Assembly Rules And Restoration Ecology Bridging The Gap Between Theory And Practice The Science And Practice Of Ecological Restoration Series 1st First Edition Published By Island Press 2004

How can environmental degradation be stopped? How can it be reversed? And how can the damage already done be repaired? The authors of this volume argue that a two-pronged approach is needed: reducing demand for ecosystem goods and services and better management of them, coupled with an increase in supply through environmental restoration. Restoring Natural Capital brings together economists and ecologists, theoreticians, practitioners, policy makers, and scientists from the developed and developing worlds to consider the costs and benefits of repairing ecosystem goods and services in natural and socioecological systems. It examines the business and practice of restoring natural capital, and seeks to establish common ground between economists and ecologists with respect to the restoration of degraded ecosystems and landscapes and the still broader task of restoring natural capital. The book focuses on developing strategies that can achieve the best outcomes in the shortest amount of time as it: • considers conceptual and theoretical issues from both an economic and ecological perspective • examines specific strategies to foster the restoration of natural capital and offers a synthesis and a vision of the way forward Nineteen case studies from around the world illustrate challenges and achievements in setting targets, refining approaches to finding and implementing restoration projects, and using restoration of natural capital as an economic opportunity. Throughout, contributors make the case that the restoration of natural capital requires close collaboration among scientists from across disciplines as well as local people, and when successfully executed represents a practical, realistic, and essential tool for achieving lasting sustainable development.

Restoring Ecological Health to Your Land is the first practical guidebook to give restorationists and would-be restorationists with little or no scientific training or background the “how to” information and knowledge they need to plan and implement ecological restoration activities. The book sets forth a step-by-step process for developing, implementing, monitoring, and refining on-the-ground restoration projects that is applicable to a wide range of landscapes and ecosystems. The first part of the book introduces the process of ecological restoration in simple, easily understood language through specific examples drawn from the authors’ experience restoring their own lands in southern and central Wisconsin. It offers systematic, step-by-step strategies along with inspiration and benchmark experiences. The book’s second half shows how that same “thinking” and “doing” can be applied to North America’s major ecosystems and landscapes in any condition or scale. No other ecological restoration book leads by example and first-hand experience likethis one. The authors encourage readers to champion restoration of ecosystems close to where they live . . . at home, on farms and ranches, in parks and preserves. It provides an essential bridge for people from all walks of life and all levels of experience—from land trust member property stewards to agency personnel responsible for restoring lands in their care—and represents a unique and important contribution to the literature on restoration.

This text provides a synthesis of the existing field of wetland ecology using a few central themes, including key environmental factors that produce wetland community types and some unifying problems such as assembly rules, restoration and conservation.

As scientific understanding about ecological processes has grown, the idea that ecosystem dynamics are complex, nonlinear, and often unpredictable has gained prominence. Of particular importance is the idea that rather than following an inevitable progression toward an ultimate endpoint, some ecosystems may occur in a number of states depending on past and present ecological conditions. The emerging idea of “restoration thresholds” also enables scientists to recognize when ecological systems are likely to recover on their own and when active restoration efforts are needed. Conceptual models based on alternative stable states and restoration thresholds can help inform restoration efforts. New Models for Ecosystem Dynamics and Restoration brings together leading experts from around the world to explore how conceptual models of ecosystem dynamics can be applied to the recovery of degraded systems and how recent advances in our understanding of ecosystem and landscape dynamics can be translated into conceptual and practical frameworks for restoration. In the first part of the book, background chapters present and discuss the basic concepts and models and explore the implications of new scientific research on restoration practice. The second part considers the dynamics and restoration of different ecosystems, ranging from arid lands to grasslands, woodlands, and savannahs, to forests and wetlands, to production landscapes. A summary chapter by the editors discusses the implications of theory and practice of the ideas described in preceding chapters. New Models for Ecosystem Dynamics and Restoration aims to widen the scope and increase the application of threshold models by critiquing their application in a wide range of ecosystem types. It will also help scientists and restorationists correctly diagnose ecosystem damage, identify restoration thresholds, and develop corrective methodologies that can overcome such thresholds.

Creating and Restoring Wetlands: From Theory to Practice describes the challenges and opportunities relating to the restoration of freshwater and estuarine wetlands in natural, agricultural, and urban environments in the coming century. The underpinnings of restoration, driven by ecological (disturbance, dispersal, succession) theory, are described and applied to various activities (restoring hydrology, soils, and biota) that are used to improve the short- and long-term success of wetland restoration projects. Unforeseen problems that hinder restoration efforts and solutions to these problems are discussed in this comprehensive book that contains five sections and 13 chapters that include an introduction describing the defining characteristics of wetland – hydrology, soils, biota, the role of theory in guiding wetland succession, ecosystem development following restoration, and differentiating wetland reclamation, restoration, and creation, restoration of various estuarine and freshwater wetlands, case studies of estuarine and freshwater restoration and large-scale restoration, and finally, the future of wetland restoration. Explicitly links ecological theory to restoration efforts in a variety of freshwater and estuarine, natural, agricultural, urban landscapes, and wetland ecosystems Contains case studies of small- and large-scale restoration activities ensuring relevance to individuals and organizations Illustrates successes as well as failures of freshwater and estuarine wetland restorations in order to learn from them Presents specific information on hydrology, biota, wetland succession, ecosystem development following restoration, and more

The main activities of the economically active population around The Iztaccíhuatl and Popocatépetl volcanoes region lie in the primary sector (65- 90%). Of the people working in this sector, those dependent on agricultural or pastoral activities generally have an income significantly lower than the minimum wage in Mexico. Of the activities in the area, these agricultural, pastoral,

and forestry activities probably have the most direct effect on the ecology of the volcanoes and its immediate surroundings. Traditional farmers, producing crops such as beans, pumpkins and cucumbers, generally work on small fields using traditional methods and animal traction. Modern farming, geared towards intensive production develops on larger sites making use of modern machinery, fertilizers, and pesticides. As the area under agriculture continues to increase every year, the attendant opening of large forested areas, soil modification, and ensuing erosion make it almost impossible for forest recovery. Extensive forestry in the region mainly concerns cutting and collecting wood, cutting Pinus-branches for torches or for utensils for open-fire cooking, collection of mushrooms, and hunting. Although these (often clandestine) activities seem to be small-scale, their adverse effects on the forest have been substantial. Weekend visitors from Mexico City heavily dominate recreation, with tourism concentrated near the roads leading to and inside the park. Lacking organization and facilities, most recreational activities have had significant environmental impact on the area In many countries, the decline of nature has occurred because of changes in land use.

There are many hypotheses describing the interactions involved in biological invasions, but it is largely unknown whether they are backed up by empirical evidence. This book fills that gap by developing a tool for assessing research hypotheses and applying it to twelve invasion hypotheses, using the hierarchy-of-hypotheses (HoH) approach, and mapping the connections between theory and evidence. In Part 1, an overview chapter of invasion biology is followed by an introduction to the HoH approach and short chapters by science theorists and philosophers who comment on the approach. Part 2 outlines the invasion hypotheses and their interrelationships. These include biotic resistance and island susceptibility hypotheses, disturbance hypothesis, invasional meltdown hypothesis, enemy release hypothesis, evolution of increased competitive ability and shifting defence hypotheses, tens rule, phenotypic plasticity hypothesis, Darwin's naturalization and limiting similarity hypotheses and the propagule pressure hypothesis. Part 3 provides a synthesis and suggests future directions for invasion research.

Considers the evidence for the existence of unifying rules controlling the formation and maintenance of ecological communities.

Additional resources for this book can be found at: ahref="http://www.wiley.com/go/vandermaarelfranklin/vegetationecology"www.wiley.com/go/vandermaarelfranklin/vegetationecology/a. Vegetation Ecology, 2nd Edition is a comprehensive,integrated account of plant communities and their environments.Written by leading experts in their field from four continents, thesecond edition of this book: covers the composition, structure, ecology, dynamics,diversity, biotic interactions and distribution of plantcommunities, with an emphasis on functional adaptations; reviews modern developments in vegetation ecology in ahistorical perspective; presents a coherent view on vegetation ecology whileintegrating population ecology, dispersal biology, soilbiology, ecosystem ecology and global change studies; tackles applied aspects of vegetation ecology, includingmanagement of communities and invasive species; includes new chapters addressing the classification and mappingof vegetation, and the significance of plant functional types Vegetation Ecology, 2nd Edition is aimed at advancedundergraduates, graduates and researchers and teachers in plantecology, geography, forestry and nature conservation. VegetationEcology takes an integrated, multidisciplinary approach and will bewelcomed as an essential reference for plant ecologists the worldover.

Land abandonment is increasing as human influence on the globe intensifies and various ecological, social, and economic factors conspire to force the cessation of agriculture and other forms of land management. The “old fields” that result from abandonment have been the subject of much study, yet few attempts have been made to examine the larger questions raised by old field dynamics. Old Fields brings together leading experts from around the world to synthesize past and current work on old fields, providing an up-to-date perspective on the ecological dynamics of abandoned land. The book gives readers a broad understanding of why agricultural land is abandoned, the factors that determine the ecological recovery of old fields, and how this understanding contributes to theoretical and applied ecology. Twelve case studies from diverse geographical and climatic areas—including Australian rainforest, Brazilian Amazonia, New Jersey piedmont, and South African renosterveld—offer a global perspective on the causes and results of land abandonment. Concluding chapters consider the similarities and differences among the case studies, examine them in the context of ecological concepts, and discuss their relevance to the growing field of restoration ecology. Old Fields is the first book to draw together studies on old fields from both a theoretical and practical perspective. It represents an important contribution to the development of theory on old field dynamics and the practice of ecological restoration on abandoned farmland, and the broader implications of old field dynamics to ecology and restoration.

Enlarged, enhanced and internationalized edition of the firstrestoration ecology textbook to be published, with foreword by Dr.Steven Whisnant of Texas A&M University and Chair of theSociety of Ecological Restoration. Since 2006, when the first edition of this book appeared, majoradvances have taken place in restoration science and in thepractice of ecological restoration. Both are now accepted as keycomponents of the increasingly urgent search for sustainability atglobal, national, and community levels – hence the phrase'New Frontier' in the title. While the first edition focused onecosystems and landscapes in Europe, this new edition covers biomesand contexts all over the world. Several new chapters deal withbroad issues such as biological invasions, climate change, andagricultural land abandonment as they relate to restoration scienceand ecological restoration. Case studies are included fromAustralia, North America, and the tropics. This is an accessible textbook for senior undergraduate andgraduate level students, and early career scientists. The book alsoprovides a solid scientific background for managers, volunteers,and mid-career professionals involved in the practice of ecologicalrestoration. Review of the first edition: "I suspect that this volume will find its way onto the shelvesof many restoration researchers and practitioners and will be usedas a key text in graduate courses, where it will help fill a largevoid. My own copy is already heavily bookmarked, and will be aconstant source of research ideas and lecture material."(Environmental Conservation) Companion Website: A companion website with downloadable figures is available at ahref="http://www.wiley.com/go/vanandel/restorationecology"www.wiley.com/go/vanandel/restorationecology/a

"This edited collection considers how landscapes designed by humans contain multiple ecosystems for animals and plants. Using quantitative methods, the contributors explain how to model what components of a landscape are critical to species of interest"--

Offers a unifying framework for community ecology by addressing how communities are assembled from species pools.

A major advancement in understanding the factors underlying wildlife-habitat relationships, Foundations for Advancing Animal Ecology will be an invaluable resource to professionals and practitioners in natural resource management in public and private sectors, including state and federal agencies, non-governmental organizations, and environmental consultants.

Restoring paradise. Toward a more perfect union: the science-practice gap, Bridging the science - practice gap, intelligent tinkering.

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 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.

In Regreening the Bare Hills: Tropical Forest Restoration in the Asia-Pacific Region, David Lamb explores how reforestation might be carried out both to conserve biological diversity and to improve the livelihoods of the rural poor. While both issues have attracted considerable attention in recent years, this book takes a significant step, by integrating ecological and silvicultural knowledge within the context of the social and economic issues that can determine the success or failure of tropical forest landscape restoration. Describing new approaches to the reforestation of degraded lands in the Asia-Pacific tropics, the book reviews current approaches to reforestation throughout the region, paying particular attention to those which incorporate native species – including in multi-species plantations. It presents case studies from across the Asia-Pacific region and discusses how the silvicultural methods needed to manage these 'new' plantations will differ from conventional methods. It also explores how reforestation might be made more attractive to smallholders and how trade-offs between production and conservation are most easily made at a landscape scale. The book concludes with a discussion of how future forest restoration may be affected by some current ecological and socio-economic trends now underway. The book represents a valuable resource for reforestation managers and policy makers wishing to promote these new silvicultural approaches, as well as for conservationists, development experts and researchers with an interest in forest restoration. Combining a theoretical-research perspective with practical aspects of restoration, the book will be equally valuable to practitioners and academics, while the lessons drawn from these discussions will have relevance elsewhere throughout the tropics.

This innovative book integrates practical information from restoration projects around the world with the latest developments in successional theory. It recognizes the critical roles of disturbance ecology, landscape ecology, ecological assembly, invasion biology, ecosystem health, and historical ecology in habitat restoration. It argues that restoration within a successional context will best utilize the lessons from each of these disciplines.

Peatlands provide globally important ecosystem services through climate and water regulation or biodiversity conservation. While covering only 3% of the earth's surface, degrading peatlands are responsible for nearly a quarter of carbon emissions from the land use sector. Bringing together world-class experts from science, policy and practice to highlight and debate the importance of peatlands from an ecological, social and economic perspective, this book focuses on how peatland restoration can foster climate change mitigation. Featuring a range of global case studies, opportunities for reclamation and sustainable management are illustrated throughout against the challenges faced by conservation biologists. Written for a global audience of environmental scientists, practitioners and policy makers, as well as graduate students from natural and social sciences, this interdisciplinary book provides vital pointers towards managing peatland conservation in a changing environment.

Assembly Rules and Restoration EcologyBridging the Gap Between Theory and PracticeIsland Press

Plants make up 99.9 percent of the world's living matter, provide food and shelter, and control the Earth's climate. The study of plant ecology is therefore essential to understanding the biological functions and processes of the biosphere. This vibrant introductory textbook integrates important classical themes with recent ideas, models and data. The book begins with the origin of plants and their role in creating the biosphere as the context for discussing plant functional types and evolutionary patterns. The coverage continues logically through the exploration of causation with chapters, amongst others, on resources, stress, competition, predation, and mutualism. The book concludes with a chapter on conservation, addressing the concern that as many as one-third of all plant species are at risk of extinction. Each chapter is enriched with striking and unusual examples of plants (e.g., stone plants, carnivorous plants) and plant habitats (e.g., isolated tropical tepui, arctic cliffs). Paul Keddy writes in a lively and thought-provoking style which will appeal to students at all levels.

Aimed at Masters, and PhD students, teachers, researchers andnatural resource managers, this book explores the interface betweenrestoration ecology and ecological restoration. Covers both the ecological concepts involved in restorationecology and their practical applications. Written by an excellent group of ecologists from centres acrossEurope with a strong reputation for restoration ecology. Only textbook around aimed specifically at advancedundergraduate courses and postgraduate study programmes.

Aldo Leopold, father of the "land ethic," once said, "The time has come for science to busy itself with the earth itself. The first step is to reconstruct a sample of what we had to begin with." The concept he expressedâ€"restorationâ€"is defined in this comprehensive new volume that examines the prospects for repairing the damage society has done to the nation's aquatic resources: lakes, rivers and streams, and wetlands. Restoration of Aquatic Ecosystems outlines a national strategy for aquatic restoration, with practical recommendations, and features case studies of aquatic restoration activities around the country. The committee examines: Key concepts and techniques used in restoration. Common factors in successful restoration efforts. Threats to the health of the nation's aquatic ecosystems. Approaches to evaluation before, during, and after a restoration project. The emerging specialties of restoration and landscape ecology.

The relationship among these three components of wildlife management is explained in chapters written by leading experts and is designed to prepare wildlife students for careers in which they will be charged with maintaining healthy animal populations; finding ways to restore depleted populations while reducing overabundant, introduced, or pest species; and managing relationships among various human stakeholders.Topics covered in this book include; The definitions of wildlife and management• Human dimensions of wildlife management• Animal behavior• Predator–prey relationships ; Structured decision making; Issues of scale in wildlife management; Wildlife health; Historical context of wildlife management and conservation; Hunting and trapping; Nongame species; Nutrition ecology; Water management; Climate change; Conservation planning

There is a growing concern that many important ecosystems, such as coral reefs and tropical rain forests, might be at risk of sudden collapse as a result of human disturbance. At the same time, efforts to support the recovery of degraded ecosystems are increasing, through approaches such as ecological restoration and rewilding. Given the dependence of human livelihoods on the multiple benefits provided by ecosystems, there is an urgent need to understand the situations under which ecosystem collapse can occur, and how ecosystem recovery can best be supported. To help develop this understanding, this volume provides the first scientific account of the ecological mechanisms associated with the collapse of ecosystems and their subsequent recovery. After providing an overview of relevant theory, the text evaluates these ideas in the light of available empirical evidence, by profiling case studies drawn from both contemporary and prehistoric ecosystems. Implications for conservation policy and practice are then examined.

As the practical application of ecological restoration continues to grow, there is an increasing need to connect restoration practice to areas of underlying ecological theory. Foundations of Restoration Ecology is an important milestone in the field, bringing together leading ecologists to bridge the gap between theory and practice by translating elements of ecological theory and current research themes into a scientific framework for the field of restoration ecology. Each chapter addresses a particular area of ecological

theory, covering traditional levels of biological hierarchy (such as population genetics, demography, community ecology) as well as topics of central relevance to the challenges of restoration ecology (such as species interactions, fine-scale heterogeneity, successional trajectories, invasive species ecology, ecophysiology). Several chapters focus on research tools (research design, statistical analysis, modeling), or place restoration ecology research in a larger context (large-scale ecological phenomena, macroecology, climate change and paleoecology, evolutionary ecology). The book makes a compelling case that a stronger connection between ecological theory and the science of restoration ecology will be mutually beneficial for both fields: restoration ecology benefits from a stronger grounding in basic theory, while ecological theory benefits from the unique opportunities for experimentation in a restoration context. Foundations of Restoration Ecology advances the science behind the practice of restoring ecosystems while exploring ways in which restoration ecology can inform basic ecological questions. It provides the first comprehensive overview of the theoretical foundations of restoration ecology, and is a must-have volume for anyone involved in restoration research, teaching, or practice.

Understanding how ecosystems are assembled -- how the species that make up a particular biological community arrive in an area, survive, and interact with other species -- is key to successfully restoring degraded ecosystems. Yet little attention has been paid to the idea of assembly rules in ecological restoration, in both the scientific literature and in on-the-ground restoration efforts. Assembly Rules and Restoration Ecology, edited by Vicky M. Temperton, Richard J. Hobbs, Tim Nuttle, and Stefan Halle, addresses that shortcoming, offering an introduction, overview, and synthesis of the potential role of assembly rules theory in restoration ecology. It brings together information and ideas relating to ecosystem assembly in a restoration context, and includes material from a wide geographic range and a variety of perspectives. Assembly Rules and Restoration Ecology contributes new knowledge and ideas to the subjects of assembly rules and restoration ecology and represents an important summary of the current status of an emerging field. It combines theoretical and practical aspects of restoration, making it a vital compendium of information and ideas for restoration ecologists, professionals, and practitioners.

This book gives a broad coverage of modern restoration and the management needed after restoration. It deals with relevant topics such as restoration ecology; restoration planning; ecological and ecotoxicological risk assessment; management and adaptive management; restoration in the broader context of sustainable development; as well as case studies and examples related to the Asian region. Major emphasis is placed on the Asian region, but the techniques described in the book can also be applied to other regions. It concludes with an important overview of the steps that must be taken in the management of any project.The Restoration and Management of Derelict Land serves as an important reference for undergraduate and postgraduate students, professors, decision-makers and engineers in environmental science and management.

World-wide, the degradation and destruction of both natural and traditionally used semi-natural ecosystems is drastically increasing. Unfortunately, commercial seed mixtures, consisting of non-native species and genetically uniform cultivars, are widely used in grassland restoration, often with negative effects on biodiversity. Therefore, native species should be used in the ecological restoration of natural and semi-natural vegetation. This book compiles results from recent studies presented at a Special Session “Native seed production and use in restoration projects”, which was organised during the 8th European Conference on Ecological Restoration in ?eské Bud?jovice, Czech Republic. The authors review the ecological and genetic aspects of seed propagation and species introduction both from a European and an American perspective, and discuss implications for the development of seed zones and for native seed production. Examples from different countries focus on native seed production in practice, and suggest different approaches for the certification of seed provenance. Best practice examples from Europe and the United States are used to indicate the advantages of using native seeds for ecological restoration of grasslands, field margins and sagebrush steppe. Finally, this volume also provides guidelines for the successful implementation of restoration projects for local authorities, landscape planners and NGOs in order to bridge gaps between research and practice.

The approaches and tools to extend ecological restoration at global scale, a challenge for the humanity of the 21st century.

Written for upper-division undergraduates and first-year graduate students, this new textbook offers a real-life introduction to the field of restoration ecology and an interdisciplinary overview of the theory behind it. The text is organized around a restoration process that has been tested and revised by the authors in their restoration ecology courses taught at the University of Wisconsin-Madison over the past thirty years. Success in ecological restoration requires not only technical proficiency but also skill in the social, cultural, and political arenas. Introduction to Restoration Ecology can help students develop the skills they need to succeed in all of these areas and is a much-needed new resource.

Discusses the benefits and risks, as well as the economic and socio-political realities, of rewilding as a novel conservation tool.

This series presents studies that have used the paradigm of landscape ecology. Other approaches, both to landscape and landscape ecology are common, but in the last decade landscape ecology has become distinct from its predecessors and its contemporaries. Landscape ecology addresses the relationships among spatial patterns, temporal patterns and ecological processes. The effect of spatial configurations on ecological processes is fundamental. When human activity is an important variable affecting those relationships, landscape ecology includes it. Spatial and temporal scales are as large as needed for comprehension of system processes and the mosaic included may be very heterogeneous. Intellec tual utility and applicability of results are valued equally. The Inter national Association for Landscape Ecology sponsors this series of studies in order to introduce and disseminate some of the new knowledge that is being produced by this exciting new environmental science. Gray Merriam Ottawa, Canada Foreword This is a book about real nature, or as close to real as we know - a nature of heterogeneous landscapes, wild and humanized, fine-grained and coarse-grained, wet and dry, hilly and flat, temperate and not so temper ate. Real nature is never uniform. At whatever spatial scale we

examine nature, we encounter patchiness. If we were to look down from high above at a landscape of millions of hectares, using a zoom lens to move in and out from broad overview to detailed inspection of a square meter we would see that patterns visible at different scales overlay one another.

"Society for Ecological Restoration"--Cover.

Provides a comprehensive review of the role of species interactions in the process of plant community assembly.

Ideal for allied health and pre-nursing students, Alcamos Fundamentals of Microbiology, Body Systems Edition, retains the engaging, student-friendly style and active learning approach for which award-winning author and educator Jeffrey Pommerville is known. It presents diseases, complete with new content on recent discoveries, in a manner that is directly applicable to students and organized by body system. A captivating art program, learning design format, and numerous case studies draw students into the text and make them eager to learn more about the fascinating world of microbiology.

A unique general overview of wetland ecology which is comprehensive in its coverage of habitat type and geographic region.

Biodiversity: Structure and Function is a component of Encyclopedia of Environmental and Ecological Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The Theme on Biodiversity: Structure and Function discusses matters of great relevance to our world such as: Characterization of Biodiversity; Biodiversity and Ecosystem Functioning; Spatial and Temporal Dimensions of Biodiversity Dynamics; Evolutionary and Genetic Aspects of Biodiversity; Biodiversity Monitoring, Assessment, Data Management, and Indicators; The Value of Biodiversity; Halting Biodiversity Loss: Fundamentals and Latest Trends of Conservation Science and Action; Application of Ecological Knowledge to Habitat Restoration. These two volumes are aimed at the following five major target audiences: University and College students Educators, Professional practitioners, Research personnel and Policy analysts, managers, and decision makers and NGOs.

Although interest in ecological restoration has grown rapidly in recent years, restoration efforts have been highly empirical and have therefore been of only marginal interest to theoretical ecologists concerned with the structure and dynamics of communities. The ability to reassemble a community or ecosystem and to make it function properly actually represents a critical test of ecological understanding in the most fundamental sense. It is this idea of restoration as a technique - and even a paradigm - for ecological studies, leading in turn to improved restoration methods, that is the subject of this book.