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# Routledge Handbook Of Forest Ecology Routledge Handbooks

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The environment is one of the defining issues of our times, and it is closely linked to questions and dilemmas surrounding economic development. Southeast Asia is one of the world's most economically and demographically dynamic regions, and it is also one in which a host of environmental issues raise themselves. The Routledge Handbook of the Environment in Southeast Asia is a collection of 30 chapters dealing with the most significant scholarly debates in this rapidly growing field of study.

Structured in four main parts, it gives a comprehensive regional overview of, and insight into, the environment in Southeast Asia. Wide-ranging and balanced, this handbook promotes scholarly understanding of how environmental issues are dealt with from diverse theoretical perspectives. It offers a detailed empirical understanding of the myriad environmental problems and challenges faced in Southeast Asia. This is the first publication of its kind in this field; a helpful companion for a global audience and for scholars of Southeast Asian studies from a variety of disciplines. Modelling is an important tool for understanding the complexity of forest ecosystems and the variety of interactions of ecosystem components,

processes and values.

This book describes the hybrid approach to modelling forest ecosystems and their possible response to natural and management-induced disturbance. The book describes the FORECAST family of ecosystem management models at three different spatial scales (tree, stand and landscape), and compares them with alternative models at these three spatial scales. The book will help forest managers to understand what to expect from ecosystem-based forest models; serve as a tool for use in teaching about sustainability, scenario analysis and value trade-offs in natural resources management; and assist policy makers, managers and researches working in assessment of sustainable forest management and

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ecosystem management. Several real-life examples of using the FORECAST family of models in forest management and other applications are presented from countries including Canada, China, Spain and the USA, to illustrate the concepts described in the text. The book also demonstrates how these models can be extended for scenario and value trade-off analysis through visualization and educational or management games. Forests are valued not only for their economic potential, but also for the biodiversity they contain, the ecological services they provide, and the recreational, cultural, and spiritual opportunities they provide. The Ecological Forest Management Handbook provides a comprehensive summary of interrelated topics in the field, including management concepts, forest models, and ecological indicators. Featuring contributions from experts on the three main forest types—boreal, temperate, and tropical—this book presents in-depth coverage of important issues in ecological forest management and includes case studies addressing ecological and socioeconomic issues. It illustrates how ecological forest management is a complex process that requires broad ecological knowledge while giving readers a deeper understanding of basic principles and applications. Featuring a stellar international cast list of leading and cutting-edge scholars, *The Routledge Handbook of the Political Economy of the Environment* presents the state of the art of the discipline that considers ecological issues and crises from a political economy perspective. This collective volume sheds new light on the effect of economic and power inequality on environmental dynamics and, conversely, on the economic and social impact of environmental dynamics. The chapters gathered in this handbook make four original contributions to the field of political economy of the environment. First, they revisit essential concepts and methods of environmental economics in the light of their political economy. Second, they introduce readers to recent theoretical and empirical advances in key issues of political economy of the environment with a special focus on the relationship between inequality and environmental degradation, a nexus that has dramatically come into focus with the COVID crisis. Third, the authors of this handbook open the field to its critical global and regional dimensions: global issues, such as the environmental justice movement and inequality and climate change as well as regional issues such as agriculture systems, air pollution, natural resources appropriation and urban sustainability. Fourth and finally, the work shows how novel analysis can translate into new forms of public policy that require institutional reform and new policy tools. Ecosystems preservation, international climate negotiations and climate mitigation policies all have a strong distributional dimension that chapters point to. Pressing environmental policy such as carbon pricing and low-carbon and energy transitions entail numerous social issues that also need to be accounted for with new analytical and

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technological tools. This handbook will be an invaluable reference, research and teaching tool for anyone interested in political economy approaches to environmental issues and ecological crises.

The Routledge Handbook of Indigenous Environmental Knowledge

Improving Conservation Through Ecologically Responsible Management

The Ecology of Tropical East Asia

The Routledge Handbook of the Political Economy of the Environment

Handbook of Road Ecology

It is increasingly recognized that the economic value of forests is not merely the production of timber. Forests provide other key ecosystem services, such as being sinks for greenhouse gases, hotspots of biodiversity, tourism and recreation. They are also vitally important in preventing soil erosion and controlling water supplies, as well as providing non-timber forest products and supporting the livelihoods of many local people. This handbook provides a detailed, comprehensive and broad coverage of forest economics, including traditional forest economics of timber production, economics of

environmental role of forests, and recent developments in forest economics. The chapters are grouped into six parts: fundamental topics in forest resource economics; economics of forest ecosystems; economics of forests, climate change, and bioenergy; economics of risk, uncertainty, and natural disturbances; economics of forest property rights and certification; and emerging issues and developments. Written by leading environmental, forest, and natural resource economists, the book represents a definitive reference volume for students of economics, environment, forestry and natural resource economics and management.

The first edition of *Tropical Rain Forests: an Ecological and Biogeographical Comparison* exploded the myth of 'the rain forest' as a single, uniform entity. In reality, the major tropical rain forest regions, in tropical America, Africa, Southeast Asia, Madagascar, and New Guinea, have as many differences as similarities, as a result of their isolation from each other during the evolution of their floras and faunas. This new edition reinforces this message with new examples from recent and on-going research. After an introduction to the environments and geological histories of the major rain forest regions, subsequent chapters focus on

plants, primates, carnivores and plant-eaters, birds, fruit bats and gliding animals, and insects, with an emphasis on the ecological and biogeographical differences between regions. This is followed by a new chapter on the unique tropical rain forests of oceanic islands. The final chapter, which has been completely rewritten, deals with the impacts of people on tropical rain forests and discusses possible conservation strategies that take into account the differences highlighted in the previous chapters. This exciting and very readable book, illustrated throughout with color photographs, will be invaluable reading for undergraduate students in a wide range of courses as well as an authoritative reference for graduate and professional ecologists, conservationists, and interested amateurs. *Tropical East Asia* is home to over one billion people and faces massive human impacts from its rising population and rapid economic growth. It has already lost more than half of its forest cover to agriculture and urbanization, and has the highest rates of deforestation and logging in the tropics. Habitat loss, coupled with hunting and the relentless trade in wildlife products, threatens all its large and many of its smaller vertebrates. Despite these problems, the region still supports an estimated 15-25%

of global terrestrial biodiversity and a growing environmental awareness means that it is no longer assumed that economic development justifies environmental damage, and no longer accepted that this trade-off is inevitable. Effective conservation action now depends on integrating a clear understanding of the ecological patterns and processes in the region with the varied needs of its human population. This third edition continues to provide an overview of the terrestrial ecology of Tropical East Asia: from southern China to Indonesia, and from Bhutan and Bangladesh to the Ryukyu Islands of Japan. It retains the balance between compactness and comprehensiveness of the previous editions, and the even-handed geographical treatment of the whole region, but it updates both the contents and the perspective. Approximately one third of the text is new or greatly modified, reflecting the explosion of new research in the region in the last few years and the increasing use of new tools, particularly from genomics and remote sensing. The change in perspective largely reflects the growing realization that we are in a new epoch, the Anthropocene, in which human activities have at least as large an influence as natural processes, and that stopping or reversing ecological change is no longer an option. This does not mean that biodiversity conservation is no longer possible or worthwhile, but that the biodiverse future we strive for will inevitably be very different from the past. The Ecology of Tropical East Asia is an advanced textbook suitable for senior undergraduate and graduate level students taking courses on the terrestrial ecology of the East Asian tropics, as well as an authoritative regional reference for professional ecologists, conservationists, and interested amateurs worldwide. The fate of much of the world's terrestrial biodiversity depends upon our ability to improve the management of forest ecosystems that have already been substantially modified by humans. Monitoring is an essential ingredient in meeting this challenge, allowing us to measure the impact of different human activities on biodiversity and identify more responsible ways of managing the environment. Nevertheless many biodiversity monitoring programs are criticised as being little more than 'tick the box' compliance exercises that waste precious resources and erode the credibility of science in the eyes of decision makers and conservation investors. The purpose of this book is to examine the factors that make biodiversity monitoring programs fail or succeed. The first two sections lay out the context and importance of biodiversity monitoring, and shed light on some of the key challenges that have confounded many efforts to date. The third and main section presents an operational framework for developing monitoring programs that have the potential to make a meaningful contribution to forest management. Discussion covers the scoping, design and implementation stages of a forest biodiversity monitoring program, including defining the purpose, goals and objectives of monitoring, indicator selection, and the process of data collection, analysis and interpretation. Underpinning the book is the belief that biodiversity monitoring should be viewed not as a stand-alone exercise in surveillance but rather as an explicit mechanism for learning about how to improve opportunities for conservation. To be successful in this task, monitoring needs to be grounded in clear goals and objectives, effective in generating reliable assessments of changes in biodiversity and realistic in light of real-world financial, logistical and social constraints.

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Creating sustainable, international state-healthy and aesthetic of-art knowledge on urban environments is arboriculture and therefore a major urban forestry, the policy goal and book provides a research agenda. This definitive overview comprehensive handbook provides a global overview of the state of the art and science of urban forestry. It describes the multiple roles and benefits of urban green areas in general and the specific role of trees, including for issues such as air quality, human well-being and stormwater management. It reviews the various stresses experienced by trees in cities and tolerance mechanisms, as well as cultural techniques for either pre-conditioning or alleviating stress after planting. It sets out sound planning, design, species selection, establishment and management of urban trees. It shows that close interactions with the local urban communities who benefit from trees are key to success. By drawing upon reference source that combines theory and practice on the current trends and issues in this important ecological subject and discusses future challenges towards conservation strategies of these tropical dry forests. While highlighting topics such as forest management, natural regeneration, and silviculture, this publication examines the anthropogenic impacts on tropical dry forests and the necessity to rebuild their ecosystems. This book is ideally designed for state forest agency professionals, resource managers, non-governmental organization agents, ecologists, botanists, environmentalists, students, and researchers seeking current research on the threats to these forests. This handbook provides a comprehensive overview and cutting-edge assessment of community forestry. Containing contributions from

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academics, practitioners, and professionals, the Routledge Handbook of Community Forestry presents a truly global overview with case studies drawn from across Africa, Asia, Europe, and the Americas. The Handbook begins with an overview of the chapters and a discussion of the concept of community forestry and the key issues. Topics as wide-ranging as Indigenous forestry, conservation and ecosystem management, relationships with industrial forestry, trade and supply systems, land tenure and land grabbing, and climate change are addressed. The Handbook also focuses on governance, looking at the range of approaches employed, including multi-level governance and rights-based approaches, and the principal actors involved from local communities and Indigenous Peoples to governments and national and international non-governmental organisations. The Handbook reveals the importance of the historical context to community forestry and the effects of power and politics. Importantly, the Handbook not only focuses on successful examples of community forestry, but also addresses failures in order to highlight the key challenges we are still facing and potential solutions. The Routledge Handbook of Community Forestry is essential reading for academics, professionals, and practitioners interested in forestry, natural resource management, conservation, and sustainable development. The Handbook provides a supporting guide to key aspects and applications of landscape ecology to underpin its research and teaching. A wide range of contributions written by expert researchers in the field summarize the latest knowledge on landscape ecology theory and concepts, landscape processes, methods and tools, and emerging frontiers. Landscape ecology is an interdisciplinary and holistic discipline, and this is reflected in the chapters contained in this Handbook. Authors from varying disciplinary backgrounds tackle key concepts such as landscape structure and function, scale and connectivity; landscape processes such as disturbance, flows, and fragmentation; methods such as remote sensing and mapping, fieldwork, pattern analysis, modelling, and participation and engagement in landscape planning; and emerging frontiers such as ecosystem services, landscape approaches to biodiversity conservation, and climate change. Each chapter provides a blend of the latest scientific understanding of its focal topics along with considerations and examples of their application from

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around the world. An invaluable guide to the concepts, methods, and applications of landscape ecology, this book will be an important reference text for a wide range of students and academics in ecology, geography, biology, and interdisciplinary environmental studies.

The Routledge

Handbook of Political Ecology

The Routledge

Handbook of Urban Ecology

Tropical Rain Forests  
Routledge Handbook of

Ecocultural Identity  
The Political Ecology

of Reform in South Asia

Professor Boyce's work is an excellent example of how ecological economics can be done in an objective, evidence-based approach that can put issues on the agenda in a manner where they will be taken seriously by other scholars. . . This is a well-written and provocative book that should encourage further research on all these important issues. David I. Stern, *International Journal of Social Economics* This succinct and sometimes provocative book sets out to document, quantify and explain the ways in which

inequalities of wealth and power create an uneven apportionment of environmental costs across the world. It offers a combination of theoretical analysis and empirical evidence to support the author's central contention that greater democratisation and changes in society's relationship with nature are paramount for achieving the dual goals of environmental protection and sustainable development. . . This book is immensely well written. . . makes for a fascinating read. Ian Bailey, *European Spatial Research and Policy Economic activities that degrade the environment do not simply pit humans against nature. They also pit some humans against others. Some benefit from these activities; others bear net costs from pollution and resource depletion. In a provocative and original analysis, James K. Boyce examines the dynamics of environmental degradation in terms of the balances of power between the winners and the losers. He provides evidence that inequalities of power and wealth affect not only the distribution of environmental costs, but also their overall magnitude: greater inequalities result in more environmental degradation. Democratization movement toward a more equitable distribution of power therefore is not only a worthwhile objective in its own right, but also an important*

means toward the social goals of environmental protection and sustainable development. Combining theoretical analysis with empirical evidence from around the world, James K. Boyce demonstrates that changes in our relationship with nature ultimately require changes in our relationships with each other. He maintains that a more democratic and environmentally sustainable future is possible, but warns that it is not inevitable. This book will appeal to students, scholars, policymakers and other readers interested in the environment, economics and public policy. Presenting a thorough examination of the sacred forests of Asia, this volume engages with dynamic new scholarly dialogues on the nature of sacred space, place, landscape, and ecology in the context of the sharply contested ideas of the Anthropocene. Given the vast geographic range of sacred groves in Asia, this volume discusses the diversity of associated cosmologies, ecologies, traditional local resource management practices, and environmental governance systems developed during the pre-colonial, colonial, and post-colonial periods. Adopting theoretical perspectives from political ecology, the book views ecology and polity as constitutive elements interacting within local,

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regional, and global networks. Readers will find the very first systematic comparative analysis of sacred forests that include the Kachall Mabhu of the Katu people of Central Vietnam, the Leuweng Kolot of the Baduy people of West Java, the Fengshui forests of southern China, the groves to the goddess Sarna Mata worshiped by the Oraon people of Jharkhand India, the Mauseloop and Bibosoop of Korea, and many more. Comprising in-depth, field-based case study, each chapter shows how the forest's sacrality must not be conceptually delinked from its roles in common property regimes, resource security, spiritual matters of ultimate concern, and cultural identity. This volume will be of great interest to students and scholars of indigenous studies, environmental anthropology, political ecology, geography, religion and heritage, nature conservation, environmental protection, and Asian Studies. Winner of the IENE Project Award 2016. This authoritative volume brings together some of the world's leading researchers, academics, practitioners and transportation agency personnel to present the current status of the ecological sustainability of the linear infrastructure – primarily road, rail and utility easements – that dissect and fragment landscapes globally. It outlines

the potential impacts, demonstrates how this infrastructure is being improved, and how broad ecological principles are applied to mitigate the impact of road networks on wildlife. Research and monitoring is an important aspect of road ecology, encompassing all phases of a transportation project. This book covers research and monitoring to span the entire project continuum – starting with planning and design, through construction and into maintenance and management. It focuses on impacts and solutions for species groups and specific regions, with particular emphasis on the unique challenges facing Asia, South America and Africa. Other key features: Contributions from authors originating from over 25 countries, including from all continents Each chapter summarizes important lessons, and includes lists of further reading and thoroughly up to date references Highlights principles that address key points relevant to all phases in all road projects Explains best-practices based on a number of successful international case studies Chapters are "stand-alone", but they also build upon and complement each other; extensive cross-referencing directs the reader to relevant material elsewhere in the book Handbook of Road Ecology offers a comprehensive summary of approximately 30

years of global efforts to quantify the impacts of roads and traffic and implement effective mitigation. As such, it is essential reading for those involved in the planning, design, assessment and construction of new roads; the management and maintenance of existing roads; and the modifying or retrofitting of existing roads and problem locations. This handbook is an accessible resource for both developed and developing countries, including government transportation agencies, Government environmental/conservation agencies, NGOs, and road funding and donor organisations. The community of living organisms in conjunction with the non-living components of their environment that interact as a system is referred to as ecosystem. The biotic and abiotic components are linked together by nutrient cycle and energy flows. Forest ecosystem is the basic ecologic unit in a particular forest. It exists as a habitat for a community of both native and introduced classified organisms. The collective living inhabitants of that forest ecosystem co-exist in symbiosis to create a unique ecology. It is a natural woodland unit which consists of all plants, animals and microorganisms of that area that function together with all of the non-living physical

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factors of the environment. The scientific study of the interrelated processes, patterns, flora, fauna and ecosystems in forests fall under the domain of forest ecology. This book provides comprehensive insights into the field of forest ecosystem. It presents researches and studies performed by experts across the globe. The readers would gain knowledge that would broaden their perspective about forest ecosystem.

Routledge Handbook of Ecological and Environmental Restoration

Sacred Forests of Asia

Routledge Handbook of Agricultural Biodiversity

Routledge Handbook of the Environment in Southeast Asia

Forest Ecology and Conservation

This book critically explores the political ecology of human marginalization, wildlife conservation and the role of the state in politicizing conservation frameworks, drawing on examples from forests in India. The book specifically demonstrates the nuances within human-environmental linkages, by showing how environmental concerns are not only ecological in content but also political. In India a large part of the forests and their surrounding areas were

inhabited far before they were designated as protected areas and inviolate zones, with the local population reliant on forests for their survival and livelihoods. Thus, socioecological conflicts between the forest dependents and official state bodies have been widespread. This book uses a political ecology lens to explore the complex interplay between current norms of forest conservation and environmental subjectivities, illustrating contemporary articulation of forest rights and the complex mediations between forest dependents and different state and non-state bodies in designing and implementing regulatory standards for wildlife and forest protection. It foregrounds the issues of identity, migration and cultural politics while discussing the politics of conservation. Through a political ecology approach, the book not only is human-centric but also makes significant use of the role of non-humans in foregrounding the conservation discourse, with a particular focus on

tigers. The book will be of great interest to students and academics studying forest conservation, human-wildlife interactions and political ecology.

Forests are under tremendous pressure from human uses of all kinds, and one of the most significant threats to their sustainability comes from commercial interests. This book presents a comprehensive examination of the interactions between the forest products sector and the sustainability of forests. It captures the most current sustainability concerns within the forestry sector and various sustainability-oriented initiatives to address these. Experts from around the world analyze interconnected topics including market mechanisms, regulatory mechanisms, voluntary actions, and governance, and outline their effectiveness, potential, and limitations. By presenting a novel overview of the burgeoning field of business sustainability within the forestry sector, this book paves a way

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forward in understanding what is working, what is not working, and what could potentially work to ensure sustainable business practices within the forestry sector, Forest loss and degradation have caused a decline in the quality of ecosystem services around the world. But fixing the problem takes more than just planting trees; practitioners increasingly realize that a landscape approach is essential. This handbook, authored and edited by international authorities in the field of forestry, is the first practical guide to using forest landscape restoration (FLR) to repair the damage done to forest lands by poor land management practice. Using research backed by respected institutions such as ITTO and the World Conservation Union (IUCN), it explains how to increase the resilience of landscapes and the communities they support through FLR. The main aim of FLR is not to re-establish pristine forest, even if this were possible; rather, the objective is to make landscapes more resilient and thereby keep

future management options open. It also aims to support communities as they strive to increase and sustain the benefits they derive from land management. This book explains the concept of FLR and guides the reader through the steps that must be taken to put it into practice. It is an indispensable aid for practitioners in all aspects of forestry and natural resource management. With tens of millions of hectares and hundreds of millions of lives in the balance, the debate over who should control South Asia's forests is of tremendous political significance. This book provides an insightful and thorough assessment of important forest management transitions currently underway. MARK POFFENBERGER, EXECUTIVE DIRECTOR OF COMMUNITY FORESTRY INTERNATIONAL The contributions in this volume not only breathe life into the field of writing and analysis related to forests, they do so on the strength of extraordinarily insightful research. Kudos to Springate-Baginski and

Blaikie for providing us with a set of thoroughly researched, provocative studies that should be required reading not only for those interested in community forestry in south Asia, but in resource governance anywhere. ARUN AGRAWAL, ASSOCIATE PROFESSOR OF NATURAL RESOURCES & ENVIRONMENT, UNIVERSITY OF MICHIGAN, USA Makes a significant contribution to theory and practice of participatory forest management. YAM MALLA, EXECUTIVE DIRECTOR, REGIONAL COMMUNITY FORESTRY TRAINING CENTER FOR ASIA AND THE PACIFIC, BANGKOK This excellent and timely book provides thought-provoking insights to the issues of power and politics in forestry and the difficulties of transforming age-old structures that circumscribe the access of the poor to forests and their resources; it challenges our assumptions of the benefits of participatory forest management and the role of forestry in poverty reduction. It should be of interest to

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policy-makers and to all those who have been involved with the struggle of transforming forestry over the decades. DR MARY HOBLEY, HOBLEY SHIELDS ASSOCIATES (NATURAL RESOURCE MANAGEMENT AND PLANNING CONSULTANCY) A rare combination of extensive field study, social science insights and policy studies will be of immense value DR N. C. SAXENA, MEMBER OF NATIONAL ADVISORY COUNCIL, GOVERNMENT OF INDIA In recent decades participatory approaches to forest management have been introduced around the world. This book assesses their implementation in the highly politicized environments of India and Nepal. The authors critically examine the policy, implementation processes and causal factors affecting livelihood impacts. Considering narratives and field practice, with data from over 60 study villages and over 1000 household interviews, the book demonstrates why particular field outcomes have occurred and why

policy reform often proves so difficult. Research findings on which the book is based are already influencing policy in India and Nepal, and the research and analysis have great relevance to forestry management in a wide range of countries. Published with DFID. The Forest Landscape Restoration Handbook A Foundation for Sustainable Forest Management and Environmental Ethics in Forestry Spiritual Ecology and the Politics of Nature Conservation Routledge Handbook of Forest Ecology Forests People and Power Urban forests, trees and greenspace are critical in contemporary planning and development of the city. Their study is not only a question of the growth and conservation of green spaces, but also has social, cultural and psychological dimensions. This book brings a perspective of political ecology to the complexities of urban trees and forests through three themes: human agency in urban forests and greenspace; arboreal and greenspace agency in the

urban landscape; and actions and interventions in the urban forest. Contributors include leading authorities from North America and Europe from a range of disciplines, including forestry, ecology, geography, landscape design, municipal planning, environmental policy and environmental history. This acclaimed textbook is the most comprehensive available in the field of forest ecology. Designed for advanced students of forest science, ecology, and environmental studies, it is also an essential reference for forest ecologists, foresters, and land managers. The authors provide an inclusive survey of boreal, temperate, and tropical forests with an emphasis on ecological concepts across scales that range from global to landscape to microscopic. Situating forests in the context of larger landscapes, they reveal the complex patterns and processes observed in tree-dominated habitats. The updated and expanded second edition covers • Conservation • Ecosystem services • Climate change • Vegetation classification • Disturbance • Species interactions • Self-thinning • Genetics • Soil influences • Productivity • Biogeochemical cycling •

Mineralization • Effects of herbivory • Ecosystem stability

The Routledge Handbook of Political Ecology presents a comprehensive and authoritative examination of the rapidly growing field of political ecology. Located at the intersection of geography, anthropology, sociology, and environmental history, political ecology is one of the most vibrant and conceptually diverse fields of inquiry into nature-society relations within the social sciences. The Handbook serves as an essential guide to this rapidly evolving intellectual landscape. With contributions from over 50 leading authors, the Handbook presents a systematic overview of political ecology's origins, practices and core concerns, and aims to advance both ongoing and emerging debates. While there are numerous edited volumes, textbooks, and monographs under the heading 'political ecology,' these have tended to be relatively narrow in scope, either as collections of empirically based (mostly case study) research on a given theme, or broad overviews of the field aimed at undergraduate audiences. The Routledge Handbook of Political Ecology is the first systematic, comprehensive overview of the field. With authors from North and South America, Europe, Australia and elsewhere, the Handbook of Political Ecology provides a state of the art examination of political ecology; addresses ongoing and emerging debates in this rapidly evolving field; and charts new agendas for research, policy, and activism. The Routledge Handbook of Political Ecology introduces political ecology as an interdisciplinary academic field. By presenting a 'state of the art' examination of the field, it will serve as an invaluable resource for students and scholars. It not only critically reviews the key debates in the field, but develops them. The Handbook will serve as an excellent resource for graduate and advanced undergraduate teaching, and is a key reference text for geographers, anthropologists, sociologists, environmental historians, and others working in and around political ecology. Across the continental United States, one can identify 20 distinct forest cover types. Most of these are to be found on federal lands managed by the U.S. Forest Service and Bureau of Land Management. Those responsible for the management of trees that form the 20 different cover types and the diversity of forest wildlife that reside in them must have the Routledge Handbook of Environmental Policy in China Handbook of Forest Ecosystems An Ecological and Biogeographical Comparison Routledge Handbook of Community Forestry Handbook of Forest Resource Economics The Sustainable Forestry Handbook is widely considered to be the essential aid to understanding and implementing sustainable forest management. Providing a clear and concise guide to the practicalities of implementing international standards for sustainable forest management, this fully updated second edition covers new Forest Stewardship Council requirements, High Conservation Value Forests, clearer requirements on pesticides and developments in policy and forest governance. Aimed at forest managers, and employing extensive cross referencing and easy-to-understand

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illustrations, this highly practical handbook explains in clear terms what the standards require forest managers to do and how they might go about implementing them. The world relies on very few crop and animal species for agriculture and to supply its food needs. In recent decades, there has been increased appreciation of the risk this implies for food security and quality, especially in times of environmental change. As a result, agricultural biodiversity has moved to the top of research and policy agendas. This Handbook presents a comprehensive overview of our current knowledge of agricultural biodiversity in a series of specially commissioned chapters. It draws on multiple disciplines including plant and animal genetics, ecology, crop and animal science, food studies and nutrition, as well as social science subjects which explore the socio-economic, cultural, institutional, legal and policy aspects of agricultural biodiversity. It focuses not only on the core requirements to deliver a sustainable agriculture and food supply, but also highlights the additional ecosystem services provided by a diverse and resilient agricultural landscape and farming practices. The book provides an indispensable reference textbook for a wide range of courses in agriculture, ecology, biodiversity conservation and environmental studies. The Routledge Handbook of Ecocultural Identity brings the ecological turn to sociocultural understandings of self. The editors introduce a broad, insightful assembly of original theory and research on planetary positionalities in flux in the Anthropocene – or what in this Handbook cultural ecologist David Abram presciently renames the Humilocene, a new “epoch of humility.” Forty international authors craft a kaleidoscopic lens, focusing on the following key interdisciplinary inquiries: Part I illuminates identity as always ecocultural, expanding dominant understandings of who we are and how our ways of identifying engender earthly outcomes. Part II examines ways ecocultural identities are fostered and how difference and spaces of interaction can be sources of environmental conviviality. Part III illustrates consequential ways the media sphere informs, challenges, and amplifies particular ecocultural identities. Part IV delves into the constitutive power of ecocultural identities and illuminates ways ecological forces shape the political sphere. Part V demonstrates multiple and unspooling ways in which ecocultural identities can evolve and transform to recall ways forward to reciprocal surviving and thriving. The Routledge Handbook of Ecocultural Identity provides an essential resource for scholars, teachers, students, protectors, and practitioners interested in ecological and sociocultural regeneration. The Routledge Handbook of Ecocultural Identity has been awarded the 2020 Book Award from the National Communication Association's (USA) Environmental Communication Division. This volume provides an overview of key themes in

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Indigenous Environmental Knowledge (IEK) and anchors them with brief but well-grounded empirical case studies of relevance for each of these themes, drawn from bioculturally diverse areas around the world. It provides an incisive, cutting-edge overview of the conceptual and philosophical issues, while providing constructive examples of how IEK studies have been implemented to beneficial effect in ecological restoration, stewardship, and governance schemes. Collectively, the chapters in the Routledge Handbook of Indigenous Environmental Knowledge cover Indigenous Knowledge not only in a wide range of cultures and livelihood contexts, but also in a wide range of environments, including drylands, savannah grassland, tropical forests, mountain landscapes, temperate and boreal forests, Pacific and Indian Ocean islands, and coastal environments. The chapters discuss the complexities and nuances of Indigenous cosmologies and ethno-metaphysics and the treatment and incorporation of IEK in local, national, and international environmental policies. Taken together, the chapters in this volume make a strong case for the potential of Indigenous Knowledge in addressing today's local and global environmental challenges, especially when approached from a perspective of appreciative inquiry, using cross-cultural methods and ethical, collaborative approaches which limit bias and inappropriate extraction of IEK. The book is a guide for graduate and advanced undergraduate teaching, and a key reference for academics in development studies, environmental studies, geography, anthropology, and beyond, as well as anyone with an interest in Indigenous Environmental Knowledge.

*Monitoring Forest Biodiversity: An Evidence-Based Approach*  
*A Hybrid Modelling Approach to the Assessment of Sustainability of Forest Ecosystems and Their Values*  
*A Political Ecology Perspective*

The Routledge Handbook of Landscape Ecology Ecological restoration is a rapidly evolving discipline that is engaged with developing both methodologies and strategies for repairing damaged and polluted ecosystems and environments. During the last decade the rapid pace of climate change coupled with continuing habitat destruction and the spread of non-native species to new habitats has forced restoration ecologists to re-evaluate their goals and the methods they use. This comprehensive handbook brings together an internationally respected group of established and rising experts in the field. The book begins with a description of current practices and the state of knowledge in particular areas of restoration, and then identifies new directions that will help the field achieve increasing levels of future success. Part I provides basic background about ecological and environmental restoration. Part II systematically reviews restoration in key ecosystem types located throughout the world. In Part III, management and policy issues are examined in

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detail, offering the first comprehensive treatment of policy relevance in the field, while Part IV looks to the future. Ultimately, good ecological restoration depends upon a combination of good science, policy, planning and outreach – all issues that are addressed in this unrivalled volume. The birds, animals, insects, trees and plants encountered by the majority of the world's people are those that survive in, adapt to, or are introduced to, urban areas. Some of these organisms give great pleasure; others invade, colonise and occupy neglected and hidden areas such as derelict land and sewers. Urban areas have a high biodiversity and nature within cities provides many ecosystem services including cooling the urban area, reducing urban flood risk, filtering pollutants, supplying food, and providing accessible recreation. Yet, protecting urban nature faces competition from other urban land uses. The Handbook of Urban Ecology analyses this biodiversity and complexity and provides the science to guide policy and management to make cities more attractive, more enjoyable, and better for our own health and that of the planet. This Handbook

contains 50 interdisciplinary contributions from leading academics and practitioners from across the world to provide an in-depth coverage of the main elements of practical urban ecology. It is divided into six parts, dealing with the philosophies, concepts and history of urban ecology; followed by consideration of the biophysical character of the urban environment and the diverse habitats found within it. It then examines human relationships with urban nature, the health, economic and environmental benefits of urban ecology before discussing the methods used in urban ecology and ways of putting the science into practice. The Handbook offers a state-of-the-art guide to the science, practice and value of urban ecology. The engaging contributions provide students and practitioners with the wealth of interdisciplinary information needed to manage the biota and green landscapes in urban areas. The Routledge Handbook of Gender and Environment gathers together state-of-the-art theoretical reflections and empirical research from leading researchers and practitioners working in this transdisciplinary and transnational academic field. Over the course of the book,

these contributors provide critical analyses of the gender dimensions of a wide range of timely and challenging topics, from sustainable development and climate change politics, to queer ecology and interspecies ethics in the so-called Anthropocene. Presenting a comprehensive overview of the development of the field from early political critiques of the male domination of women and nature in the 1980s to the sophisticated intersectional and inclusive analyses of the present, the volume is divided into four parts: Part I: Foundations Part II: Approaches Part III: Politics, policy and practice Part IV: Futures. Comprising chapters written by forty contributors with different perspectives and working in a wide range of research contexts around the world, this Handbook will serve as a vital resource for scholars, students, and practitioners in environmental studies, gender studies, human geography, and the environmental humanities and social sciences more broadly. The idea that nature provides services to people is one of the most powerful concepts to have emerged over the last two decades. It is shaping our understanding of the role that biodiverse

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ecosystems play in the environment and their benefits for humankind. As a result, there is a growing interest in operational and methodological issues surrounding ecosystem services amongst environmental managers, and many institutions are now developing teaching programmes to equip the next generation with the skills needed to apply the concepts more effectively. This handbook provides a comprehensive reference text on ecosystem services, integrating natural and social science (including economics). Collectively the chapters, written by the world's leading authorities, demonstrate the importance of biodiversity for people, policy and practice. They also show how the value of ecosystems to society can be expressed in monetary and non-monetary terms, so that the environment can be better taken into account in decision making. The significance of the ecosystem service paradigm is that it helps us redefine and better communicate the relationships between people and nature. It is shown how these are essential to resolving challenges such as sustainable development and poverty reduction, and the creation of a green

economy in developing and developed world contexts. *A Practical Guide for Tropical Forest Managers on Implementing New Standards*  
*The Political Economy of the Environment*  
*Handbook of Research on the Conservation and Restoration of Tropical Dry Forests*  
*The Sustainable Forestry Handbook*  
*Routledge Handbook of Gender and Environment*  
*Forest Ecology*  
*Forest Ecology: An Evidence-Based Approach*  
Forest ecology is the science that deals with everything in forests, including plants and animals (and their interactions), the features of the environment that affect plants and animals, and the interactions of humans and forests. All of these components of forests interact across scales of space and time. Some interactions are constrained, deterministic, and predictable; but most are indeterminant, contingent, and only broadly predictable. *Forest Ecology: An Evidence-Based Approach* examines the features common to all forests, and those unique cases that illustrate the importance of site-specific factors in determining the structure, function, and

future of a forest. The author emphasizes the role of evidence in forest ecology, because appealing, simple stories often lead to misunderstandings about how forests work. A reliance on evidence is central to distinguishing between appealing stories and stories that actually fit real forests. The evidence-based approach emphasizes the importance of real-world, observable science in forests. Classical approaches to ecology in the twentieth century often over-emphasized appealing concepts that were not sufficiently based on real forests. The vast amount of information now available on forests allows a more complete coverage of forest ecology that relies on a strong, empirical foundation. *Forest Ecology: An Evidence-Based Approach* is the ideal companion text for the teaching of upper-level undergraduate and graduate courses in forest ecology. During the last few decades, China has accomplished unprecedented economic growth and has emerged as the second largest economy in the world. This 'economic miracle' has led hundreds of millions of people out of poverty, but has also come at a high cost. Environmental degradation and the impact of

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environmental pollution on health are nowadays issues of the greatest concern for the Chinese public and the government. The Routledge Handbook of Environmental Policy in China focuses on the environmental challenges of China's rapidly growing economy and provides a comprehensive overview of the policies developed to address the environmental crisis. Leading international scholars and practitioners examine China's environmental governance efforts from an interdisciplinary perspective. Divided into five parts, the handbook covers the following key issues: Part I: Development of Environmental Policy in China - Actors and Institutions Part II: Key issues and Strategies for Solution Part III: Policy Instruments and Enforcement Part IV: Related Policy Fields – Conflicts and Synergies Part V: China's Environmental Policy in the International Context This comprehensive handbook will be an invaluable resource to students and scholars of environmental policy and politics, development studies, Chinese studies, geography and international relations. This management-driven,

comprehensive book on ecosystem ecology is the only one on the market that covers the entire field, linking conventional ecosystem-level forest ecology to forest management. It features ecological site classification, ecosystem modeling, and strong sections on ecological diversity and the physical environment. It provides a comprehensive treatment of forestry issues; as well as excellent coverage of ecosystem management, landscape management, natural disturbances and their emulation. An excellent reference work for professional foresters, resource managers, wildlife managers, parks managers, forest planners and policy makers, and forestry researchers. Sustainable Forest Management provides the necessary material to educate students about forestry and the contemporary role of forests in ecosystems and society. This comprehensive textbook on the concept and practice of sustainable forest management sets the standard for practice worldwide. Early chapters concentrate on conceptual aspects, relating sustainable forestry management to international policy. In particular, they consider the

concept of criteria and indicators and how this has determined the practice of forest management, taken here to be the management of forested lands and of all ecosystems present on such lands. Later chapters are more practical in focus, concentrating on the management of the many values associated with forests. Overall the book provides a major new synthesis which will serve as a textbook for undergraduates of forestry as well as those from related disciplines such as ecology or geography who are taking a course in forests or natural resource management.

Forest Ecology  
Routledge Handbook of Ecosystem Services  
A Political Ecology of Forest Conservation in India  
Sustainable Forest Management  
Routledge Handbook of Biosecurity and Invasive Species

This comprehensive handbook provides a unique resource covering all aspects of forest ecology from a global perspective. It covers both natural and managed forests, from boreal, temperate, sub-tropical and tropical regions of the world. The book is divided into seven parts, addressing the following themes: forest types forest dynamics forest flora and fauna energy and nutrients forest conservation

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and management forests and climate change human impacts on forest ecology. While each chapter can stand alone as a suitable resource for a lecture or seminar, the complete book provides an essential reference text for a wide range of students of ecology, environmental science, forestry, geography and natural resource management.

Contributors include leading authorities from all parts of the world.

This handbook provides a comprehensive overview of the assessment and management of potentially dangerous infectious diseases, quarantined pests, invasive (alien) species, living modified organisms and biological weapons, from a multitude of perspectives. Issues of biosecurity have gained increasing attention over recent years but have often only been addressed from narrow disciplines and with a lack of integration of theoretical and practical approaches. The Routledge Handbook of Biosecurity and Invasive Species brings together both the natural sciences and the social sciences for a fully rounded perspective on biosecurity, shedding light on current national and international management frameworks with a mind to assessing possible future scenarios. With chapters focussing on a variety of ecosystems – including forests, islands, marine and coastal and agricultural land – as well as from the industrial scale to

individual gardens, this handbook reviews the global state of invasions and vulnerabilities across a wide range of themes and critically analyses key threats and threatening activities, such as trade, travel, land development and climate change. Identifying invasive species and management techniques from a regional to international scale, this book will be a key reference text for a wide range of students and academics in ecology, agriculture, geography, human and animal health and interdisciplinary environmental and security studies.

Forests have become the focus of intense conservation interest over the past two decades, reflecting widespread concern about high rates of deforestation and forest degradation, particularly in tropical countries. The aim of this book is to outline the main methods and techniques available to forest ecologists.

Ecological Forest Management Handbook  
Communities, Wildlife and the State  
Forest Wildlife Ecology and Habitat Management  
Forecasting Forest Futures  
Forests, Business and Sustainability