generally, for those who will engage in discussions and debates about the future of the national forest heritage in the USA.

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People, Plants, and Justice. The Politics of Nature Conservation

EDITED BY CHARLES ZERNER

xvii + 449 pp., 44 figs., 25.4 × 17.8 × 2.5 cm, ISBN 0 231 10143 0
 paperback, US\$ 30.00, New York, USA: Columbia University Press, 2000

This is a study in the political ecology of tropical nations, with an emphasis on tropical plant resources in the international marketplace. It contains a formal introduction, two introductory chapters, and 12 case studies. Maps accompany the case studies and save the reader from cross-referencing an atlas. The book concludes with a summarizing and synthesizing overview that is inexplicably classified as one of the case studies.

The typical case study includes an overview of the geographic and historic setting, a summary of the plant's biology or ecology, an overview of the relevant parties (typically a local culture, an extractive industry, and a government agency), a description of the production and marketing process, and an assessment of the cultural, economic, and political outcomes. Most chapters conclude with recommendations for institutional reform that are intended to increase equitability. Emphases reflect the diverse backgrounds of the authors, among whom are anthropologists, geographers, ecol-

ogists (human and non), economists, and others with transdisciplinary interests. The experience and knowledge of the authors is impressive and this is a well-documented book, leaving the reader confident of the accuracy therein and able to cross-reference other sources if necessary. Its style is similar to that of a special edition of a peer-reviewed, interdisciplinary journal.

Presumably intended for an audience of scholars and tropical policy analysts, this book is not an 'enjoyable read'; most of it is matter-of-fact to the point of dryness. Exceptions are found in some of the historical accounts, however, and in the activist spirit found between the lines of some authors. Also, Chapter 7 is accompanied by artwork pertaining to the damar agroforestry of Krui that harkens back to the how-to knowledge and style of the 20th century naturalists.

This book is especially well suited to graduate students of political ecology or, more precisely, the political economy of tropical ecology. Policy design theorists would probably classify the book as 'critical theory'; the case-study authors do a remarkable job of investigating the nooks and crannies of global capitalism for oppressive motives and actors. A few of the chapters have a decidedly Marxist flavour. For example, the chapter on the live fish trade in the Togean Islands begins with an epigraph denigrating the 'bourgeoisie' and concludes, 'Thus, where the bureaucracy is constituted not only as the handmaiden of capital, but also as the incarnation of capital, it becomes a key site itself for the production of economic and social inequality' (p. 254). This chapter turns out to be quite revealing, and many readers may find themselves questioning not only the ecological and cultural merits of globalization but of capitalism itself. (Public choice theorists will inevitably disagree, putting the onus on 'market failure' induced by corrupt governments.)

For all but graduate students and policy scholars this book will be too jargon-laden and far too detailed to maintain attention. For example, few will find it useful to know that 'a total of 11 537 tonnes of *Prunus africana* were sold during the six-year period from 1986 to 1991' (p. 321). This indicates the utility of the book, however, for students interested in particular species, cultures, governments, and markets; in other words this is the type of book that may be purchased for the sake of one thorough chapter. (It may also be prone to photocopying.)

One of the better-written chapters is Bronwyn Parry's concluding 'The Fate of the Collections: Social Justice and the Annexation of Plant Genetic Resources'. Parry creatively describes the historic role of plant collecting in shaping the political economy of western civilization. Parry is convincing in her claim that natural history collections evolved into 'a systematically organized body of information about the coastlines, flora, fauna, language, and cultures of distant peoples. This information could be employed to re-create, within particular centres in Europe, a scaled-down universe that could be surveyed panoptically. It is here that the interdependent relationship between the social and spatial dynamics of collecting (and thus of annexation and monopolization) becomes more apparent' (p. 378). Parry's subsequent emphasis on the transition to an 'information economy', including its manifestation in biotechnology, is a bit overstated, but such overstatement is common to a wide range of literature today.

The most glaring shortcoming of this book is the total lack of attention to, or even explicit acknowledgement of, the issue of economic scale; as such, it serves as a microcosm of the ecological economics movement that, in a departure from Herman Daly's early focus on the steady-state economy, seems to be overshadowing scale issues with equity and valuation issues. The index contains not a

single entry rooted in 'econ', much less 'economic growth'. As such, conservationists interested primarily in the sustainability of tropical ecosystems will find this book less relevant than sociologists interested primarily in the justice, or lack thereof, of global capitalism. However, the book contains some useful messages even for the former class of potential readers. Conservationists from the natural sciences are notorious for cultural and political naiveté, which on the one hand takes the form that conservation can be applied patronizingly from abroad, and on the other that community control over resources is a sufficient condition for conservation. This book amply undermines each oversimplification, but fails to point out that, no matter how much short-term equity is achieved via institutional reform, conservation is doomed to failure in a world of nations that espouse increasing production and consumption of goods and services. As the unbridled economic growth championed by neoclassical economics and global corporate interests continues to liquidate natural capital and eliminate options, equity takes on an increasingly temporal aspect, namely, that is, our prosperity versus posterity. Thus this book, even with its focus on equity, would have been greatly improved by a concluding chapter on the ecological economics of sustainability.

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Primate Conservation Biology

BY GUY COWLISHAW AND ROBIN DUNBAR

xii + 498 pp., 94 figs., 60 tables, 22.7 × 15.0 × 2.5 cm, ISBN 0 226 11636 0 paperback, US\$ 25.00/GB£ 17.50, ISBN 0 226 11637 9 clothbound, Chicago, USA: The University of Chicago Press, 2000

Guy Cowlshaw and Robin Dunbar say that their aim in this book is to synthesize findings on conservation biology and primate evolutionary biology, and feed the results into a discussion of practical conservation strategies and tactics. In many respects, Cowlshaw and Dunbar achieve this aim, in the process comprehensively reviewing a very large body of knowledge (their bibliography covers 57 pages) in an admirably objective fashion.

The early chapters of *Primate Conservation Biology* can almost stand alone as a text in primate ecology. After a short introduction, Chapter 2 defines the primate order and describes its patterns of diversification in space and time, while Chapter 3 provides a concise review of primate behavioural ecology, with a focus on the determinants of social group size and structure. Chapter 4 summarizes issues in primate community ecology, paying due attention to biogeographical factors. Chapters 5 (Distribution, Abundance, and Rarity) and 6 (Population Biology) are masterful analyses of material that is clearly relevant to the main theme of the book, but the Authors go more deeply into the details of these subjects than some potential readers (such as conservation policy-makers) will be able to digest with ease. Not all of the detail in the first part of this book is required for an understanding of the latter part, which focuses more directly on conservation issues.

I found the most valuable and innovative material in this book to begin with Chapter 7, on 'Extinction Processes'. This is followed by

full and balanced treatments of the effects on primate populations of 'Habitat Disturbance and Hunting'. I was glad to see that the authors recognize the potentially disastrous impact of hunting on wild primates, and I can quibble with only a few of their statements. For instance, although night hunting with lamps may be common in some areas (p. 248), this hunting is rarely a major threat to primates, since nocturnal primates are rarely an important quarry. And Winterhalder and Lu's modelling of the interaction of human hunters and their prey (p. 281) appears to be less relevant to primates than the Authors suggest. Tropical forest hunters typically try to kill whatever they encounter, if this killing provides some return above the costs of hunting. As a result, large species made rare by hunting do not typically have the chance of population recovery, as suggested by the Winterhalder and Lu model; hunters will still kill individuals of large species if they encounter them and so can drive them to extinction.

The last three chapters of this book ('Conservation Strategies', 'Conservation Tactics' and 'Conclusions') deal directly with important planning and policy issues, and although primates are used as examples, the Authors' analyses of general principles should make valuable reading for all conservationists. Chapter 10 concentrates on priority-setting in conservation but also broaches the issue of economic development, considering both its effects on wildlife populations, and the consequences of marrying development efforts to conservation, a topic that is explored further in Chapter 11.

While emphasizing the importance that has been placed on protected areas as a means of conservation, the Authors discuss the problems of managing such areas in poor tropical countries. Their analysis, correctly in my view, casts doubt on the notion that local hunters are likely to be 'natural conservationists' in their harvesting of wild populations, and draws attention to the issue of economic discounting, noting that it will generally be more profitable for hunters to maximize their short-term gain from harvesting slow-breeding animals such as primates (and then re-investing their profits elsewhere) than to rely on the low rate of return provided by a sustained harvest. As in other chapters, the Authors' thoroughness leaves little room for disagreement, although their recommendation about providing more vehicles for anti-poaching patrols (p. 340) is not a sensible option in most rain forest situations.

The fact that the Authors are primarily academics who have not been intimately involved in on-the-ground conservation efforts is in some respects an advantage, for it allows them to take a dispassionate analytical approach that may be more likely to convince policy makers than more emotion-laden arguments. To me, though, such an approach omits an important factor in the equation of conservation. I read this book while travelling in the rain forest zone of Cameroon, and as I travelled I was frequently moved by the beauty of the nature I was experiencing. That experience inevitably made me conscious of the utilitarian and academic tone adopted by *Primate Conservation Biology*, and led me to think that, in a book that could have an important influence on students, the more spiritual side of conservation does need to be addressed. The spiritual value to humans of the wonders of nature, including the ability of nature to inspire awe and to raise questions about the meaning of human life, is not necessarily a side issue for conservationists, nor is the issue of how we consider the 'rights' of other species to persist on some small fraction of our planet's surface. I suspect that these are the kinds of issues that first involve many young people in thinking about conservation, and so they are worth some space in a textbook.

The dry, objective tone of the book is one of its strengths, but it is also, from this other perspective, a potential weakness. Although

the book will most certainly inform readers, it may not inspire them. This raises the question of the audience for which it is written. The publisher's notes suggest that the book is designed to give scientists and policy makers the tools to design conservation schemes, but it is structured more as an academic textbook than as a practical manual. As such, it will undoubtedly be useful as a text for graduate-level courses and seminars. In addition, many scientists who study primate conservation problems (and especially those who get involved in some aspects of policy making) will find the book a most useful reference work. But the depth of its treatment of primate biology (including the prior knowledge of biological thinking that it assumes for its readers) may actually make its contents inaccessible to many policy makers and to some undergraduate students of primatology, especially those who have had their primary training in the social sciences. Nevertheless, this book is a *tour de force*, which has no equivalent in its field.

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Bioregional Planning. Resource Management Beyond the New Millennium

BY DAVID J. BRUNCKHORST

ix + 162 pp., 23.5 × 15.5 × 1.1 cm, ISBN 90 5823 046 5 hardback, GB£ 18.00, Amsterdam, Netherlands: OPA, 2000

In this book, the author attempts to integrate concepts of habitat reserve design and management with regional planning of public and private lands. The intended audience is conservation biologists and land planners. Whereas Brunckhorst sets out to integrate these two fields of conservation endeavour, he spends virtually all of the book presenting ideas for reserve planning of public lands, but viewed within broader regions of public and private lands. He presents useful ideas for planning reserves in hierarchies of scales. He argues for adaptive management, through monitoring of ecosystems, and for coordination of agencies and non-governmental organisations (NGOs) within regions. He also argues that regions should be cultural bioregions, defined partly by political systems, to gain a sense of place and ownership by the public and agencies. All of these ideas are useful, as is his review of the literatures on reserve design and conservation biology. He presents several brief case studies, mainly dealing with reserves on public lands.

While the Author argues that most biodiversity is outside of reserves, he does not effectively address these more difficult issues pertaining to the regulation of private owners. He presents many useful methods for selecting regional systems of reserves, but does not discuss in any detail the management of the private lands matrix in which the reserves sit. For example, he does not address the functional laws that operate in many nations and that greatly affect conservation of landscapes and species, such as water quality laws and impact assessment requirements. Also, national green plans drawn-up under urging of the United Nations (UN) are not discussed. The European Union (EU) efforts here are especially instructive, as they affect biodiversity planning. More broadly, I

wish the Author had tried to tie reserve planning in with sustainable development theory and practice, especially in terms of forestry, fisheries, and agriculture.

Much work has been done on protecting biodiversity on private lands, represented by some of the selections in the book by Szaro and Johnston (1996), many publications by Environmental Defense in the USA, and the experience with Multispecies Habitat Conservation Plans in the USA. Timothy Beatley has also published several articles and books on these problems. The USA experience is critical to understanding conservation on private lands, as we have wrestled with the Endangered Species Act for a long time now.

A useful review of the experience with planning multispecies reserves on public and private lands in California is that of Scott and Sullivan (2000), who found that the preservation process often got hijacked by broader concerns over land-use planning and open-space amenities. They emphasize the ongoing problems that adjacent private landowners will cause and the need for ongoing funding to manage such conflicts.

Another good overview of these problems is Keeley's (1993) edited book on biodiversity and land development in California, papers which address the conflicts between conservation on the one hand, and population growth, private property rights, suburban housing preferences, firefighting, road building and land development in general, on the other. The authors involved also discuss the usefulness of impact-mitigation requirements and how to make use of local planning law, such as open-space planning authorization.

Another publication that examines the issues of compensating private landowners for restrictions and increasing predictability for owner-developers is that of the Lincoln Institute (1995) in the USA. Several regional conservation planning efforts in the USA are reviewed and critiqued; incentives such as impact fees, benefit assessment, transfer of development rights and acquisition, are discussed. The connections to mitigation law and to property rights takings law are laid out; property rights present special problems, legally, in the USA. However, these same issues arise, politically, in most countries.

Brunckhorst's book is a useful review of conservation biology and of reserve selection concepts. However, whereas he recognizes that 'Clearly, the quest for a sustainable future will be fought, and won or lost, across various mosaics of human dominated 'cultural landscapes' where the vast bulk of biodiversity and ecological functional processes will always remain' (p. 137), he only touches on these issues of how to regulate private lands. The literature on these issues needs to be reconciled with that on reserve design, so that local land use planners and agency and NGO conservation biologists can see how to work together.

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Precious Heritage: The Status of Biodiversity in the United States

EDITED BY BRUCE A. STEIN, LYNN S. KUTNER AND
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xxv + 399 pp., 29 × 22.5 × 3.5 cm, ISBN 0 19 512519 3 hardback,
 GB£ 32.95, Oxford, UK: Oxford University Press, 2000

This is a thorough and very readable synthesis and analysis of the biodiversity of the USA, its recording, history, current biogeography, conservation status and future requirements. It is totally restricted to the American situation, and unashamedly sings the praises of the American land and biota throughout. In recognition of increasing conservation concerns and public interest in biodiversity, the book ambitiously targets both the generalist and the specialist reader, setting out to be 'the most comprehensive and accessible account of the state of the American biota to date', to give 'the course of American biotic history ... clearly summarized', and to give 'a combination of statistical analysis and fine tuned description of many of the habitats and species of the USA'.

The book succeeds admirably in keeping the interest of its wide-ranging target audience. For the generalist, the summaries of biodiversity, and historical and current biogeography of species and ecosystems lead seamlessly into analyses of threat and required action. For a multi-authored book the style is commendably uniform and very readable, with technical terms being described and the text broken into subheaded sections, of which the more technical

sections can easily be skipped. The general pattern is to start each chapter with a colourful and generally well-known case study, such as the desert pupfish to illustrate the meaning of biodiversity in Chapter 1, or the passenger pigeon to illustrate the process of extinction in Chapter 4. A balanced view of the topic is then taken, with many lesser known examples, often leading to comparative analyses of biotic groups in the USA and/or different localities or states.

For the scientist, the thrill of the book lies in its approach as a first national study of the status of biodiversity in the USA, based on the work of the American Local Natural Heritage Programmes. For the last 25 years, biodiversity data have been collated and collected at state level, and species and habitat data across all 50 states have been compiled and standardized to provide the scientific underpinning for this text. The quality of the data, its currency and deficiencies are clearly evaluated in probably the most ambitious holistic analytical approach to terrestrial conservation available, and one which still manages to be presented in an attractive and readable format. The subject and species index is comprehensive, and the grey literature sources in the reference list are informative and useful. General scientific references are informative, but not as prolific as you would expect in a true scientific text; extensive referencing has been sacrificed for readability, but there is usually one reference for most items of interest.

The general presentation of the book is beautiful, with colour pictures, figures or tables on most pages. Many of the photographs are small, but of generally high quality. There are remarkably few typographic errors, and frequent American spellings and phrases. For the price, the book is excellent as a coffee-table book for the generally interested, or as a background text for students and researchers at all levels in the field of biodiversity and conservation ecology.

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