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BOOK REVIEWS

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The Next World War: Tribes, Cities, Nations, and Ecological Decline

BY ROY WOODBRIDGE

xv + 328 pp., 23 × 15 × 2.25 cm, ISBN 0 8020 803 9 paperback, US$ 27.95, Toronto, Canada: University of Toronto Press, 2004

Natural scientists, as well as growing numbers of others, are all too acutely aware of the terrible damage being inflicted on the biosphere as a result of unsustainable human exploitation, such extractions and discharges being driven by the needs and desires of ever greater numbers of people on Earth. Three of the best recent studies by natural scientists presenting this seemingly intractable problem, together with thoughtful approaches to its solution, have been by Holdgate (1996), Brown (2001), and Ehrlich and Ehrlich (2004). Among the most noteworthy comparable attempts by non-scientists are those by Catton (1980), Kennedy (1993) and Speth (2004).

The Next World War: Tribes, Cities, Nations, and Ecological Decline is one of the most recent additions to this field by a non-scientist. It must be noted at the outset that the title does not refer to war in its normal meaning, but rather to Woodbridge's call for the non-violent 'world war' that would be required, in his view, to save the biosphere from irretrievable total destruction by the year 2025. Those seeking treatments of the diverse interactions between armed conflict and the environment suggested by the title (and cover illustration) would thus be advised to refer to Westing (1980) and Homer-Dixon (1999).

Woodbridge is deeply frustrated by the lack of progress toward global ecological sanity, and rightly so, despite various organized attempts to strive for such sanity, beginning essentially with the 1972 United Nations Conference on the Human Environment. And he is properly dismayed at the current preoccupation of some of the major nations with terrorism, which distracts from the far more dangerous problem looming over all of us, to wit, of an Earth literally destroyed for human habitation through global ecological collapse and societal chaos. As a basic premise, this book correctly stresses that the 'sustainable development' being touted by many environmentalists and some politicians, basically an attempt to balance environmental health with human (social, economic) needs, is a deeply flawed policy. Rather, what must be achieved, first and foremost, is the sustainable exploitation of the biosphere (i.e. exploitation at a level no greater than its carrying capacity), and then the permissible extractions and discharges equitably distributed.

Woodbridge does find that for all to live a satisfactory life (which here assumes continued economic growth, prodigious technological innovations and the elimination of poverty), human numbers must be stabilized at eight billion by 2025, and their use of the biosphere (what he refers to as their 'provisioning' needs) curbed. But I was surprised that there was little distinction made in Woodbridge's prescriptions between human needs and desires; nor was there any discussion of the acute need for actually reducing global human numbers as a prerequisite to achieving his worthy aims. Apropos the population imperative, Woodbridge might well refer to the work of Hardin (1993). The 'battle plans' called for by Woodbridge in his 'world war' against ecological decline, i.e. to achieve the necessary social peace and progress that would permit everyone to have access to the necessary ecological goods and services, are: first, for all of the nations in the world to place ecological sustainability at the centre of their political agendas; and, second, for all of the nations in the world to unremittingly cooperate under the flag of the United Nations, beginning with a United Nations World Forum on Global Provisioning that would establish binding requirements.

Woodbridge has organized his presentation into six segments ('rounds'). The first four of these are meant to explain how humankind has arrived at its present socio-political turmoil and profound ecological dilemma, and to provide the basis for dealing with them. Round One deals with hunter-gatherer societies, Round Two with agricultural societies, Round Three with the rise of cities, and Round Four with the rise of nations. These perceptions seem to have been extracted and re-amalgamated largely from the seminal work of Diamond (1997), to which the reader is perhaps better advised to turn in the first instance. Here also, the findings of Kahn (1999) would offer useful insights into attempting the necessary cultural changes. Round Five deals with the rise of private-sector corporations. Finally, Round Six represents the Age of Global Provisioning, one that assumes that the 'world war' against ecological decline has been won prior to 2025. The Preface plus Chapters 1 and 2 of the book are introductory, Chapters 3 through 8 describe Woodbridge's first five Rounds, Chapters 9 through 11 deal with the stumbling blocks to achieving Round Six, and Chapters 12 through 15 present Woodbridge's strategy for winning the required 'world war' and thereby achieving Round Six.

The tone of the book is strident, the supporting materials presented are to too great an extent supported by popular or otherwise unrefereed citations, and the text is very repetitious. The prediction of Ragnarök occurring before 2025 (often repeated with minor variations throughout the book) is nowhere satisfactorily substantiated. Woodbridge's claims notwithstanding, the background information he presents, his analysis of the problem, and the proposed solutions have all been covered more than once in various scholarly publications (references below). However, since the world continues its march towards disaster, this book will add one more 'weapon' in the 'world war' being called for by Woodbridge.

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Reconstructing Conservation: Finding Common Ground

EDITED BY BEN A. MINTEER AND ROBERT E. MANNING

xiii + 417 pp. 22.5 × 15 × 2.5 cm, ISBN 1 55963 355 7 paperback, US$ 27.50, Washington, DC, USA: Island Press, 2003

This book was conceived as a response to Cronon (1996), who raised questions about the appropriate focus of conservation by deconstructing the images and meanings associated with the wilderness idea and its role in mid- to late-20th century conservation in the USA. While regarding the wilderness critique as having stimulated an important debate about the conceptual foundations of conservation, Minteer and Manning believe that it has gone too far and obscured many positive aspects of conservation history. As a response, Minteer and Manning convened a group of scholars to look more broadly (i.e. beyond wilderness) at USA conservation history and to draw lessons from this broader view for developing a strong conservation message and practice for the 21st century.

The book is organized into six parts. The introduction (Part 1) outlines the issues raised by the wilderness critique and the responses to it that are found in this book. The chapters in Part 2 discuss the historical relationship between culture and nature, focusing on alternatives to the more common emphasis on western USA environmental history and public lands. The chapters in Part 3 rehabilitate forgotten or underemphasized strands of USA conservation history, including agrarianism, the progressive era, pragmatic conservation, regional planning, tensions between professionalism and citizen action, and the back-to-the-land movement. These chapters clearly show the diversity in the roots of conservation in the USA, and potential contributions of this history to conservation today. Part 4 provides a sample of new ideas in conservation, including conservation philosophy, ecological economics and ecology. Essentially, these chapters present alternatives to morally-based conservation ideologies in the form of inclusive, science-based approaches to conservation. Part 5 discusses a new philosophy of conservation that essentially combines a social approach rooted in collaboration and democratic discourse with a science-based adaptive management approach. The conclusion (Part 6) distils 12 principles for a reconstructed conservation that emphasizes (1) the integration of nature and culture over landscapes, (2) pluralism, inclusiveness and social justice, (3) human intervention and stewardship to maintain ecosystem services and values, and (4) democratically-engaged community-based approaches.

Reconstructing Conservation provides an expansive view of conservation that, in being pluralistic, adaptive and collaborative, stands at odds with the way conservation in the USA has sometimes been portrayed as one-dimensional and ecocentric in the social-science literature. This is a welcome and important reinterpretation of conservation history, however the book does not venture far beyond developing this new vision. I would have liked to see the book conclude with some discussions of the challenges and opportunities that might be faced in implementing this broader approach. Conservation practice over the past decade includes a number of efforts to apply adaptive management and community-based conservation, and a review of some of these cases could have indicated some of the important areas for conservation learning in the near future, for example, how to engage the complex political realities, power relationships and value differences that are discussed or hinted at in many of the early chapters of the book. Perhaps this is more than can be asked from one book. *Reconstructing Conservation* does an admirable job of outlining a pluralistic and democratic philosophy of conservation that is grounded in history and science, a vision that can provide a strong foundation for conservation practice in the 21st century. Everyone working in conservation today should read this book.

Reference

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Biodiversity: an Introduction. Second Edition

BY KEVIN J. GASTON AND JOHN I. SPICER

xv + 191 pp., 24.5 × 17 × 1 cm, ISBN 14051 18571 paperback, GB£ 19.99, Oxford, UK: Blackwell Publishing Ltd, 2003

In the six years since the first edition of this book was published the scientific study of biodiversity and conservation has continued to evolve and expand. Unfortunately, over the same time period the threats to global biodiversity do not seem to have diminished and rarely a week goes by without another scientific report predicting ecological catastrophe in some part of the small blue planet, Earth. A new edition of Gaston and Spicer's entry-level book is therefore timely and reflects a growing demand throughout the higher education sector and beyond.

The new edition is much weightier than its predecessor but, at nearly twice the length, it is still readable and user-friendly. The book begins with an examination of the nature and history of biodiversity (chapters 1 and 2) and this is followed by an examination of the spatial distribution of biodiversity (chapter 3). The second part of the book is much more applied and focuses on the value of biodiversity (chapter 4), human impacts on biodiversity (chapter 5), concluding with a chapter on the future maintenance of biodiversity that draws

extensively on the Convention on Biological Diversity (CBD). All these chapters are clearly written, logically structured and extensively illustrated. Each chapter concludes with a short and informative summary and an extensive and up-to-date list of further reading (including websites) for those wishing to go deeper into the subject. The main changes in content from the former edition are a move away from a taxonomic perspective and a greater emphasis on applied issues.

As befits an introductory textbook on biodiversity, what you get is textbook explanations and perspectives, so do not expect a particularly optimistic outlook or any overt politics. Thus, while the reader learns that it is a 'lamentable state of affairs' that the present taxonomic 'workforce is actually in decline' (justified by a 1992 reference), there is no corresponding mention of the imminent digital revolution that some authors (for example, E.O. Wilson) believe will propel systematics back into mainstream science. The resolutely apolitical agenda is most obvious in the final chapter, where the CBD is used as a framework for discussing the maintenance of biodiversity regardless of 'whether or not one regards the convention of having a major significance'. Personally, I would have liked to see the authors climb off the fence and try to answer the million-dollar question: twelve years after Rio, what has really been achieved?

In the final analysis, this book does exactly what it says on the cover. It is a concise and useful introduction to the study of biodiversity that does everything you would want from a second edition: it is better than the previous edition and generally up-to-date. As a primer for biodiversity science it can not be bettered and will undoubtedly be appearing on student reading-lists across the country before long.

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Climate Change Economics. Why International Accords Fail

BY G. CORNELIS VAN KOOTEN

viii + 167 pp., 24 × 16 × 2 cm, ISBN 1 84376 812 7 hardback, GB£ 45.00, Cheltenham, UK : Edward Elgar Publishing Ltd, 2004

Climate change remains the 'hottest' environmental topic of our time. With international climate policy development grinding to a halt, the interest again turns to the theories that may explain why this halt has occurred, and perhaps show a way out of the current gridlock. The timely new book by Kees van Kooten looks into these matters, but without offering much hope to environmentalists.

The basic message of the book is sceptical. The Kyoto Protocol is useless because it is directed at the short term and omits developing countries. Countries that have stuck to the Kyoto Protocol are unlikely to meet its obligations. Climate change is therefore likely to continue unchecked, which is a good thing, as it will bring benefits to most.

The analysis that underlies this message is superficial, however. In the preface, Van Kooten writes that this book grew out of a series of presentations he was asked to give on climate change and climate policy. The book reflects that, as most parts are rough sketches only, frequently out-of-date, occasionally incorrect, and not always thoughtful.

The chapters that review the science of climate change, the climate change impacts and emission abatement are best forgotten. The IPCC does a superb job in comparison. Quality improves in the chapter on carbon sinks, but little that is original is on offer. The assessment of Canada's climate policy is interesting. The current plans of the Canadian government are expensive but unlikely to meet the Kyoto targets. Rather than stepping up its ambitions, the government intends to flout international carbon accounting rules by shifting the responsibility for carbon dioxide emissions from the energy consumer to the producer. This strategy would put the main burden of climate policy on Saudi Arabia, Russia and other energy exporters.

The book also presents a novel analysis of the economic impacts of climate change. Van Kooten regresses the per caput income of countries on temperature, precipitation and latitude. He ignores the other, well-documented explanations of income differences in the world. He ignores the burgeoning literature on geography and growth. He ignores that cross-sections are not suited for analysing dynamic problems. In the interpretation of the results, he assumes that climate change is a one-time shock, rather than a gradual process.

In sum, this book is disappointing. It offers little news to the experienced climate economist, and it falls short as an introduction for the uninitiated.

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Mangrove Management and Conservation. Present and Future

EDITED BY MARTA VANUCCI

xxiii + 324 pp., 23.5 × 15.5 × 1.75 cm, ISBN 92 808 1084 7 paperback, US$ 21.95, New York, USA: United Nations Press, 2004

This book has a wonderfully simple title, which would lead most readers to expect a treatise on a generic strategy on mangrove management and conservation, or at least a synthesis of successful strategies from mangroves ecosystems across the globe. However, the book is actually a disparate collection of papers delivered at a workshop held in March 2001 at the University of Tokyo. The book begins with an Introduction by the editor followed by a keynote presentation delivered by Shigeyuki Baba entitled 'What we can do for mangroves'. The bulk of this presentation consists of 20 pages of photographs of mangrove uses and abuses on Okinawa and other locales throughout the world. The remaining chapters deal with various aspects of mangrove management, ecology, conservation, sustainable and unsustainable uses, and restoration. The book ends with a section consisting of a summary of presentations, guidelines for future action, and a mangrove action plan.

Part I of the book offers seven unrelated chapters dealing with mangrove structure and function. As with most proceedings, these chapters vary greatly in depth of detail and level of science. Some chapters deal with small-scale aspects of mangrove ecology such as

the morphology of *Sonneratia* and *Avicennia* pneumatophores, other with large-scale perspectives on reforestation in China, Vietnam and conservation in Indonesia and India. The chapter by Shokita on the role of aquatic animals in mangrove ecosystems is impressive in its detail on benthos, fish and other organisms, mostly in Okinawan and some Thai mangroves. Unfortunately, it is unclear why a research paper such as this one was included in a book dealing with management and conservation. The chapter by Hong does, however, offer important information on reforestation efforts in Vietnam, including before and after effects on mangrove ecology and forest development. Fujimoto provides very valuable data on carbon burial and storage rates in mangrove soils in the final chapter of this section.

Part II focuses on function and management of mangroves in Thailand, Fiji, Pakistan, the Philippines, Mexico and Okinawa. The chapters by Aksornkoae and Primavera stand out as particularly good expositions on the status of mangroves in Thailand and the Philippines, respectively. The remaining chapters of the section vary in terms of information content and usefulness to the average reader concerned with mangrove conservation and management.

Part III deals with uses and policies, although many of the five chapters are indistinguishable from those of the previous section in terms of subject matter. The first chapter by Kogo and Kogo has less information than the assessment of Vietnamese mangroves by Hong. Similar problems are evident with some of the remaining chapters on mangroves in Bangladesh, Tanzania and Indonesia. The chapter by Ajiki on socio-economic studies of mangroves in south-east Asia makes interesting reading as so few data regarding social and economic uses of mangroves are readily available.

Part IV provides a summary of the presentations, but is unfortunately too vague to be useful for the average reader; there is no clear recitation or analysis of some of the very useful numbers provided by some authors in this book. The same can be said of the mangrove action plan presented in the last chapter. It is very vague and falls far short of the recommendations presented by the International Society of Mangrove Ecosystems a few years ago.

The book is not a definitive assessment of the global status of mangrove conservation and management, but it contains a number of chapters that contain useful information on various aspects of mangrove ecology and the status of conservation efforts in a few countries. Considering the very modest price, this well presented and illustrated volume should appeal to practitioners, administrators and policy-makers who seek to understand and manage mangrove forests around the world.

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Measuring the Natural Environment. Second Edition

BY IAN STRANGEWAYS

ix + 534 pp., 24.5 × 17 × 2.25 cm, ISBN 0 521 52952 2 paperback, GB£ 35.00, Cambridge UK: Cambridge University Press, 2003

The book is a compendium of the wide range of measurements made and used in probing and studying the environment in a broad sense. As such, it covers a multitude of areas spanning meteorological, hydrological and oceanographic measurements and their many sub-disciplines.

The overall outline of the book follows, in a logical manner, the individual measured variables, starting from the sun's radiation as the primary source of energy, spanning those describing energy transfer, and finishing with the overall measurements taken from space via remote sensing. As technology has been developing rapidly, it is not easy for a book of this scope to stay up-to-date in all areas at all times. Furthermore, it is easy for specialists in individual fields to criticize the book in particular areas for not being thorough enough or not covering the latest developments. However, the author succeeded in finding a reasonable middle ground in most areas covered.

I am unable to judge all areas covered in the book adequately, but will focus on some highlights within my personal field of expertise. For many of the discussed variables, the book focuses a lot on more traditional methods, and this is also reflected in the references, with comparatively few dated after 2000. Nevertheless, it is probably appropriate for such a book to explain variables mainly on the basis of first principles, which were often more directly measured by traditional methods.

For me the most glaring omissions are the lack or inadequate description of measurement methods involving aircraft-based sensors. As an example, there is no mention of the widespread use of airborne techniques to derive spatial averages of evaporation and fluxes of, for instance, CO_2 (chapters 7 and 20). Instead, a rather exotic instrument, such as the atmometer, is described. Another example of the lack of mention of airborne techniques is in the section 'Measuring ocean-atmosphere fluxes' (chapter 17). While considerable space is devoted to the description of clouds, there is no mention of how cloud properties, such as droplet size or shape of ice crystals, are measured.

In some instances, statements are oversimplified, such as when the author states that instruments used on research aircraft are the same as those used on the ground.

Probably the most difficult area in which to stay up-to-date is the field of remote sensing. While the book covers the underlying physical principles adequately, it only covers some examples of specific satellites and sensors. Perhaps a greater emphasis should have been put on referring the reader to appropriate websites, to address the topic more comprehensively.

One of the most important developments, which is in widespread use in many areas for measuring environmental variables, data logging and navigation, and which has revolutionized the ease of making such measurements at unprecedented accuracies, is the global positioning system (GPS). Yet it is only mentioned in two short sentences.

In summary, it is not an easy task to compile a book covering such a wide area, and it can be said that the author has, to a large degree, succeeded in this task. There is scope for improvement, however, and a future edition of the book might perhaps shorten some of the sections describing traditional measurement methods and add sections about more modern instruments and measurement principles.

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Sperm Whales. Social Evolution in the Ocean

BY HAL WHITEHEAD

xxiii + 431 pp., 23 × 15 × 2.5 cm, ISBN 0 226 89518 1 paperback, US$ 30.00/GB£ 21.00, Chicago IL, USA: University of Chicago Press, 2003

This important book first introduces an undoubtedly extraordinary animal to the reader with a general account of its basic biology and the history of its human interactions. Successive chapters then look at habitat use and the biology of sperm whales in considerable detail, including their ecological role, movement patterns, vocalizations and social structures. The book includes an interesting prologue that comprises a series of popular accounts of sperm whale behaviour, an annex outlining the research methods applied to sperm whale studies and a long and helpful reference list supplementing the author's own extensive research.

The cover notes suggest that the book will be of interest to a range of researchers, including animal behaviourists, evolutionary biologists and, of course, marine mammalogists. As, in my view, this is the definitive work on sperm whales published to date, containing a detailed, highly lucid and up-to-the-moment account, I would certainly not dispute this. However, I suspect that this book may also find a readership amongst the growing number of non-specialists who are fascinated by whales and hunger for more information about them. Whilst the text is long and in places quite technical, there is also much of general interest, including, for example, accounts of encounters between groups of sperm whales and whale-eating orcas.

In several respects, *Sperm Whales* reminds me of the famous primate texts of Jane Goodall. Like her, Whitehead has entered the animals' natural habitat to conduct groundbreaking studies and, also like Goodall, he knits his observations and those of other scientists into a coherent account of the previously largely-unappreciated complex behaviours and societies of his subjects. In *Sperm Whales*, Whitehead does for this cetacean species what Goodall did in *The Shadow of Man* (and similar works) for appreciation of chimpanzees.

The layout of the book helps to guide the reader logically through issues, data and analyses. The short summary sections at the end of each chapter, where the main conclusions are restated, are particularly useful. Overall, the presentation is highly user-friendly, showing that the author has given much thought to the means of organizing material in the most compelling and comprehensible fashion. The typeface and general arrangement are clear and easy to read, and one aspect that I found particularly helpful is that the book is small enough to carry around (for example in a large coat pocket or briefcase) allowing it to be dipped into whilst travelling! The large numbers of figures, including line-drawings and black and white photographs, support understanding of the content. Given the high production standards of many whale books today, some readers may be disappointed by the grainy quality of the photographs. Underwater pictures perhaps do not really lend themselves to monochrome reproduction, but the lack of colour plates has probably helped to keep the publication costs down.

Whilst this is essentially a detailed description of the biology of the subject species, a strong conservation theme runs through the book and some of the author's conclusions point towards the need for a better human appreciation of the needs of these animals. For example, he presents the evidence that whaling significantly affected sperm whale social structure, as well as population sizes, lowering population growth rates.

All in all, this is a book of considerable importance and I commend it to anyone with an interest in animal behaviour or marine mammals.

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Invasive Species. Vectors and Management Strategies

EDITED BY GREGORY M. RUIZ AND JAMES T. CARLTON

xii + 518 pp., 23 × 15 × 3.5 cm, ISBN 1 55963 903 2 paperback, US$ 40.00, Washington, DC, USA: Island Press, 2003

This large book is the first to focus wholly on pathways of invasion and prevention through their closure. A better title would have included the word 'pathway' rather than 'vector,' which is used somewhat idiosyncratically. The chapters, primarily heavily updated versions of presentations from a 1999 Global Invasive Species Programme conference, are authored by many leading invasion biologists as well as managers of invasions. Plants, vertebrates and invertebrates are all treated, and, though many chapters feature marine and aquatic examples, terrestrial invasions are well represented. Unlike most books in the recent surge of volumes on introduced species, *Invasive Species* does not emphasize impacts of particular invaders or management of established species, but rather the ways in which invaders get in and how they might be stopped.

Dealing with this problem is somewhat eased by the fact that, for many taxa, most invaders are deliberately introduced, a point highlighted by R.N. Mack in a wide-ranging chapter on patterns in terrestrial plant introductions. The reader might then believe that careful risk assessment of particular species planned for introduction and raising the bar for import permits would be very useful. Chapters by P. Pheloung, J.F. Cavey, K.R. Hayes, R. Orr and D.A. Andow discuss such 'organism risk assessments' in the USA and Australia. The USA uses a delphic process derived by Orr in 1993 and outlined in his chapter; experts estimate various probabilities associated with introduction (for example probabilities of survival, spread, environmental impact and economic impact), which are then combined in an arbitrary but standardized algorithm to yield a species score. This score is used in the decision to permit or reject the introduction. The Australian system, devised largely by Pheloung and described in his chapter, uses more questions (49, mostly of the yes-no type) but again combines them with an arbitrary algorithm to yield a score that is the basis for permitting. A recurring theme of several authors is that for many, perhaps most, species there is insufficient information to answer the questions or estimate probabilities with much assurance. It therefore surprises me that none of the authors question the notion that quantitative risk assessment is an appropriate framework for permitting introductions or raise the possibility that the very fact that each species gets a numeric score might confer a false sense of precision and security on the assessment.

When introductions are not planned, the problem is even harder, and the focus automatically turns to pathways. For instance, a chapter by M.A. Ribera Siguan shows how ostreiculture is responsible for many marine plant invasions, while that by R.H. Cowie and D.G.

Robinson points to hitchhiking on ceramic tiles as a means by which many snails are introduced. Ballast water and fouling are important pathways for marine species, as detailed in chapters by Fofonoff *et al*. and Colautti *et al*. There is thus intense interest in devising some sort of quantitative risk assessment for entire pathways. Progress is quite limited, however, and is discussed only by Orr and Andow. The explicit USA approach, described by Orr, is simply to attempt to list all species that might arrive by a pathway of interest, then conduct organism-species risk assessments (as described above) for each species (or what is hoped to be a representative sample), then combine the species scores. However, Orr proposes no algorithm for combining the scores, nor does he discuss how this process might proceed. Andow describes an Australian risk assessment for the insect invasion pathway consisting of sea cargo containers, but this assessment also entails determining which species might use such a pathway and what risks these species pose, but does not include a formal method of assigning an overall risk or using the assessed risk in decision-making.

In addition to general discussions of pathways and risk assessments, this volume has many nuggets about how particular species came to invade, and some of them (such as the use of paving stones by snails) are not well known even to invasion specialists. For instance, the chapter on pathways for insect invasion by K. Kiritani and K. Yamamura has comprehensive information on how various species got to Japan, highlighting military transport as an important route. P. Fuller, in a chapter primarily summarizing and quantifying a recent book she coauthored on fish introductions to the USA, details other aquatic-vertebrate introductions, including a remarkable 19th century attempt to use sea lions as a biological control for carp at an inland California reservoir! Andow, making the important point that changing conditions can confound risk assessments, describes the contorted geographic and evolutionary path by which the rice water weevil, found on wetland grasses in its native Caribbean range, came to be a rice pest in mainland Asia.

In sum, as both the most comprehensive treatment of invasion pathways and a repository of important facts on many invaders, *Invasive Species* is an excellent addition to many bookshelves.

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