

doi:10.1017/S037689290723365X

Conservation Across Borders: Biodiversity in an Interdependent World

BY CHARLES C. CHESTER

xv + 262 pp., 23.2 × 15.6 × 1.9 cm, ISBN 1 55963 610 6
 clothbound, US\$ 60.00/GB£ 41.95; 22.8 × 15.2 × 1.5 cm, ISBN
 1 55963 611 4 paperback, US\$ 29.95/GB£ 20.95, Washington, DC,
 USA/London, UK: Island Press, 2006

Biodiversity (well defined in Chapter 1 of this monograph) is under worldwide assault. One indispensable component of its conservation is via the establishment of sufficient nature reserves that enjoy the necessary combination of *de jure* and *de facto* protection. A substantial problem to overcome here is the fundamental disconnect between the diverse regions of biological integrity in need of protection and the 193 or so sovereign states into which the globe has become divided, the author referring to the latter as 'territories of chance' (developed especially in Chapters 1 and 5). Indeed, an estimated one-third of the sites worth protecting straddle the currently existing 220 thousand kilometres of national boundaries. It would be especially advantageous if all such established transfrontier reserves were on the one hand to be formally demilitarized, and on the other to be recognized as UNESCO Biosphere Reserves (the ins and outs of which the author covers in Chapters 2 and 4) and/or World Heritage site.

The modern notion of more or less formally establishing transfrontier reserves for achieving some combination of political security (for example, as a political confidence-building measure) and environmental security (especially as a biodiversity protection measure) goes back to at least the immediate post-World War I period; several dozen reserves of varying degrees of formality and success are now in existence. With the present monograph devoted in essence to North America, it will be of interest to note three examples: (a) the symbolic linkage in 1932 between the Canadian Waterton Lakes National Park and the US Glacier National Park (alluded to in Chapter 2); (b) the symbolic linkage in 1979 between the Canadian Kluane National Park and the US Wrangell-Saint Elias National Park; and (c) the linkage bilaterally proposed officially in 1990 between what is now the Russian Chukotskiy Nature Ethnic Beringia Park and the US Bering Land Bridge National Preserve.

The present book represents an updated condensation of the author's 2003 Tufts University Ph.D. thesis, with the bulk of the supporting notes not included, but available online. Following a more general introduction to transfrontier reserves (Chapter 2), this monograph represents a detailed analysis of each of two large-scale grassroots non-governmental organization (NGO) North American transfrontier initiatives: (a) the Mexico/US 1993 'International Sonoran Desert Alliance' ('ISDA' to its participants; Chapter 3); and (b) the Canada/US 1993 'Yellowstone to Yukon Biodiversity Strategy' ('Y2Y' to its participants; Chapter 4).

Both ISDA and Y2Y represent unrelated heroic attempts by NGOs to protect biodiversity over vast landscape-scale transfrontier areas while at the same time providing for culturally sensitive regional sustainable development. The ISDA ecoregion covers almost 10 million hectares, roughly half of which is in Mexico, whereas the Y2Y ecoregion covers fully 120 million hectares, roughly one-quarter of which is in Canada (the author, I might note, being a bit confused in presenting the ecoregion areas, cf. pp. 53 and 137). With ISDA, the author presents in extensive detail the tortuous history of its birth and subsequent development, not shying away from the formidable obstacles presented especially by the USA's recalcitrance

toward perceived unacceptable assaults upon its absolute sovereignty. It should go without saying that in any formal bilateral arrangement each side must be able to give up at least a tiny sliver of sovereignty in return for mutual political, environmental and possible economic advantages. ISDA was floundering a bit at the time of writing, but was in the process of reorganizing to continue its efforts. Meanwhile, Y2Y was still going strong, providing an example for similar initiatives elsewhere and, although without significant tangible success to date, appearing to have some chance of ultimate success.

The concluding section of the book (Chapter 5) elaborates on the levels of effectiveness of the two border-straddling 'territories of chance' upon which the author dwells. Effectiveness is considered in great detail via the multiple criteria of biodiversity protection, regional sustainable development, social (cultural) equity and transfrontier cooperation. For both of his well-presented case studies the author lauds the persistent citizen initiatives and their attempts at achieving the necessary regional cooperation. But he is quite forthright in noting the lack as yet of either achieving its truly challenging basic aims.

On the somewhat negative side, the title of the book is misleading, and might perhaps have read 'Conservation Across North American Borders' (or else the subtitle might have read 'Biodiversity in an Interdependent North America'). And I must admit to having been a bit put off when in his otherwise erudite and perceptive concluding remarks, the author waxed eloquent over American zoologist William Hornaday's contributions to conservation philosophy (pp. 217–219), establishing Hornaday as a moral exemplar in the face of his profoundly racist views and despicable related actions (for example as Director of the venerable Bronx Zoo in New York, finding it amusing to proudly display a caged African Bushman in the monkey house). But to end on a more properly positive note, I can certainly commend this addition to the growing literature on the subject to the attention of protected-area officials and relevant national and international NGOs, political scientists and environmental conservationists. And since this fine book focuses on North America, it would be fitting to close with a quotation of 1908 from the then American President Theodore Roosevelt with which the author in fact opens his presentation (p. ix): 'It is evident that natural resources are not limited by the boundary lines which separate nations, and that the need upon this continent is as wide as the area upon which they exist'.

ARTHUR H. WESTING

Westing Associates in Environment, Security, & Education

134 Fred Houghton Rd, Putney

VT 05346, USA

e-mail: westing@sover.net

doi:10.1017/S0376892907243656

Flooding and Environmental Challenges for Venice and its Lagoon: State of Knowledge

EDITED BY C. A. FLETCHER AND T. SPENCER

xxv + 691 pp., 25 × 19 × 3.5 cm, ISBN 0 521 84046 5 hardback,
 GB£ 85.00/US\$ 180.00, Cambridge, UK: Cambridge University
 Press, 2005

There are few cities in the world that arouse so much passion and concern as Venice. To anyone who has visited the city, this is immediately understandable. Often Venice seems frozen in time, a place of great architectural beauty and a vibrant history situated among the shallow waters of an extensive lagoonal system. Few

visitors pay much attention to the lagoon and not many will realize the complex structure of the saltmarsh (*barene*) systems and the intimate relationship between the surrounding habitat and the history of Venice itself. Millions of words have been written about Venice and *Flooding and Environmental Challenges for Venice and its lagoon: State of Knowledge* adds a considerable number to the total. This is a large volume; divided into seven substantial sections on a broadly thematic basis. With such a comprehensive edited work, overlap is inevitable and there are only so many ways each of the authors can try to introduce their subject in an entertaining and erudite way. The standard of the writing is high and the editors have taken care to ensure the general quality of the English. The purpose of the volume is to provide a statement of current understanding of Venice and its problems. In this, the editors have been successful; bringing together and impressive array of authors covering the many aspects of the 'Venice problem' from the perspective of engineering, restoration, hydrodynamics, biology and ecology. The edited volume approach allows each set of experts to express their views on their subject, and many of the contributions are fascinating, informative and thought provoking. I particularly enjoyed Ammerman's contribution (Chapter 13) and others like it where information is presented against the historical and cultural background that is so important to understanding the Venice situation. The editors have done a good job in writing introductory sections to place the material following in context but there is still a slightly piece-meal impression from the changing length, style and context of each of the chapters. This hard work by the editors is designed to help address this problem, which is probably inevitable given an edited volume of such length and range. However, some chapters stand out as very short and relatively insubstantial and their presence points to an inclusive policy by the editors that might have benefited from some editorial steel, especially given the overall length of the volume. Given the broad scope of the book, it is unlikely that a single reader would be able to appreciate all aspects of it. Some chapters are very academic, dealing with problems such as the modelling of water flow, and others very practical, such as Cecconi's description of the approach to restoration programmes in the Lagoon. So, in terms of Venice, the book is varied and will attract the interest of many academics, managers, engineers and environmentalists with a view to the future of Venice. However, the book also includes a diverse array of chapters which describe other situations around the world where coastal engineering has been used and demonstrates some of the issues that may face Venice if the MOSE barrier is successfully completed. I found these chapters extremely valuable. In engineering terms, the message often seems to be that less is more (for example Saeijs and Geurts van Kessel) but is this relevant to Venice? Asking for answers about Venice is a problem as this book eloquently demonstrates. Yes, we have a few specific answers to detailed questions, but there is no epiphany in this volume, and that sadly is the reality of the situation. The state of current knowledge falls short of the mark for the information required to understand the ecological and cultural future of Venice, with or without the MOSE barrier, and this book may raise more questions and arguments than it elucidates. However, this volume provides a solid background and for those, in addition to the scientists and managers, who love Venice and wish to be better informed, this is a good place to start.

DAVID M. PATERSON
Gatty Marine Laboratory
University of St Andrews
St Andrews, KY16 8LB, UK
e-mail: dp1@st-andrews.ac.uk

doi:10.1017/S0376892907253652

Global Coastal Change

BY IVAN VALIELA

vii + 368 pp., 185 figs, 44 tables, 27.5 × 22 × 1.5 cm, ISBN 1 4051 3685 5 paperback, GB£ 44.99/US\$ 89.95, Oxford, UK: Blackwell Publishing, 2006

Global Climate Change is a compelling account of the myriad ways that anthropogenic activities alter estuarine and coastal marine biotic communities and habitats. Written by an internationally-known authority who has conducted extensive research over the past four decades on the coupling between land and coastal sea, this book provides a wealth of synthesized information particularly on ecological and biogeochemical changes in coastal environments attributable to watershed development. The effects of pollution inputs, the loss and alteration of habitat, and the role of other anthropogenic factors (such as freshwater diversions, species introductions and overfishing) are investigated in detail. The author shows that human-mediated change of coastal systems has emerged as one of the most serious and threatening environmental problems worldwide. Habitat destruction has far-reaching ecological consequences, modifying the structure, function and controls of estuarine and coastal marine ecosystems and contributing to the decline of biodiversity. Habitat impacts in these ecosystems are increasing globally as coastal population growth and watershed development escalates in both developed and developing countries. These impacts are becoming more pervasive and complex because they involve multiple, interactive human-induced stressors.

This work is an extremely ambitious effort; it examines a wide range of environmental problems within a multidisciplinary framework. Valiela notes, in fact, that he set out to prepare three books in parallel to cover such a broad and data-rich subject area. The volume is well organized, consisting of 14 chapters which begin with ecological changes driven by global atmospheric, climate and sea level influences (Chapters 1–3). These chapters are followed by those targeting altered freshwater discharges (Chapter 4), sediment transport (Chapter 5) and habitat loss (Chapter 6). Effects of chemical contaminants are covered in Chapter 7 (petroleum hydrocarbons), Chapter 8 (chlorinated hydrocarbons) and Chapter 9 (metals). Chapters 10–13 deal with introduced species, fisheries exploitation, eutrophication and other agents of change (i.e. thermal, sound and radioactive pollution, as well as human pathogens and litter). Chapter 14 provides a summary and conclusions. The author attributes the variable length and detail of the different chapters to the flux of published literature from subject to subject.

The author has been proficient at selecting and citing key contributions from the literature to support his work, despite the overwhelming mass of material published in disparate journals on the topic of human-induced changes to coastal environments. Extensive references from USA (mainly) and worldwide literature sources superbly support discussions throughout the book, with some chapters having more than 100 citations (Chapters 7, 8 and 12). Case studies of anthropogenic impacts presented at the beginning of each chapter create an interesting platform upon which the remaining discussion is expertly framed. These case studies also place the content of the book into proper historical perspective.

There is a wide intended audience for this book, including researchers, coastal managers, decision-makers, students and the lay public (see p. vii). It has great potential value as a reference or primary text for senior-level undergraduate and graduate-level courses in