2007–2008

Environmental Science

www.scipub.net

Science Publishers
Enfield, New Hampshire, USA

INCENTIVES IN SOIL CONSERVATION

From Theory to Practice

David Sanders et al. *(eds.)*

A WASWC Publication

978-1-57808-061-8; 1999; 402 pages, pb; $ 44.70

The book examines the use of incentives and disincentives in soil conservation programs; looks at the theory behind their use; and how they have worked in practice. Intended for planners, policy makers, and all involved in designing and implementing soil conservation programs.

"This book constitutes a valuable guidance to planners, policy makers, and all those involved in designing and implementing soil conservation programmes, and land use planning in general."

— **The Land,** Vol. 3.3 (1999)

BIODIVERSITY AND SUSTAINABLE CONSERVATION

H.D. Kumar

978-1-57808-076-2; 1999; 418 pages, hc; $ 66.60 ††

Continuing loss of our biological capital is undoubtedly one of the most important human problems today. This book presents findings and views that should facilitate identification and implementation of remedial measures to conserve species before they vanish, taking with them their genetic legacy and potential benefits for generations to come.

CONSERVATION AND IMPROVEMENT OF SLOPING LANDS

A Manual of Soil and Water Conservation and Soil Improvement on Sloping Land

P.J. Storey

Volume 1: Practical Understanding

978-1-57808-201-8; 2002; 336 pages, 215 × 270mm, hc; $ 66.10

"This book will provide an invaluable guide to any rural development worker faced with the basic problems of farmers in the developing world, on how to gain the maximum productivity from their land while at the same time conserving its soil and fertility."

— **Newsletter of the World Assn. of Soil and Water Conservation,** Vol. 18, No. 4, Oct.–Dec., 2002

"...a comprehensive manual covering virtually every aspect of the subject, ..."

— **The Tropical Agriculture Association Newsletter,** Vol. 23, No. 1, March 2003

Volume 2: Practical Application: Soil Improvement

978-1-57808-250-6; 2003; 262 pages, 215×270 mm, hc; $ 62.70 ††

This book is recommended as a manual to rural development workers faced with the problems of land degradation in developing countries.

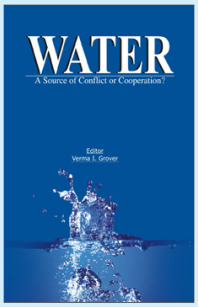
Volume 3: Practical Application: Soil and Water Conservation

978-1-57808-234-6; 2003; 368 pages; 215 × 270 mm, hc; $ 72.80

The objective of this publication is to provide practical advice on how to carry out various conservation practices. It contains the basic information that every field worker should have about soil, including its formation, chemistry, physical attributes and management. It covers also a number of related subjects, like vegetation, livestock management, surveying and approaches to extension. All this is done in an easy to read English, with the use of technical terms being kept to a maximum.

"...This is a valuable book that deserves to be read and used."

— **Land Degradation and Development**, 15, 2004



WATER

NEW

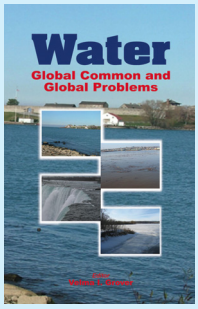
A Source of Conflict or Cooperation?

Velma I. Grover (ed.): Natural Resource Consultant, Hamilton, Ontario, Canada

978-1-57808-511-8; July 2007; 370 pages, hc; $ 64.40

This book contains chapters which discuss water conflict in different scenarios such as trans-boundary issues, multiple stakeholders conflict, conflicts due to water scarcity caused by either unequal distribution of water, or, change in water quality due to climate change or change in precipitation pattern. The book will interest environmental scientists, policy makers, aid agencies, NGOs, social scientists amongst other.

CONTENTS: **Introduction:** Introduction: *V.I. Grover;* Water Wars? Conflict, Cooperation, and Negotiation over Transboundary Water: *Shlomi Dinar;* Conflicts in Shared River Basins: *Nils Petter Gleditsch* et al. / **Asia:** Water Conflicts in China: *Desheng Hu;* Disputes over Water, Natural Resources and Human Security in Bangladesh: Towards a Conflict Analysis Framework: *Irna van der Molen* / **Africa**: The Hydropolitics of Cooperation: South Africa during the Cold War: *Anthony Turton;* Competition for Limited Water Resources in Botswana: *Umoh T. Umoh* et al.; Water Conflict in West Africa: The Niger River Basin Experience: *Umoh T. Umoh* et al.; River Development and Bilateral Cooperation: Lesotho Highlands Water Project Case Study: *Naho Mirumachi* / **Australia:** Water: An Essential Commodity and Yet a Potential Source of Conflict with Special Reference to Australia: *Syed U. Hussainy and S. Kumar* / **Comparisons Between Continents:** Enhancing Sustainability in River Basin Management through Conflict Resolution: Comparative Analysis from the U.S. and South Korea: *Young-Doo Wang* et al. / **North America:** International Joint Commission: A Model of Cooperation in the Great Lakes Region: *V.I. Grover* and *Haseen Khan* / **South Pacific:** Water in the Pacific Islands: Case Studies from Fiji and Kiribati: *Eberhard Weber.*



WATER
Global Common and Global Problems

Velma I. Grover (ed.): Natural Resource Consultant, Hamilton, Ontario, Canada

978-1-57808-409-8; 2006; 548 pages, hc;
$ 95.20 ††

Water is one of the most essential element for the survival of living beings. With the increase in demand and decreasing quality and quantity, water has become one of the major issues and problems in the world today. It is unevenly distributed geographically and temporally, resulting in surpluses for some people and a threat for others.

This book covers topics on scientific aspects, governance, and best management practices. The book shows that good governance, policies for effective conservation and public participation are important for water use. There are a lot of examples of best management practices all over the world — for effective and efficient use of water, community-based programs in North America, Asia and Africa. The book provides two case studies.

BIODIVERSITY AND CONSERVATION

Gabriel Melchias

978-1-57808-146-2; 2001; 250 pages, pb;
$ 44.20

"... there has been no other book so thoroughly surveying biodiversity and conservation in so short a space, or that identifies so many potential or existing problems with current or posed policies."

— **CHOICE**, Jan. 2002, Vol. 39, No. 05

A WASWC Publication

GROUND AND WATER BIOENGINEERING FOR EROSION CONTROL AND SLOPE STABILIZATION

David Barker et al. *(eds.)*

978-1-57808-209-4; 2004; 440 pages, hc;
$ 84.00 ††

With the rapid expansion of development the need for effective measures to protect soil and water resources has risen dramatically. This volume focuses on bioengineering technology that utilizes vegetative and vegetative-structural solutions to prevent erosion and stabilize sites disturbed by infrastructure and transportation development, mining, forestry and agriculture. Will be useful to engineers, government officials, multi-lateral agencies, NGO's, soil conservationists, foresters, ecologists, agriculturists and landscape architects.

NEW

MONITORING AND EVALUATION OF SOIL CONSERVATION AND WATERSHED DEVELOPMENT PROJECTS

Editors:
Jan de Graaff: Wageningen University, The Netherlands
John Cameron: University of East Anglia, Norwich, UK
Samran Sombatpanit: Former President of WASWC
Christian Pieri: Formerly of World Bank, France
Jim Woodhill: Wageningen University and Research Centre, The Netherlands

978-1-57808-349-7; October 2007; 500 pages, pb;
$ 69.50

This book provides diverse information and know-how to implement appropriate methodology and cost-efficient monitoring and evaluation systems better suited to assess the impacts of soil conservation and wastershed multi-sectoral development activities. It draws on a worldwide experience of specialists and a large array of ground-truthing projects and program. The objective of this book is to convince financing institutions and project managers that integrated watershed management activities have the potential to generate. The desired result for the society at large, which have accurate monitoring and evaluation systems.

BIOINDICATORS AND BIOMARKERS OF ENVIRONMENTAL POLLUTION AND RISK ASSESSMENT

Kaiser Jamil

978-1-57808-162-2; 2001; 228 pages, hc;
$ 70.60

"... (Author) provides the reader with an excellent overview of the variety of animals and plants that are available for use as environmental monitors. Her message that the utilization of a single species or target bioindicator is not appropriate or scientifically sound for the monitoring of several toxic pollutants is an important concept. ... The excellent overview of frequently found toxic pollutants in the environment provides the reader with firm toxicology foundation for subsequent examination of specific biomarkers and mechanisms of toxic agent activity."

— **James E. Klaunig**, Director of Toxicology, Indiana University, Indianapolis, Indiana, USA

MICROBIAL ECOLOGY OF SOIL AND PLANT GROWTH

Pierre Davet: Institute National de la Recherche Agronomique, Versailles, France

... see Agriculture

THE LIVING SOIL
Fundamentals of Soil Science and Soil Biology

Jean-Michel Gobat, Michel Aragno, and *Willy Matthey:* l'Université de Neuchâtel, Switzerland

... see Agriculture

SOIL ABIOTIC AND BIOTIC INTERACTIONS AND THE IMPACT ON THE ECOSYSTEM AND HUMAN WELFARE

P.M. Huang: University of Saskatchewan, Saskatoon, Canada
A. Violante: University of Naples, Portici, Italy
J.-M. Bollag: The Pennsylvania State University, University Park, USA
P. Vityakon: Khon Kaen University, Khon Kaen, Thailand

978-1-57808-344-2; 2005; 460 pages, hc;
$ 111.40 ††

The book is divided into five parts. The initial portion covers the overview of the subject which addresses abiotic and biotic interactions and the impact on restoration of terrestrial ecosystems and human welfare. Several chapters deal with the roles of abiotic and biotic interactions in the transformations of (a) natural organics and xenobiotics, (b) nitrogen, phosphorous, sulfur, and boron, and (c) metals and metalloids, respectively. The book also addresses the issue on rhizosphere processes which is the bottleneck for sustaining biological productivity and protecting the human food chain.

It will serve as a reference for professors, students, and consultants, etc. in Environmental Science, Soil Sciences, Ecology, and Ecotoxicology.

"This is a useful reference book, particularly for soil chemists and biologists."

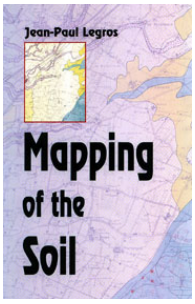
— **Experimental Agriculture**, Vol. 42, 2006

MAPPING OF THE SOIL

Jean-Paul Legros: L'Ecole Nationale Superieure Agronomique (ENSA), Montpellier, France

978-1-57808-363-3; 2005; 426 pages, hc;
$ 84.00 ††

The author presents the methods of cartography that are applied to the soil mantle in order to understand the spatial organization of soils in the natural environment, summarize the information in a useful manner, and apply the information in a



socially and economically justifiable way. He primarily addresses students in soil cartography classes, and so appends three exercises.

"...a very useful reference for conducting a soil survey project from start to finish."

— **Soil Science Society of America Journal**, August 2006

"This book will help anyone better to understand the maping of soil, and comes highly recommended."

— **Geological Magazine, CUP**, Vol. 143/4–2006

No Rights: Europe, Australia & NZ

MANAGING ARSENIC IN THE ENVIRONMENT

From Soil to Human Health

R. Naidu, E. Smith, G. Owens, P. Bhattacharya and *P. Nadebaum (eds.)*

978-1-57808-425-8; 2006; 664 pages, hc;
$ 143.40

The books presents an overview of the history of arsenic contamination around the world. Two papers present analytical tools for assessing the dynamics of arsenic in environmental samples. Other contributions discuss the dynamics of arsenic in groundwater; the fate of arsenic in soil, water, and plants; food chain issues, and human health issues. These are followed by discussion of remediation practices for arsenic — contaminated water and soils. Finally, 11 country case studies look at extents of arsenic contamination and poisoning in Asia and the Pacific, as well as some cases of arsenic mitigation efforts.

FEATURES: Contains contributions from an international team of key researchers; Includes recent international case studies, giving a broad perspective on the extent of arsenic contamination throughout the Asia-Pacific region; Takes a whole of systems approach, providing a picture of the transfer of arsenic from ground water to humans, impacts to human health and management strategies

Translated from French

SOIL: FRAGILE INTERFACE

Editors:
Pierre Stengel: Institut national de la reserche agronomique, Paris, France
Sandrine Gelin: Institut national de la reserche agronomique, Mercy l'etoile, France

978-1-57808-219-3; 2003; 252 pages, hc;
$ 84.00 ††

"Focuses on soil as the surface blanket, lithosphere of the earth's crust in contact with the atmosphere.... chapters treat the soil as a complex living and reactive entity. Useful as a refresher for biologists, ecologists, soil scientists, soil and water conservationists, and sanitation engineers."

— **CHOICE**, March 2004, Vol. 41, No. 7

ENVIRONMENTAL PROTECTION AND RISK ASSESSMENT OF ORGANIC CONTAMINANTS

R.S. Kookana, Ross Sadler and *Ravi Naidu (eds.)*

978-1-57808-193-6; 2002; 266 pages, hc;
$ 89.50

CONTENTS: ***Environmental and Human Health Risks:*** Organic Contaminants in Soil Environment: Environmental Fate, Impacts, and Remediation; PAHs in the Soil Environment and their Bioavailability; Risk Assessment Methods and Approaches with Particular Reference to Organic Compounds at Gasworks Sites; Terrestrial Ecotoxicity Tests Using Soil Fauna and Flora; Environmental Concentration of Pesticides in Cotton Production Systems: Risk Assessment by Fugacity Modelling / ***Environmental Fate and Off-Site Migration:*** Extrapolation of Pesticide Sorption Data between Agroclimatic Regions; Wetland Rice Ecosystem: A Favourable Environment for Pesticide Biodegradation; Transport of Sediments and Pesticides in Surface Water / ***Management and Remediation:*** Groundwater Vulnerability Assessment for Pesticides at the Plot, Field, and Regional Scale; Problems and Issues Relating to Pesticide Residues in Food and the Environment: The Malaysian Experience; Minimising Environmental Contamination by Selecting Appropriate Herbicide Dose; Bioremediation of PAH-Contaminated Soil: Factors Limiting and Strategies for Improving the Degradation of Benzo[a]pyrene.

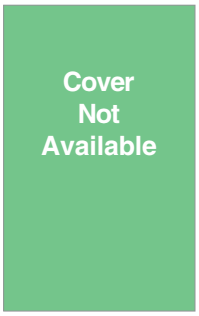
MANAGEMENT OF TROPICAL PLANTATION FORESTS AND THEIR SOIL LITTER SYSTEM

Litter, Biota, and Soil-Nutrient Dynamics

M. Vikram Reddy (ed.)

978-1-57808-176-9; 2002; 444 pages, hc;
$ 121.00

Sustainable management of planted forests in tropical areas depends on knowledge of the various aspects of litter, biotic, and soil-nutrient dynamics—systems which affect the growth and productivity of trees in plantations of any size, as well as the long-range health of the ecosystem. This volume comprises contributions from renowned international scientists who discuss the specifics for an audience of environmental biologists, soil scientists, forest conservators, plantation managers, and others with an interest in the tropics.



BIOAVAILABILITY, TOXICITY AND RISK RELATIONSHIPS IN ECOSYSTEMS

R. Naidu, V.V.S.R. Gupta, S. Rogers, R.S. Kookana, N.S. Bolan, and *D. Adriano (eds.)*

978-1-57808-192-9; 2003; 360 pages, hc; †† $ 107.50

This publication, based on a symposium held in 1997 at Berkeley University, California, is a compendium of information that elucidates the role of bio-availability in determining toxicity, and in turn its significance in risk assessment. It presents detailed chapters on fundamental principles governing contaminant bio-availability and potential implications or bio-availability to environmental and human health.

"This book is a useful source of information... highly recommend it for both new and established researchers in soil and environmental science who study soil contamination, remediation, and ecosystem health as their research focus; remediators; environmental planners; and interested regulatory authorities."

— **Journal of Environmental Quality**
Vol. 35, No. 3, May–June 2006

Translated from French

ECOLOGICAL RISK EVALUATION OF POLLUTED SOILS

Jean-Louis Riviére: Institut National de la Recherche Agronomique, Versailles, France

978-1-57808-124-0; 2000; 235 pages, hc;
$ 72.80

This work is the first to present a holistic view of the fundamental principles and practicable methods in polluted soils. The work is authoritative and proposes a set of definitions before going into different aspects of the evolution of pollutants in the soil, and of their toxicity. The book then describes risk formulation, which is essential in establishing a procedure that includes economic, social, and political data.

"This publication is very valuable and essential guideline and introduction for all decision-makers, evaluators, planners and students who deal with environmental issues, in particular with soil pollution."

— **The Land**, Vol 5.1 (2001)

UNDERSTANDING LAND-USE AND LAND-COVER CHANGE IN GLOBAL AND REGIONAL CONTEXT

Editors:
Elena Milanova: Moscow State University, Moscow, Russia
Yukio Himiyama: Hokkaido University of Education, Asahikawa, Japan
Ivan Bicik: Charles University, Prague, Czech Republic

978-1-57808-365-7; 2005, 350 pages, hc;
$ 89.00

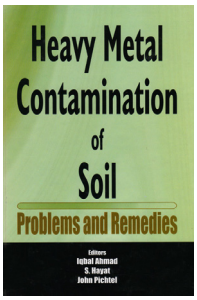
Geographers from around the world, along with scholars in forestry, botany, ecology, business, and other fields, explore not the current status of land use and land cover, but the causes and impact of changes in them, including the biophysical and socioeconomic dimensions. They cover global trends of change and their interaction with global environmental changes; regional diversity, integrating environmental, socioeconomic, and historical knowledge about change; documentation, classification, and mapping issues; and land-use management and policy in various regions. The 21 studies have been presented at various workshops and conferences.

LAND USE CHANGES IN COMPARATIVE PERSPECTIVE

Editors:
Yukio Himiyama: Hokkaido University of Education, Asahikawa, Japan
Manik Hwang: Seoul National University, Seoul, Korea
Ichinose Toshiaki: Centre for Global Environmental Research, Tsukuba, Japan

978-1-57808-213-1; 2002; 286 pages, hc;
$ 89.60

Presents comparative case studies of land use/cover changes. The volume's 19 contributions address data and methods; urbanization; sustainability of rural land use; land reclamation and coastal change; and land-use change in peripheral areas. The contributors are mostly academic geographers, agricultural ecologists, and specialists in social geography and regional development.



HEAVY METAL CONTAMINATION OF SOIL

Problems and Remedies

Iqbal Ahmad, S. Hayat and *John Pichtel (eds.)*

978-1-57808-385-5; 2005; 262 pages, hc;
$ 95.20 ††

Biological and earth scientists summarize research findings for selected aspects of soil contamination with heavy metals, its consequences, and remediation measures. One emphasis is the long-term effect on the soil of both the contamination and the mitigation. The topics include the bio-availability of metals and metalloids in terrestrial environments, microbially mediated changes in the mobility of contaminant metals in soils and sediments, bio-remediation, the effects of metal-contaminate organic wastes on microbial biomass and activities, and characterizing and evaluating municipal solid waste compost by microbiological and biochemical parameters in soil under laboratory and field conditions.

"The book is clear and easy to read and may be of use to those in soil, crop or environmental sciences requiring a general selection of topics to introduce them to the field."

— **Experimental Agriculture**, Vol. 42, 2006

URBAN SUSTAINABILITY IN THE CONTEXT OF GLOBAL CHANGE

Towards Promoting Healthy and Green Cities

R.B. Singh (ed.)

978-1-57808-166-0; 2001; 292 pages, hc;
$ 91.80

Apart from discussing land and water degradation, solid waste management, provision of basic amenities, and grass roots level urban initiatives, this collection covers policy issues for sustainable urban development in order to promote healthy and green cities. It also presents an explanation of both the issues and processes underlying urban sustainability in the context of global change.

NEW

APPLIED ENVIRONMENTAL SYSTEMS MODELING

V. Uddameri: Texas A&M University, Kingsville, Texas, USA

978-1-57808-516-3; October 2007;
c.486 pages, hc*; $ 88.00

The book introduces essential concepts of pollutant fate and transport using hands-on model building approach. The first part of the book provides a refresher on pertinent theory with special emphasis on obtaining fluxes and mass-loadings for various physical, chemical and biological processes in natural and engineered systems which are part of the mass-balance formulation. The second part of the book deals with mathematical and numerical approaches for solving mass-balance expressions. A wide range of techniques including the numerical differentiation of ordinary and partial differential equations are discussed. The implementation of these methods on Microsoft Excel® spreadsheet is detailed in a workbook format using diagrams and screenshots.

The book is intended to serve as a text/workbook for an introductory fate and transport modeling class offered to advanced undergraduates and early graduate students. In addition, it can also be used as a supplemental text for courses in environmental transport processes and process dynamics. It should also appeal to self-learning environmental engineering practitioners.

** Paperback edition will be published shortly.*

LAND USE AND COVER CHANGE

R.B. Singh, Jefferson Fox, and *Yukio Himiyama (eds.)*

978-1-57808-147-9; 2001; 312 pages, hc;
$ 98.60

Human modifications and alterations of the environment have an effect on the surface of the earth, threaten global sustainability and livelihood systems, and contribute to changes in the biogeochemical cycles of the earth. This volume contains 24 papers presented at the International Geographical Union's Land Use and Cover Change (IGU-LUCC) seminar (Honolulu, July 1999). The contributions discuss such topics as Chinese land use predicted by the GTR-model, spatial patterns of LUCC in the Republic of Ireland, anthropogenic factors of transformation of the natural landscapes in Europe, large-scale dams in India, LUCC in Japan since 1850, and dynamics of agriculturally-developed lands of the earth.

"It provides an excellent overview of the present-day knowledge on this particular topic."

— **The Land**, Vol. 5.2 (2001)

Translated from French

USE OF BIOMARKERS FOR ENVIRONMENTAL QUALITY ASSESSMENT

Laurent Lagadic, Theirry Caquet, Jean-Claude Amiard, and *François Ramade (eds.)*

978-1-57808-095-3; 2000; 350 pages, hc;
$ 95.20

Very few publications on biomarkers have considered the difficulties that arise from their practical use. In this study the actual operationality of biomarkers have been assessed, and improvements in practical strategies for their *in situ* use been proposed.

This work is primarily designed for any person or organization in charge of assessment of quality of natural resources and of pollution prevention. It also constitutes a reference work for university and high school students.

TROPICAL ECOSYSTEMS
Structure, Diversity, and Human Welfare
K.N. Ganeshaiah, R. Uma Shaanker, and *K.S. Bawa (eds.)*

978-1-57808-181-3; 2001; 791 pages, hc;
$ 132.20

Biology, botany, ecology, forestry, economics, environmental economics, and zoology are among the specialities represented in this proceedings, which includes c. 200 entries, many of them one or two pages in length. The broad themes considered are global change, tropical forest ecosystems, and biodiversity hot spots. Individual papers detail the findings from specific studies in areas that include Puerto Rico, Costa Rica, Thailand, the Amazon, Uganda, Brazil, Indonesia, Mozambique, Vietman, and India. The issues considered are equally broad, though the pressure brought on ecosystems by increased population and urbanization is a constant theme. The editors teach genetics, biology, crop and physiology.

ECOLOGY OF STREAMS AND RIVERS
Eugene Angelier: Professor Emeritus, University Paul Sabatier, France

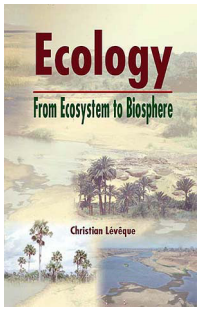
978-1-57808-256-8; 2003; 228 pages, pb;
$ 54.40

The author argues that the two primary ecological factors determining the life of organisms in running water are hydraulics (current and flow) and the transit time of nutrients and pollutants, which are also the two factors most likely to be modified by human activity. He explores the operation of these and other ecological factors and explains the impact of watercourse development, eutrophication, and toxic pollution.

ENVIRONMENTAL HYDROLOGY AND HYDRAULICS
Eco-technological Practices for Sustainable Development
S.N. Ghosh and *V.R. Desai*

978-1-57808-403-6; 2006; 426 pages, hc;
$ 89.00

Water is a precious natural resource which is crucial to our survival. Water needs to be judiciously used in the context of an increasing population not only to sustain essential requirements such as those for drinking and domestic usage but also for increased food production, industrial usage, power generation, navigational requirements, pisciculture, recreation, landscaping etc. There are many books dealing with hydrology, hydraulics and hydraulic structures, which generally deal with larger problems of development, analysis, design and implementation of water resources. However, there are few books which deal with small-scale development of water resources consistent with the environmental concerns as well as application of relevant eco-friendly technologies. This book provides both the perspectives.



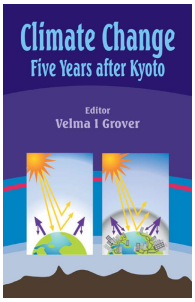
ECOLOGY
From Ecosystem to Biosphere
Christian Leveque: Institut de Recherches pour le Development, Paris, France

978-1-57808-294-0; 2003; 490 pages, hc;
$ 59.00 ††

This book synthesizes the present understanding of ecosystem ecology. It is organized in four major parts. The first presents the research study methods, which are based on observation, experimentation and modeling. It is followed by an introduction to the concept of ecosystem. The various themes of present research are then tackled, including ecological hierarchies, homogeneity and heterogeneity, the role of biological diversity, and spatial and temporal scales. Finally, the work ends with a presentation of the overall functioning of the biosphere in a historical perspective.

"It provides an excellent and very readable reference resource. Whether you are a first year graduate student or a lecturer, this book will be a good addition to any cologist's bookshelf. And at this price, why not?"

— Martin Solan
University of Aberdeen, Scotland
Journal of Environmental Quality, Vol. 33, July-August 2004



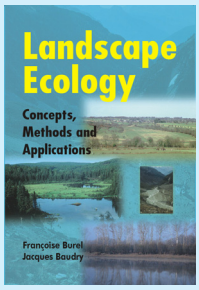
CLIMATE CHANGE
Five Years After Kyoto
Velma I. Grover (ed.): Natural Resource Consultant, Hamilton, Canada

978-1-57808-326-8; 2004; 472 pages, hc;
$ 111.40 ††

The book documents the scientific facts regarding climate change and a brief overview of the key developments in the climate change regime, discussing Kyoto Protocol and beyond. The North-South politics regarding energy markets and the emissions therefrom, are also discussed in the book. After establishing the scientific base, presenting agreements and policies for climate change in general, and the Kyoto Protocol in particular, the Instruments and Institutions for Kyoto Protocol are reviewed. The human rights implications of global warning are also explored.

ECOLOGICAL IMPLICATIONS OF MINILIVESTOCK
Role of Rodents, Frogs, Snails, and Insects for Sustainable Development
Maurizio G. Paoletti

. . . see Biology



LANDSCAPE ECOLOGY

Concepts, Methods and Applications

Françoise Burel: Director, ECOBIO Research Unit, CNRS, Rennes, France, and VP, International Association of Landscape Ecology
Jacques Baudry: Director, SAD-Armorique Research Unit, INRA, Rennes, France

978-1-57808-214-8; 2003; 378 pages incl. 13 color plates, pb; $ 54.90 ††

"This is a very welcome addition to the canon of books introducing to the science of landscape ecology! The authors succeded to compile a vivid book that briefly summarises the fundamentals of landscape ecology and the diversity of its concepts, introduces into landscape structure, landscape dynamics, and related methods of analysis, addresses ecological processes in landscapes, and furthermore provides examples of the application of landscape ecology concepts to landscape management."

Indeed, the numerous and well-illustrated examples that are given ...throughout the whole volume allow the reader to easily understand the principles of landscape ecology and encourage to reflect one's own experiences and points of view. Thus, this book may be recommended to a broad audience, from undergraduate students to experienced scientists."

Phytocoenologia, Vol. 35(4), December 2005

BIOENERGY

Vision for the New Millennium

R. Ramamurthi: Sri Venkateswara University, Tirupati, India
Satish Kastury: Florida Department of Environment, Tallahassee, Florida, USA
Wayne H. Smith: University of Florida, Gainesville, Florida, USA

978-1-57808-141-7; 2000; 138 pages, hc; $ 55.40

This book addresses the use of innovative and eco-friendly technologies for energy production, and for management of the environment and its remediation.

CONTENTS: Bioenergy The Industry Perspective on Eco-friendly Technology for Biomass Conversion into Energy Specific Issues Related to Bagasse Usage Effective Utilization of Bagasse in Cogeneration of Power in a Sugar Plant Biomass Energy Plants Thermal Conversion of Biomass Woody Biomass Production Woody Biomass Production, Species, Land Availability, Policy Issues, Scientific and Technology Needs-Assessment Value Added Chemicals from the By-products of Sugar Agro Industry Composting: An Eco-friendly Technology for Waste Management Eco-friendly Technologies for Environmental Remediation/Management Production of Ethanol from Lignocellulosic Materials Using Clostridium Thermocellum— A Critical Review Cellulose Conversion to Ethanol by a Mesophilic Cellulolytic Bacterium Lending in the Biomass Energy Sector.

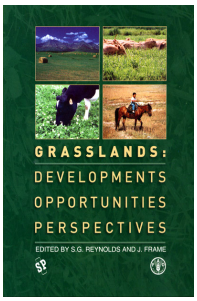
UNDOING THE DAMAGE

Silviculture for Ecologists and Environmental Scientists

Paul A. Wojtkowski: Dittsfield, Massachusetts, USA

978-1-57808-426-5; 2006; 326 pages + 8 pages in color, pb; $ 53.20

The book offers a revised approach to silviculture, one in line with agroecological thinking, more in tune with nature, and accessible to terrestrial ecologists and environmental scientists. Coverage includes and introductory overview, agrobionomic principles, economic measures and spatial patterns, temporal dynamics, use concepts, niche transitions and ecological services, risk containment, monoculture, bicultures, three-plus polycultures, taungyas, natural forest management, agroforests, nature-silvicultural interface, community forestry, and silvicultural landscapes. The book includes b&w and color photographs.



GRASSLANDS

Developments, Opportunities, Perspectives

Stephen Reynolds and *John Frame (eds.):* Food and Agriculture Organization of the United Nations, Rome, Italy

978-1-57808-359-6; 2005; 556 pages + 43 color plates, pb; $ 74.00

This book examines the current grassland problems and issues, and provides an insight into grassland productivity in diverse areas of the world, with their various production systems. The focus is on recent technical advances and the prospects for further innovation, through twenty-one chapters by eminent grassland scientists, grouped into seven sections: forage germplasm; forage conservation; grass-based systems and organic production; climate change; biodiversity and biotechnology; geographical information systems; farmer and pastoralist participation; and regional developments. The book is timely in view of the expanding human and livestock populations, especially in arid and semiarid environments, with the consequent pressure on the world's grasslands.

"It complements and is a useful addition to other volumes of the FAO grassland series and merits a wide readership."

— Experimental Agriculture, Vol. 42, 2006

Series: **The Land Reconstruction and Management Series**
Series Editor: Martin Haigh: Oxford Brookes University, Oxford, UK

STONE DETERIORATION IN POLLUTED URBAN ENVIRONMENTS

David Mitchell and *David Searle (eds.):* University of Wolverhampton, Wolverhampton, UK

978-1-57808-295-7; 2004; 282 pages, hc; $ 87.40

Urban atmospheric pollution leads to increased stone weathering on historic buildings and monuments. The editors present papers from a May 1999 conference of the Stone Weathering and Atmospheric Pollution Network. It covers a range of subjects related to weathering, including methods of measuring weathering rates, geochemical interactions on natural stone, weathering experiments on stone blocks, the effects of stone cleaning, and computer modeling of stone decay.

ECOLOGICAL EFFECTS OF ROADS

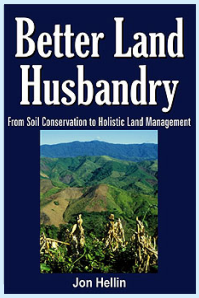
Ian F. Spellerberg: Environmental Management and Design Division, Lincoln University, New Zealand

978-1-57808-198-1; 2002; 260 pages, hc; $ 66.60

The book takes a broad look at roads and traffic worldwide. A broad overview of the ecological effects of roads sets the stage for more detailed focus on the biological, physical and chemical effects of roads and traffic. The ecology of roadside verges, the role of roads in habitat fragmentation, physical and chemical effects of road construction and use, and animal mortality on roads are all reviewed in depth. Final chapters discuss ways to reduce adverse effects and possible areas for future research. Appendixes include definitions and examples of road project environmental impact assessments.

"...aims to be a practical guide to the general issues and solutions for the ecological impacts of roads."

— Journal of Environmental Quality, Vol. 32, May–June 2003



BETTER LAND HUSBANDRY

From Soil Conservation to Holistic Land Management

Jon Hellin: International Maize and Wheat Improvement Center (CIMMYT), El Batán, Mexico

978-1-57808-244-5; 2006; 288 pages, pb; $ 66.60

The volume comprises collections of review and studies dealing with aspects of environmental management in constructed landscapes, particularly the management of soil and water on agricultural steeplands in the humid tropics. This is also the first monographic expositions of a new paradigm for international soil and water conservation known as better land husbandry. Six chapters comprise this volume and deal with topics on the socioeconomic components, agro-ecological components, applications and practices, and policies associated with land reconstruction and management.

"The book is easily read by many readers including researchers, teaching faculty, students, and the many professionals who work with the land directly or indirectly."

— SSSAJ, Vol. 71, No. 1, March–April 2007

WASTE MANAGEMENT

A.L. Juhasz, G. Magesan and *R. Naidu (eds.):* University of South Australia, Mawson Lakes, SA, Australia

978-1-57808-323-7; 2004; 366 pages, hc; $ 84.00 ††

The book presents recent work on important issues of waste management, providing an outline of the current knowledge of processes associated with contaminant sorption, transport, and plant uptake, and provides case studies highlighting waste management strategies currently being used in the Australasia-Pacific region.

RESTORATION AND MANAGEMENT OF TROPICAL EUTROPHIC LAKES

Editor:
M. Vikram Reddy: Pondicherry University, India
Foreword:
Brian Moss: University Liverpool, UK
John Cairns, Jr: Virginia Polytechnic Institute and State University, Virginia, USA

978-1-57808-370-1; 2005; 534 pages, hc; $ 111.40 ††

This book is an essential knowledge base for both ecological restoration and management. Although all tropical lakes are not identical, and therefore require individually developed and restoration and management practices; there are general principles in both restoration and management that can be derived from the case histories in this book and the limnological literature in general.

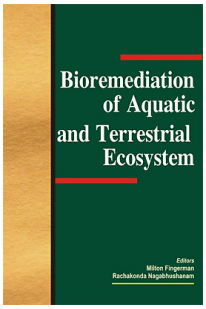
BIOMATERIALS FROM AQUATIC AND TERRESTRIAL ORGANISMS

Editors:
Milton Fingerman and *R. Nagabhushanam:* Department of Ecology and Evolutionary Biology, Tulane University, New Orleans, Louisiana, USA

978-1-57808-429-6; 2006; 622 pages, hc;
$ 143.40

Organisms, both aquatic and terrestrial, are sources of a wide variety of substances, many of which have already been shown to be bioactive. They play a wide variety of physiological and environmental roles. These chemicals include a broad array of proteins, lipids, and polysaccharides. Many of these natural products find applications in industry, agriculture, and medicine. The emphasis of study now is on testing and the development of new applications to solve medical and environmental problems, among others.

This volume explores ongoing efforts to develop these natural products into commercially viable materials that will contribute to solving, especially, health and environmental problems worldwide. Among the chapters in this volume are ones that deal with the use of compounds from plants to treat Alzheimer's disease, the antimicrobial activity of terpenes from African plants, antioxidant compounds from plants, antiangiogenic compounds from marine invertebrates, bioactive natural products from marine fungi, and the anti-inflammatory and antiallergenic properties of triterpenoids from plants.



BIOREMEDIATION OF AQUATIC AND TERRESTRIAL ECOSYSTEMS

Editors:
Milton Fingerman and *Rachakanda Nagabhushanam:* Department of Ecology and Evolutionary Biology, Tulane University, New Orleans, Louisiana USA

978-1-57808-364-0; 2005; 622 pages, hc;
$ 109.80

Bioremediation, the practice of degrading, sequestering or removing environmental contaminants through the use of microorganisms, has significant potential for beneficial applications but also significant potential for disaster. In this collection of 11 articles, contributors describe their research in finding the most effective means of removing contaminants while maintaining control of the microorganisms intended to counter them. Topics include molecular techniques of xenobiotic-degrading bacteria and their catabolic genes, genetic engineering of bacteria, commercial use of genetically modified organisms in bioremediation and phytoremediation, microbial surfactants and soil remediation, and remediation of heavy metals, oils and petroleum products, BTEX hydrocarbons, RDX and HMX, and a review of engineering processes.


SP